



**December 5, 2011**

**To:** Highway Committee

A handwritten signature in black ink that reads "Will Kempton" with a long horizontal line extending to the right.

**From:** Will Kempton, Chief Executive Officer

**Subject:** Countywide Pavement Management Program Guidelines

### **Overview**

The Orange County Transportation Authority has developed a countywide pavement management system as required by Measure M2. All local agencies have submitted pavement management programs consistent with the Countywide Pavement Management Program Guidelines adopted by the Orange County Transportation Authority Board of Directors in May 2010. The overall countywide Pavement Condition Index for Orange County based on the numerical average is 77.8 and falls within the "good" rating category. This compares to an average statewide pavement condition index of 66, which falls within the "fair" category.

### **Recommendation**

Receive and file as an information item.

### **Background**

Each local jurisdiction is required to adopt a pavement management plan (PMP) in order to be eligible to receive Measure M2 (M2) funding. Additionally, a local match reduction of ten percent for competitive Regional Capacity Program projects is available if a local agency has measureable improvements in paved road conditions or maintains road pavement conditions within the highest 20 percent of the scale for road pavement conditions countywide, which is considered to be a pavement condition index (PCI) of 75 or higher, a condition rating of good.

The countywide assessment of existing and future pavement needs, completed by the Orange County Transportation Authority (OCTA) in 2006, demonstrated the benefits of establishing uniform criteria for local PMP systems. The report noted that the different pavement condition data collection efforts and

evaluation methodologies used by local agencies make it difficult to evaluate countywide pavement conditions. As a result, M2 established requirements for developing consistent methodology for local agency pavement management programs.

After a review of pavement management software currently in use and the benefits of a single system, the Technical Advisory Committee, at its July 23, 2008 meeting, approved MicroPaver as the countywide pavement software. This software was already being utilized by 20 of the 35 local agencies. The OCTA Board of Directors (Board) approved the M2 Eligibility Guidelines on January 25, 2010, which included the use of MicroPaver as part of the requirements to receive M2 funds. The Pavement Management Guidelines, developed to implement and administer the pavement management program in Orange County, were approved by the Board on May 24, 2010. The first submittals of local agency PMPs fully compliant with the new guidelines were completed in June 2011.

### ***Discussion***

The Pavement Management Plan Guidelines (PMPG) are intended to provide a consistent means of assessing pavement conditions countywide for the Master Plan of Arterial Highways (MPAH) and the local street systems. These guidelines are also intended to track changes in pavement conditions, forecast expected improvements resulting from the local agencies' maintenance and rehabilitation plans, and identify alternative strategies and funding necessary to improve road pavement conditions. Reliable, consistent, and uniform pavement data collection practices are essential to ensure the long-term success of the program.

Each local agency must adopt and update biennially its PMP consistent with the specific requirements of M2, and issue a report every two years regarding status of road pavement conditions and implementation of the PMP. To establish eligibility for receipt of M2 funds, each jurisdiction must submit a copy of the local PMP certification form to OCTA during the annual eligibility review cycle. The PMP submittal must also include an overview highlighting conditions that may have developed between review cycles and provide information concerning projects funded as part of the PMP.

The pavement management guidelines address: 1) the methodology used to collect pavement information, as well as the frequency of inspections; 2) the specific measures that quantify pavement conditions; and 3) the types and quality of information local agencies should provide to OCTA. These requirements are generally the same as those provided as part of the M2 eligibility process.

In 1998, OCTA adopted the countywide pavement condition assessment standards for treatments as shown in Table 1.

Table 1	
Pavement Quality	PCI Thresholds
Very Good	86 - 100
Good	75 - 85
Fair	60 - 74
Poor	41 - 59
Very Poor	0 - 40

California statewide local streets and roads needs assessments were completed in April 2009 and February 2011 under the sponsorship of the California Association of Counties and other agencies. The primary focus of these assessments has been on pavement condition and needs. The current study indicated countywide PCIs for all streets ranging from a low of 31 (Lake County) to a high of 77 (Placer County), with a weighted average of 66. The statewide assessment showed Orange County with a PCI of 76, which is slightly less than the numerical average PCI of 77.8 based on the recent local agency PMP submittals. Orange County has the best rating of any urban county in California based on this analysis.

The current PCI range for Orange County local agencies is shown in Table 2.

Table 2			
Classification	Current PCI		
	Lowest	Highest	Average
MPAH	61.0	96.0	79.4
Local Streets	61.0	92.3	77.4
Overall Network	62.0	91.8	77.8

The PMPG also require submittal of a seven-year maintenance and rehabilitation plan projecting future annual expenditures based on three scenarios:

- 1) Current budget and/or anticipated available funding.
- 2) Funding needed to maintain the PCIs at current levels for the overall network, MPAH and local street systems.
- 3) Funding needed to improve the overall network PCI at the end of the seven-year maintenance and rehabilitation plan.

Overall PCIs for about two-thirds of the local agencies are expected to decline over the next seven years, but still remain in good condition based on the numerical averages shown in Table 3, and assuming current budgets.

Classification	Projected PCI		
	Lowest	Highest	Average
MPAH	49.7	95.0	77.6
Local Streets	52.0	86.0	74.1
Overall Network	51.9	88.3	75.1

The attached maps (Attachment A) show the current and projected network PCIs for each local agency, as well as the range of changes in pavement quality after seven years.

Attachment B shows the pavement quality for Orange County jurisdictions in 2011 and as projected for 2018.

In order to maintain pavement in good condition, it is necessary to more clearly identify the unmet needs by jurisdiction, identify available funding, and assess the most cost effective means to meet these needs. With pavements in good condition, relatively inexpensive pavement preservation strategies utilizing surface treatments can extend pavement life upwards of ten years before major rehabilitation is needed. Costs can increase rapidly as pavement deterioration accelerates with aging of the pavement. Declining gas tax receipts and less than projected sales tax revenue have increased the challenge in maintaining good pavements.

**Summary**

The countywide PMPG were to satisfy the requirements of M2 for a system that will provide reliable, consistent, and comparable road pavement data. The guidelines will assist in determining current road pavement conditions and projecting future needs. The first round of local agency PMP submittals was completed in June 2011. The overall countywide PCI is 77.8 based on the numerical average of local agency PMIs. This rating indicates an overall good condition for pavements countywide. However, maintaining good pavements is constrained by limited or declining revenue growth.

**Attachments**

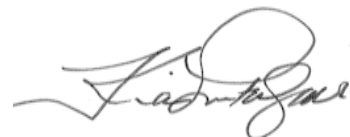
- A. Network Pavement Quality
- B. 2011 Countywide Pavement Quality

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Current



**Pavement Quality**

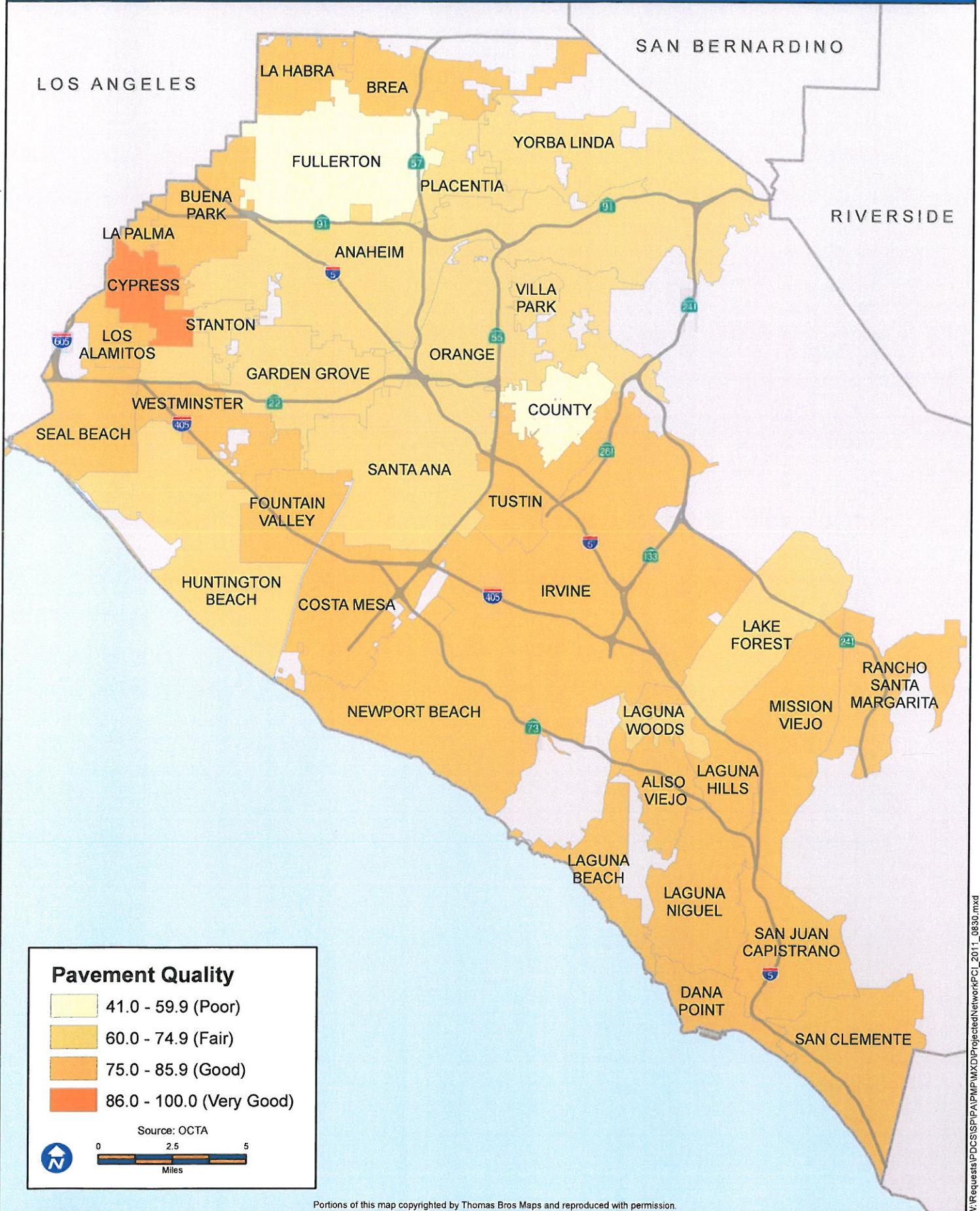
- 60.0 - 74.9 (Fair)
- 75.0 - 85.9 (Good)
- 86.0 - 100.0 (Very Good)

Source: OCTA

0 2.5 5 Miles

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# Projected Change



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## 2011 COUNTYWIDE PAVEMENT QUALITY

Agency	Current Condition			Projected Condition		
	Network	MPAH	Local	Network	MPAH	Local
Aliso Viejo	G	G	G	G	G	G
Anaheim	F	F	F	F	F	F
Brea	G	G	G	G	G	G
Buena Park	VG	G	VG	G	G	VG
Costa Mesa	G	G	G	G	G	F
County of Orange	F	F	F	P	P	P
Cypress	VG	VG	VG	VG	VG	G
Dana Point	G	G	G	G	G	G
Fountain Valley	G	G	F	G	G	F
Fullerton	F	F	F	P	P	P
Garden Grove	G	G	F	F	G	F
Huntington Beach	F	F	F	F	F	F
Irvine	G	VG	G	G	VG	G
La Habra	G	G	G	G	VG	G
La Palma	F	F	F	G	G	G
Laguna Beach	G	VG	G	G	G	G
Laguna Hills	G	G	G	G	G	G
Laguna Niguel	G	G	G	G	G	G
Laguna Woods	F	F	N/A	F	F	N/A
Lake Forest	G	G	G	F	F	F
Los Alamitos	G	VG	F	G	VG	F
Mission Viejo	VG	VG	VG	G	G	G
Newport Beach	G	G	F	G	G	G
Orange	F	F	G	F	F	G
Placentia	F	F	F	F	F	F
Rancho Santa Margarita	G	G	G	G	G	G
San Clemente	G	G	G	G	G	G
San Juan Capistrano	G	G	G	G	G	F
Santa Ana	G	G	G	F	F	F
Seal Beach	G	G	VG	G	F	G
Stanton	G	G	G	F	G	F
Tustin	G	G	G	G	G	G
Villa Park	G	VG	F	F	VG	F
Westminster	F	F	F	G	G	G
Yorba Linda	G	G	G	F	P	F

<b>COUNTYWIDE</b>	G	G	G	G	F	G
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N/A - All local streets are private

VG - Very Good (86-100)

G - Good (75-85)

F - Fair (60-74)

P - Poor (41-59)

VP - Very Poor (0-40)

# Countywide Pavement Management Program Guidelines





# Overview

- Measure M2 (M2) requires local jurisdictions to adopt and update a pavement management plan (PMP) every two years to be eligible to receive Fair Share fund
- Must include:
  - Seven-year maintenance and rehabilitation plan
  - Projected pavement condition
  - Alternative strategies and costs

# Program Objectives

- Find cost-effective treatments
- Designate schedule for maintenance and rehabilitation
- Provide desired level of service
- Identify costs



# Status

- MicroPaver established as countywide software system for M2 reporting
- Board of Directors adopted PMP guidelines in May 2010
- Overall pavement condition index (PCI) for Orange County is “GOOD” at 77.8
- Statewide overall PCI is “FAIR” at 66

# Network Pavement Quality - Current







# Network Pavement Quality – Projected Change



# Next Steps

- Develop MicroPaver training program
  - Field inspection training held on November 14-15, 2011
  - Software training scheduled for January 2012
- Identify pavement control sections
  - Various location
  - Representative distresses and severities
- Pre-qualify local agency inspection personnel/consultants
- Consultants retained to assist with program implementation