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Final Report

California Statewide Local Streets and Roads Needs Assessment

Meeting Handout

February 2011

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Executive Summary

California's local street and road system continues to be in crisis.

Every trip begins on a city street or county road. Whether traveling by bicycle, bus, rail, truck or family automobile, Californians need a reliable and well-maintained local street and road system. However, these are challenging times on many levels. Funding is at risk, and there is a significant focus on climate change and building sustainable communities, and the need for multi-modal opportunities on the local system has never been more essential. Every component of California's transportation system is critical to provide a seamless, interconnected system that supports the traveling public and economic vitality throughout the state. Sustainable communities cannot function without a well-maintained local street and road system.

The first comprehensive statewide study of California's local street and road system in 2008 provided critical analysis and information on the local transportation network's condition and funding needs. This comprehensive 2010 update provides another look at this vital component of the state's transportation system and finds further deterioration and a growing funding shortfall.

As before, the objectives were to report the condition of the local system and provide the overall funding picture for California's local street and road transportation network. We needed answers to some important questions. What are the pavement conditions of local streets and roads? What will it cost to bring pavements to a Best Management Practices (BMP) or most cost-effective condition? How much will it cost to maintain them once we achieve the BMP or optimal pavement condition? What are the needs for the essential components to a functioning system? How much is the funding shortfall? What are the solutions? As part of this report, we also wanted to see how different funding scenarios would affect the local street and road system condition.

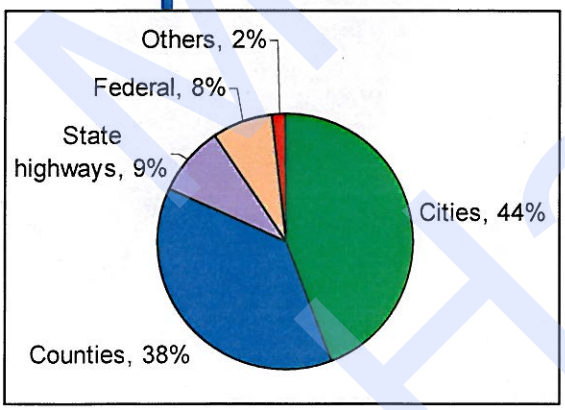


Figure 1. Breakdown of Maintained Centerline Miles by Agency

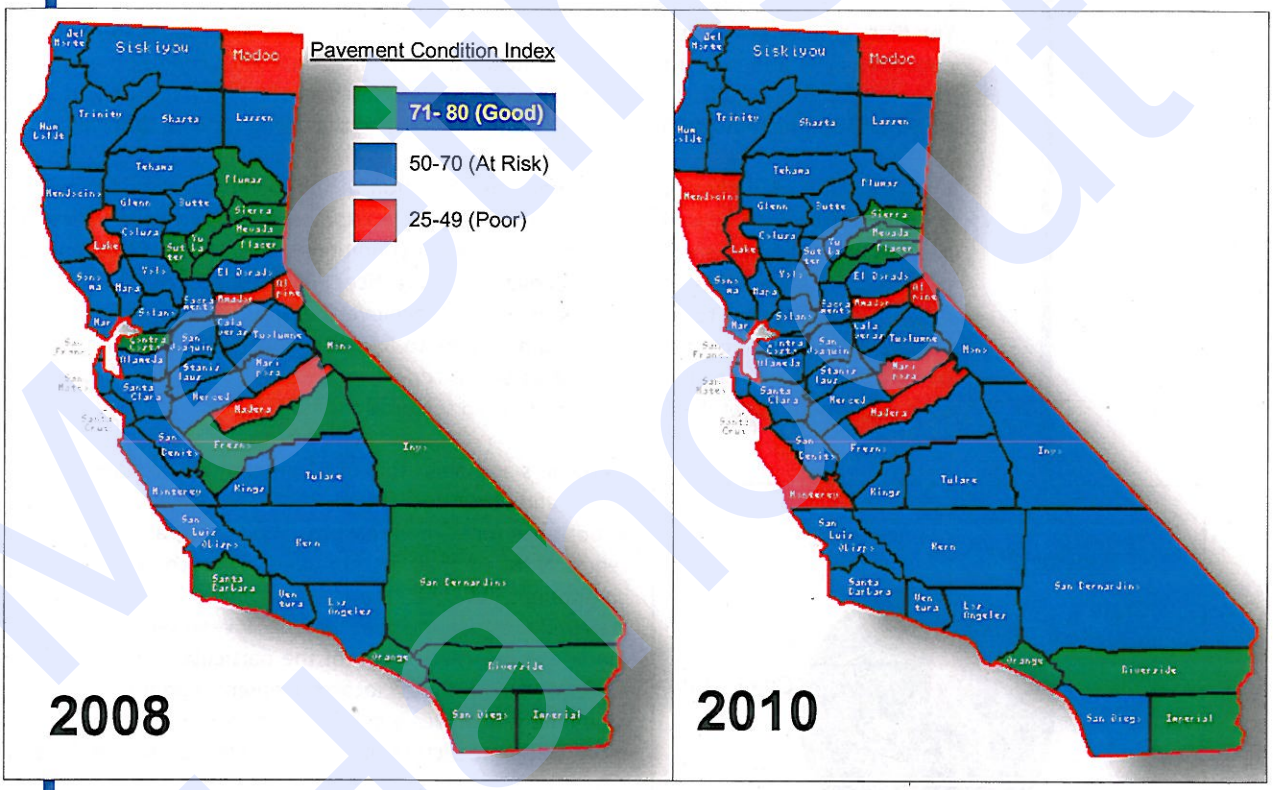
As owners and operators of 82 percent of the state's roads (Figure 1), cities and counties found that the 2008 study was of critical importance for several reasons. While federal and state governments' regularly assess their system needs, no such data existed for the local component of the state's transportation network. Historically, statewide transportation funding investment decisions have been made without recognition of the particular requirements of the local system, and without local pavement condition data. Thus, this assessment provides a critical piece in providing policy makers with a more complete picture of our transportation system funding needs.

The goal is to use the findings of this report to continue to educate policymakers at all levels of government about the infrastructure investments needed to provide California with a seamless, multi-modal transportation system. The findings of this study provide a credible and defensible analysis to support a dedicated, stable funding source for maintaining the local system at an optimum level. It also provides the rationale for the most effective and efficient investment of public funds, potentially saving taxpayers from paying significantly more to fix local streets and roads into the future.

The study surveyed all of California's 58 counties and 480 cities in 2010. The information collected captured data from more than 97 percent of the state's local streets and roads! This level of

participation exemplifies the interest at the local level to provide comprehensive and defensible data in hopes of tackling this growing problem.

The results show that California's local streets and roads are moving ever closer to the edge of a cliff. On a scale of zero (failed) to 100 (excellent), the statewide average pavement condition index (PCI) has deteriorated from 68 in 2008 to 66 ("at risk" category) in 2010. If current funding remains the same, the statewide condition is projected to deteriorate to a PCI of 54 by 2020. Even more critical, the unfunded backlog will almost double from $39.1 billion to $63.6 billion. The maps on the next page illustrate the pavement deterioration that has resulted since the 2008 study. Approximately 67 percent of the state's local streets and roads are now "at risk" or in "poor" condition. Later in this report, we will define the consequences of this degradation and paint a clearer picture of what this will mean for the mobility and safety of the traveling public and ultimately the economic vitality of California.



To spend the taxpayer's money cost-effectively, it makes more sense to preserve and maintain our roads in good condition than to let them deteriorate, since deteriorated roads are more expensive to repair in the future. Consistent with that approach, the costs developed in this study are based on achieving a roadway pavement condition of what the industry calls Best Management Practices (BMPs). This condition represents improving the pavement condition to a level where roads need preventative maintenance treatments (i.e., slurry seals, chip seals, thin overlays). These treatments have the least impact on the public's mobility and commerce. Further, these treatment types are more environmentally friendly than the next level of construction that would be required (i.e., rehabilitation and reconstruction).

The importance of this approach is significant. As roadway pavement conditions deteriorate, the cost to repair them increases exponentially. For example, it costs twelve times less to maintain a BMP pavement compared to a pavement that is at the end of its service life. Even a modest resurfacing is four times costlier than a pavement in the BMP condition. At a time when counties and cities are on fixed budgets, employing maintenance practices consistent with BMP results in treating four to twelve times more road area. By bringing the roads to BMP conditions, cities and counties will be able to maintain streets and roads at the most cost-effective level. It is a goal that is not only optimal, but also necessary.

Local bridges are also an integral part of the local streets and roads infrastructure. There are approximately 12,562 local bridges, and approximately $3.3 billion is needed to replace or rehabilitate them. There is an estimated shortfall of $0.3 billion.

This study helps answer the following key questions:

What are the pavement conditions of local streets and roads?

The current average PCI is 66, and is expected to further decline to 54 by 2020 given existing funding levels. In addition, the percentage of "failed" streets will grow from 6.1 percent to almost 25 percent of the network by 2020.

Based on the results of this study, approximately $70.5 billion of funding is needed over the next ten years to bring the pavement condition of the state's local streets and roads to a level where the taxpayer's money is most cost-effective.

What will it cost to bring pavements to a BMP or most cost-effective condition?

It will cost $70.5 billion to reach BMP in 10 years.

How much will it cost to maintain them once we achieve the BMP or optimal pavement condition?

Once the BMP condition is reached, it will cost approximately $2.3 billion a year to maintain them at that condition.

What will it cost to maintain the network at its current condition?

In order to maintain the pavement network at its existing condition, $3.1 billion a year is required. This is more than twice the current funding level of $1.42 billion/year.

How will different funding scenarios affect the pavement conditions?

The State of California is facing severe budget challenges that are affecting a wide range of services throughout the state. Over the past two years, the results of the 2008 study have helped educate policy makers and prevented severe cuts to road funding. To further assist policy makers on how potential cuts will affect pavement conditions, this report includes the results of four different funding scenarios:

1. Existing funding ($1.42 billion per year).
2. Loss of old and new Highway User Tax Account (HUTA) funds for three years (i.e., resulting in a funding level of $0.763 billion/year for three years then returning to $1.42 billion/year for the next seven years).
3. Permanent loss of new HUTA (i.e., resulting in a funding level of $1.25 billion per year).
4. Funding to maintain current pavement condition at PCI = 66 (i.e., $3.1 billion/year).

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The results are summarized in the table below:

Scenario	Projected Results in 2020 Pavement Condition (PCI)	Unfunded Backlog $ (billion)	% Pavements Failed Condition
1	54	$ 63.6	22.4%
2	53	$ 65.8	23.1%
3	53	$ 67.6	23.6%
4	66	$ 37.9	17.7%

What are the impacts of deferring maintenance?

Every dollar of maintenance deferred today will cost $1.53 in 2020. This assumes that labor and construction costs do not increase.

What are the needs for the essential components to a functioning system?

The transportation network includes essential safety and traffic components such as curb ramps, sidewalks, storm drains, streetlights and signals. These components require $29.1 billion over the next 10 years. However, this does not include the costs due to National Pollutant Discharge Elimination System (NPDES) regulations, which may be as much as an additional 10 percent of the transportation costs.

What is the total funding shortfall?

The table below shows the total funding shortfall of $78.9 billion over the next 10 years. For comparison, the 2008 results are also included.

Summary of 10 Year Needs and Shortfall for 2010 and 2008 ($Billion)

Transportation Asset	2010 Results Needs	Funding Available	Shortfall	2008 Results Needs	Funding Available	Shortfall
Pavements	$ 70.5	$ 14.2	$ (56.3)	$ 67.6	$ 15.9	$ (51.7)
Essential Components*	$ 29.1	$ 6.8	$ (22.3)	$ 32.1	$ 12.4	$ (19.7)
Bridges	$ 3.3	$ 3.0	$ (0.3)	N/A	N/A	N/A
Totals	**$ 102.9**	**$ 24.0**	**$ (78.9)**	**$ 99.7**	**$ 28.3**	**$ (71.4)**

* Does not include National Pollutant Discharge Elimination System (NPDES)

What are the Solutions?

To bring the state's local street and road system to a best management practice level where the taxpayer's money can be spent cost effectively, we will need approximately $56.3 billion of additional funding for pavements alone and a total of $78.6 billion for a functioning system over the next 10 years. The sooner this is accomplished, the less funding will be required in the future.

If cities and counties lose any additional funding from the state, the results will be disastrous for local streets and roads—and ultimately the entire transportation network—as all modes are interrelated.

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The fact that more than twice the current funding level is needed just to maintain the current conditions is alarming.

To bring the local system back into a cost-effective condition, thereby preserving the public's $271 billion pavement investment and stopping further costly deterioration, almost $7.9 billion annually in new money is needed to stop the further decline and deterioration of local street and road system.

This is equivalent to about a 53-cent per gallon gas tax increase. It is imperative that cities and counties receive a stable and dedicated revenue stream for cost effective maintenance of the local system to avoid this crisis.

The conclusions from this study are inescapable. Given existing funding levels available to cities and counties for maintaining the local system, California's local streets and roads will continue to deteriorate rapidly within the next 10 years. Unless this condition is addressed, costs to maintain the local system will only continue to grow, while the quality of California's local transportation network deteriorates.

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Statewide Local Streets & Roads Needs Assessment 2010 Update

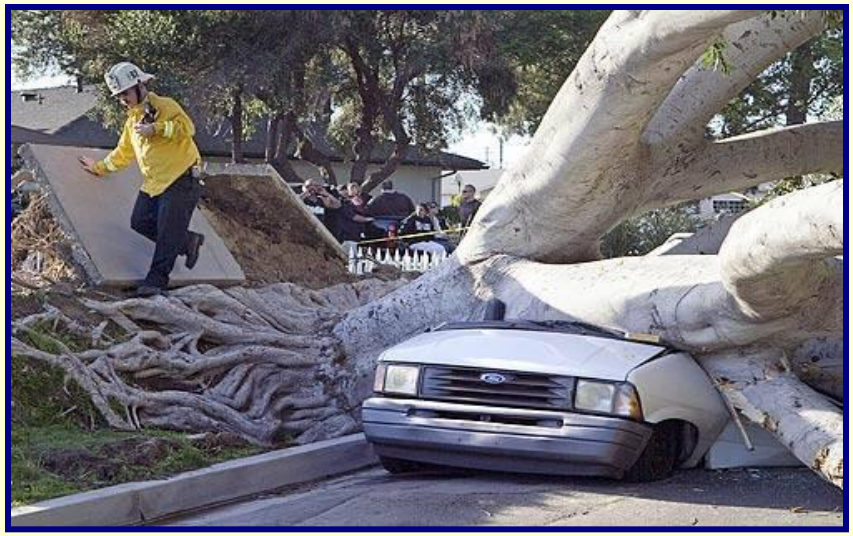
California Transportation Commission
San Diego, CA
March 24, 2011

RTPA
RCTF

Study Objectives

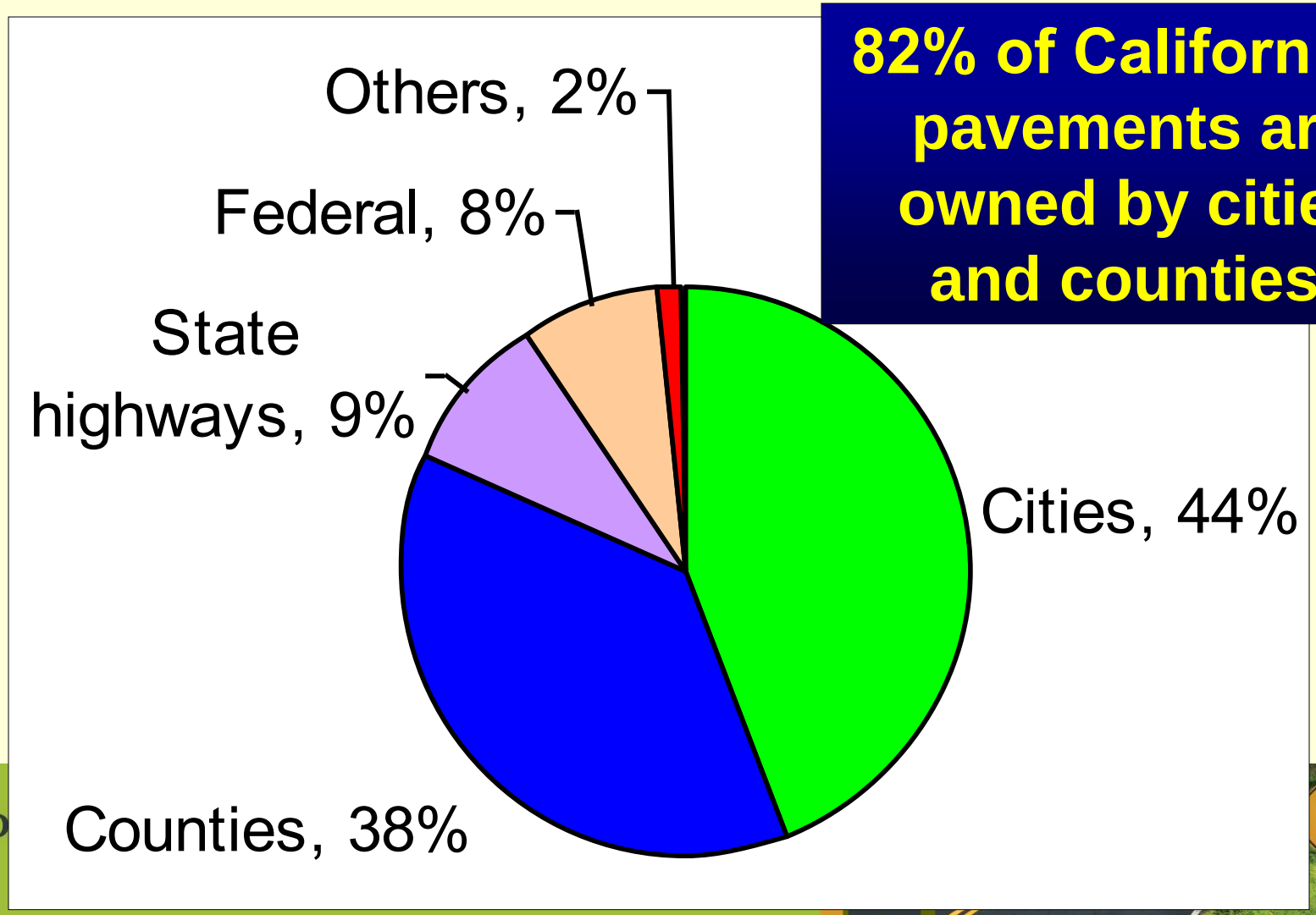
- **What are pavement conditions statewide?**
- **How much will it cost to maintain pavements?**
- **What are safety, traffic & regulatory needs?**
- **What is the shortfall?**
- **What is impact of other funding scenarios?**

It's Not Just Pavements …



- Sidewalks
- ADA ramps
- Curb & gutter
- Storm drains
- Others

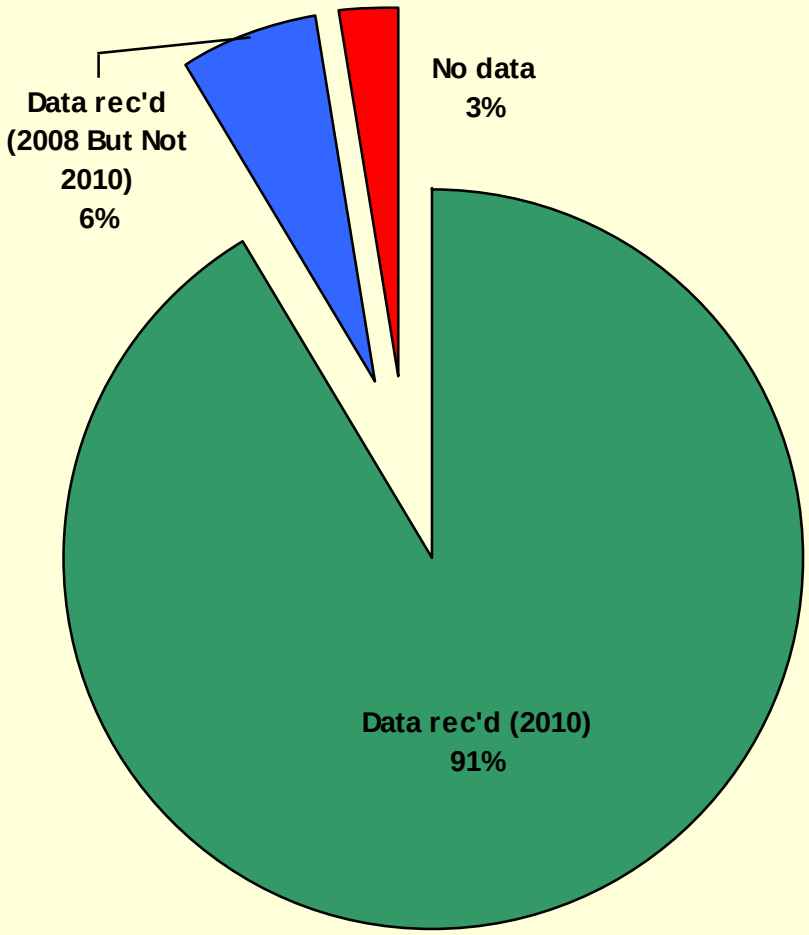
Local Streets & Roads are Huge Part of State Network



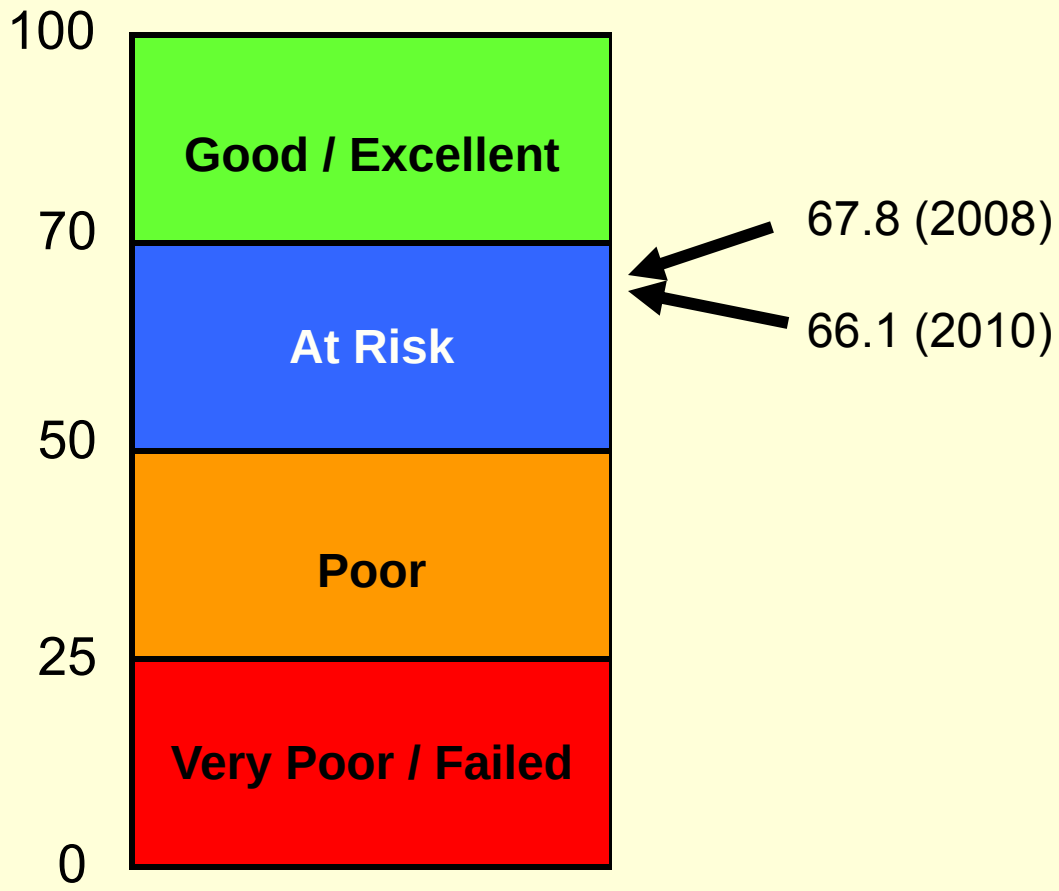
82% of California's pavements are owned by cities and counties!

Responses by Mileage

- **474 responses**
- **Covers 97% miles!**
- **56 no responses**
  - 50 have popⁿ < 50,000
  - 47 have < 100 miles

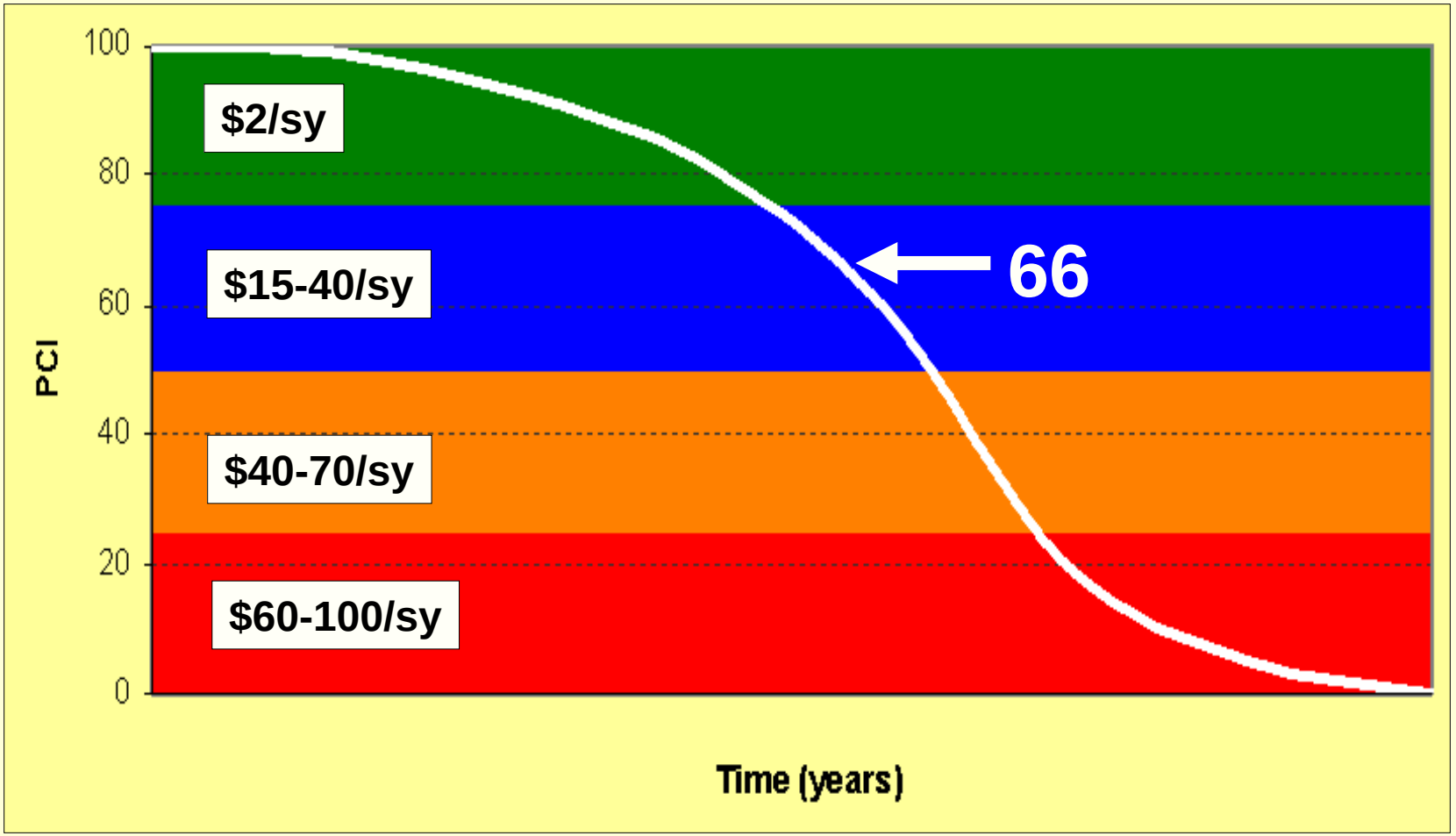


Pavement Condition Index (PCI)

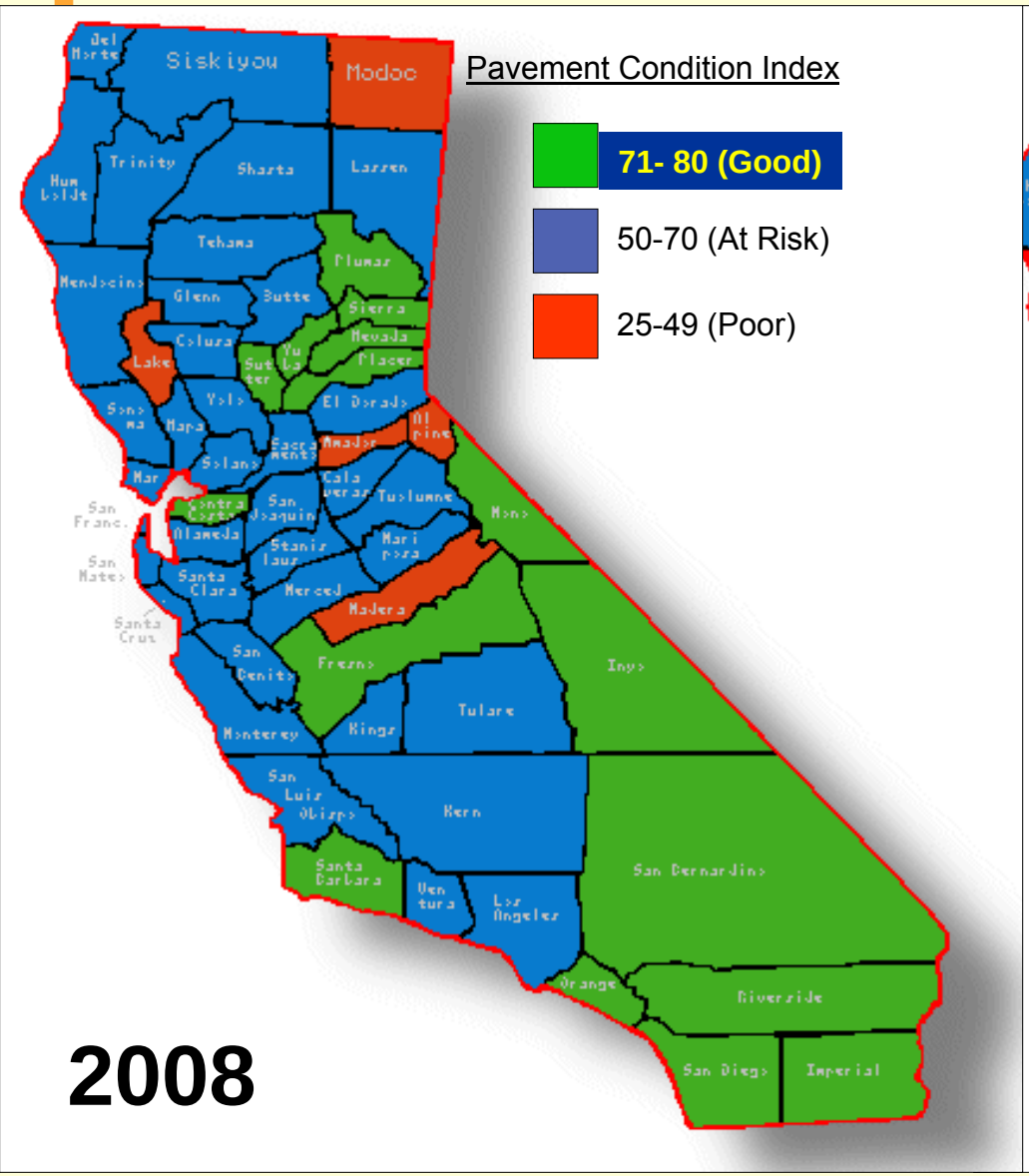


Statewide Average PCI = 66

Why is 66 Critical?



Statewide Conditions



2010 Infrastructure Needs

Infrastructure Category	Total ($ B)
Pavement	$70.5
Essential Components*	$29
Bridges	$3.3
Totals	$102.9

* Includes safety, traffic and regulatory needs. Does NOT include NPDES.

Funding Trends

RTPA
RCTF

Pavement Revenues*

Revenues ($M)	2008/09	2009/10	Future	% of total
Federal**	$ 167	$ 390	$ 68	6%
State	$ 1,032	$ 819	$ 698	61%
Local	$ 458	$ 453	$ 674	33%
Total	**$ 1,658**	**$ 1,663**	**$ 1,140** ↓	**100%**

* Based on 300 responses

** ARRA accounted for $343 million ($50 m in 2008/09, $293 m in 2009/10)

Funding Shortfall

Component	2011-2020 ($ billions) Needs	Funding	Shortfall
Pavements	$ 70.5	$ 14.2	($ 56.3)
Essential Components	$ 29.1	$ 6.8	($ 22.3)
Bridges	$ 3.3	$ 2	($ 1.3)
Totals	**$ 102.9**	**$ 23**	**($ 79.9)**

53 cents/gallon!

Funding Scenarios

1. **Existing funding ($1.42 billion/year)**
2. **Funding to maintain current PCI over next 10 years**

Impacts of Different Funding

Funding Scenarios	Annual Budget ($B)	PCI in 2020	Unfunded Backlog ($B)
Existing Funding	1.42	54	$ 63.6
Maintain PCI = 66	3.1	66	$ 37.9

% in Failed Condition

Scenario	Pavement Condition (PCI)	2020 Results		
		Unfu		nts n
2010				.1%
			03.6	22.4%
		$	37.9	17.7%

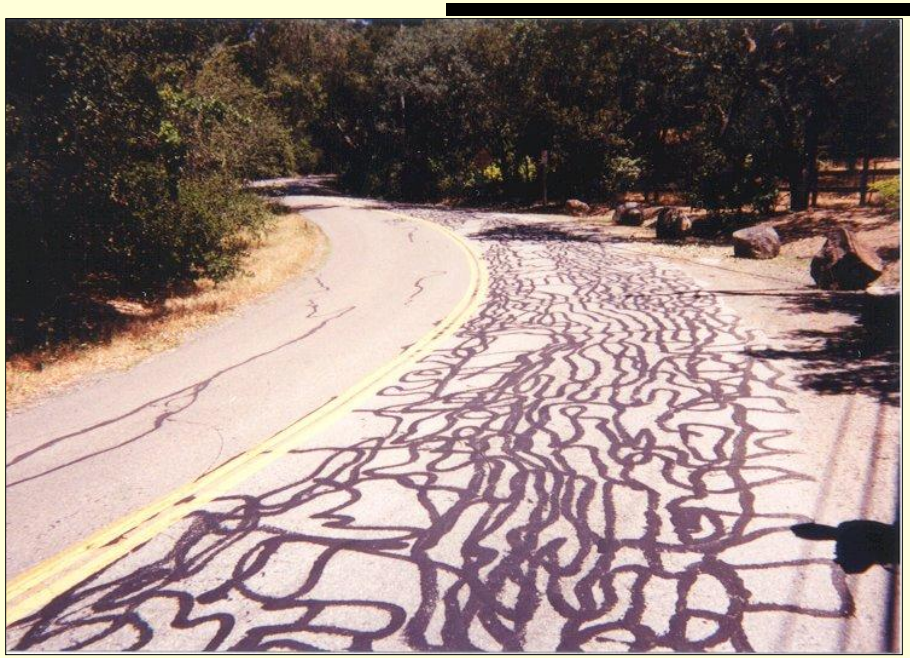
The % of roads in failed condition will increase from 6.1% to 22.4% by 2020 under current funding.

What's "failed" condition?

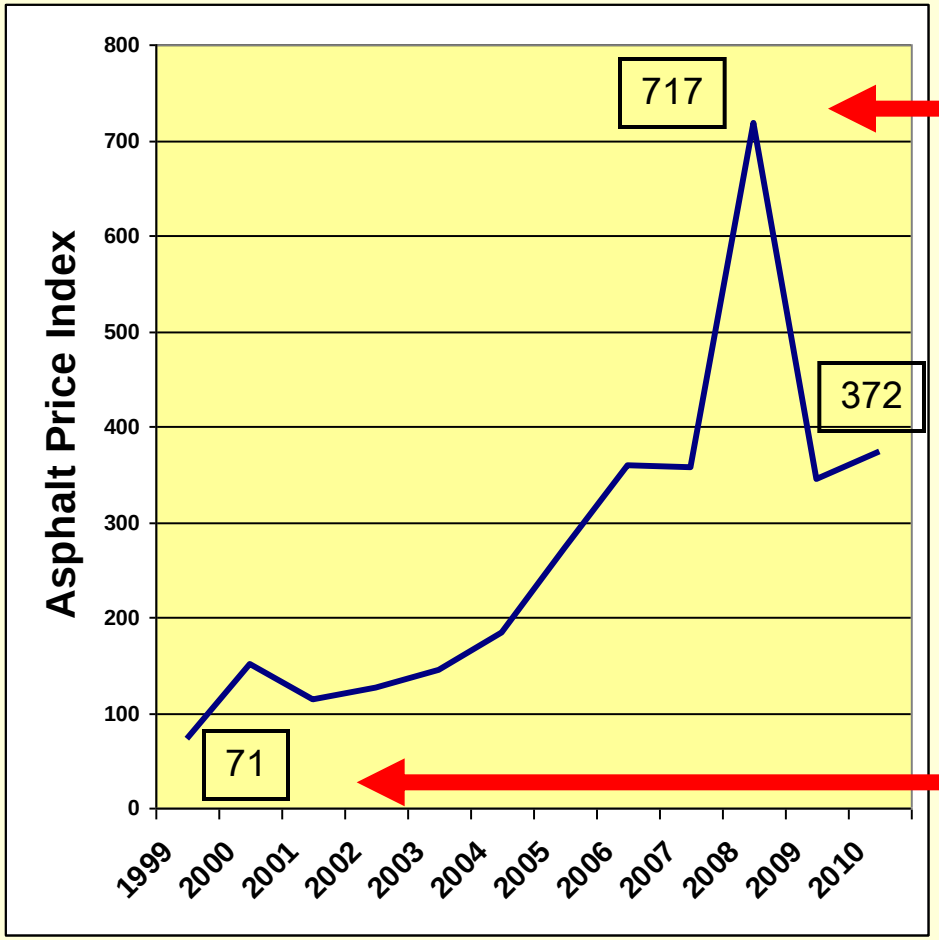
RTPA
RCTF

2/26/09
LITTLE LAKE RD.
5031-100-B

What Happens If We Don't Get More Funding?



How Did We Get Here?



- **Pavements are deteriorating rapidly**
- **Asphalt prices have increased five-fold since 1999**
- **Funding has not kept up**

Future Funding Trends

- **Increase gas tax ("toxic talk")**
  - Near term solution (10¢/gal) & index
  - Not sustainable – greater fuel efficiency, alternative fuels, new vehicle technology
- **Move to user-based system (~2.5¢/mile)**
- **Federal initiatives – financing, not additional revenues**
  - Infrastructure bank
  - Public-private partnerships
  - Focus is **NOT** on local streets and roads

Key Policy Considerations

- **Reliable funding source needed**
- **Impacts of deteriorating infrastructure on:**
  - Sustainable communities
  - Environment
  - Local economy
- **What is an acceptable:**
  - Quality of life for residents?
  - Level of service for visitors?

Questions?

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