Pavement Condition Report (PCR) using PaveM
Frequently Asked Questions (FAQs)

1. **What is PCR?**

PCR stands for Pavement Condition Report and it contains information related to pavement type, route class, surface condition such as ride quality, cracking, rutting, and faulting. PCR is generated based on PaveM fine segmentation (roughly 1-mile). The PaveM generated PCR report contains performance categories with both traditional and assumed MAP-21 methods. A PCR aggregates and reports the condition of the PaveM segments overlapping the user-selected begin and end post miles.

2. **What is the sorting order for the data generated in the PCR?**

The data is generally sorted by PMs, Right Lanes, and Left Lanes. If Right and Left segments have different Beg PMs, then, left segments are grouped with their header followed by right segments with their header.

3. **What are unknown lane miles? Are they included in the summary calculations?**

Unknown lane miles are generated by PaveM segmentation due to missing 0.1-mile Automated Pavement Condition Survey (APCS) data segments, repeated 0.1-mile APCS data segments, Continuously Reinforced Concrete Pavement (CRCP) segments, and bridges. The 2015 PaveM segmentation has about 750 unknown lane miles. "Unknown" lane miles are not included in the PCR summary calculations.

4. **Why are the State ODM's different, but PM's same for two segments?**

The grouping algorithm for PaveM fine segmentation picks up individual lane APCS 0.1-mi segments with PM's within 0.25 mi of each other and groups them under one fine segment. This segmentation helps PaveM minimize network-level management segments (fine segments).

5. **What is the difference between Length and Lane Miles in the PCR?**

Length is the PaveM fine segment's length for each lane. Theoretically, lane miles for a single lane should be same as segment length. However, the difference arises due to PaveM's segmentation rules. PaveM ignores bridges in summing up lane miles. Therefore, lane miles will not always be equal to length for a given lane.

6. **What do I have to do in order to get a PCR for all Post-miles?**

The Route Selection feature helps you generate a PCR for an entire route within a given county.

7. **How do I validate post miles?**

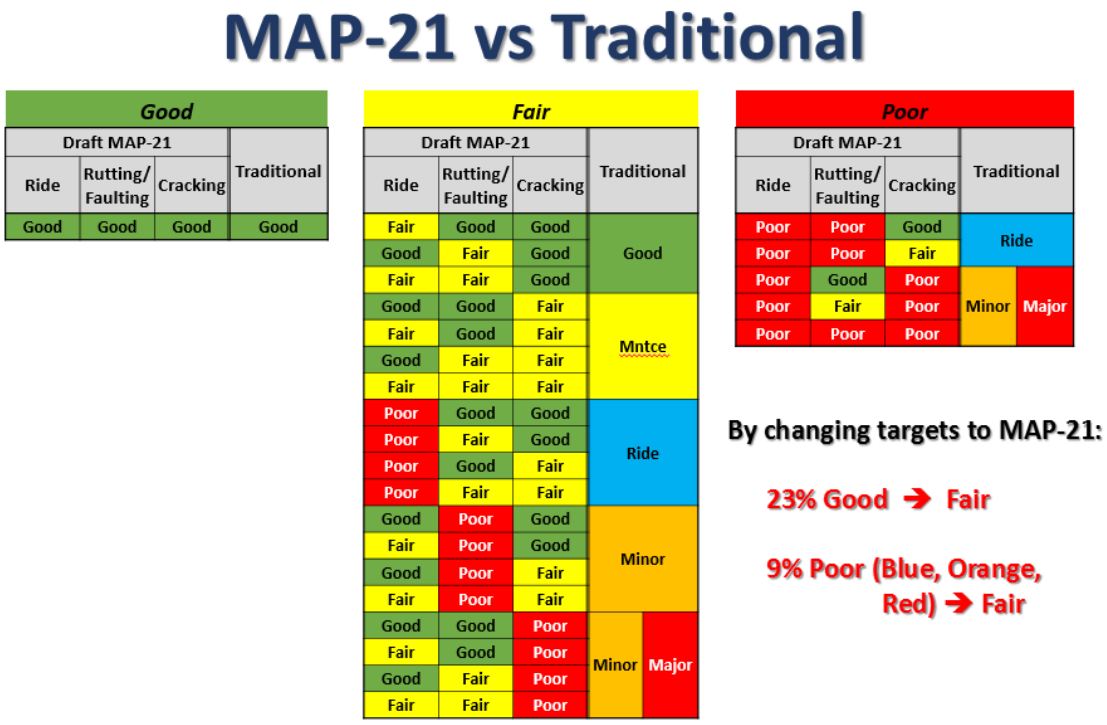
Validate post miles by using Caltrans' Highway Sequence Listing and/or Caltrans' GIS Services' Postmile Tool.

8. **What do Odometer values specify?**

Each route is linearly referenced by PM as well as an odometer reading. The State Odometer is a distance reading (in miles) with the beginning of the route as zero. PMs often end up relabeled or revised due to realignments, reconstruction or relinquishments. Therefore, another linear reference such as State odometer becomes valuable in knowing a particular segment on a route. The PCR tool utilizes the State Odometer in sorting and grouping PaveM fine segments.

9. What is the assumed MAP-21 (good, fair, poor) condition in the PCR report?

The federal Moving Ahead for Progress in the 21st Century Act (MAP-21) proposes rules for state transportation agencies to report and manage pavements using performance measures. Caltrans' assumed MAP-21 conditions (see below) are based on Caltrans' interpretation of the federal MAP-21 rules for categorizing pavement condition based on ride, rutting/faulting and cracking.



10. What does IRI (in/mi) mean in the report?

IRI stands for International Roughness Index, expressed as inches per mile (in/mi) and is an indicator of pavement ride quality.

11. How does PaveM predict pavement condition?

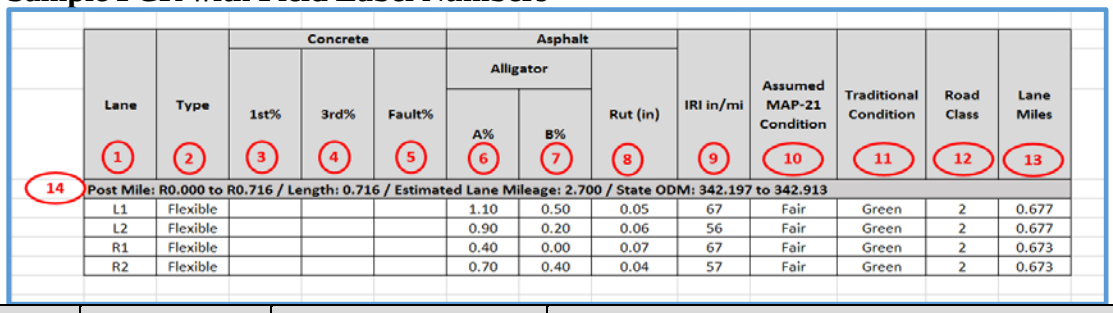
PaveM predicts pavement surface condition using performance models developed by UC Davis Pavement Research Center (UCPRC). Performance models consider combinations of traffic volumes, pavement type, and climate regions.

12. What do 1st%, 3rd%, Fault% mean in the report? What do A%, B%, Rut% mean in the report?

See attached PCR Field Dictionary for more details.

Pavement Condition Report (PCR) using PaveM
Field Dictionary (Updated December 2016)

Sample PCR with Field Label Numbers



	Lane (1)	Type (2)	Concrete: 1st% (3)	Concrete: 3rd% (4)	Concrete: Fault% (5)	Asphalt: Alligator A% (6)	Asphalt: Alligator B% (7)	Asphalt: Rut (in) (8)	IRI in/mi (9)	Assumed MAP-21 Condition (10)	Traditional Condition (11)	Road Class (12)	Lane Miles (13)
14	Post Mile: R0.000 to R0.716 / Length: 0.716 / Estimated Lane Mileage: 2.700 / State ODM: 342.197 to 342.913												
	L1	Flexible				1.10	0.50	0.05	67	Fair	Green	2	0.677
	L2	Flexible				0.90	0.20	0.06	56	Fair	Green	2	0.677
	R1	Flexible				0.40	0.00	0.07	67	Fair	Green	2	0.673
	R2	Flexible				0.70	0.40	0.04	57	Fair	Green	2	0.673

PCR Field No.	PCR Field Label	Sample Data	PCR Field Description
1	Lane	L1	Lane number displayed as "Alignment+Lane Number". For example, L1 means 1st lane on the left alignment.
2	Type	Flexible	Pavement type
3	1st%	0	Percent of the total length of elements with 1st stage cracks (applicable to Concrete Pavements). ***This column will have "0.00" values for Concrete Pavements.*** This is because PaveM does not currently have a prediction model for 1st stage cracking.
4	3rd%	15.3	Percent of the total length of elements with 3rd stage cracks (applicable to Concrete Pavements).
5	Fault%	71.76	Percent of elements with faulted joints (counted when fault > 0.15 in) in the segment (applicable to Concrete Pavements).
6	A%	1.1	Percent of the total wheelpath length with alligator A (applicable to Flexible Pavements).
7	B%	0.5	Percent of the total wheelpath length with alligator B (applicable to Flexible Pavements).
8	Rut (in)	0.052	Average rut depth (applicable to Flexible Pavements).
9	IRI in/mi	67	Average International Roughness Index of left and right wheelpath.
10	Assumed MAP-21 Condition	Fair	Calculated MAP-21 category based on assumed MAP-21 distribution of GOOD/FAIR/POOR using IRI, Cracking and Rutting (or Faulting).
11	Traditional Condition	Green	Traditional pavement condition ratings represented using color categories (Red, Orange, Blue, Yellow, and Green) based on IRI, cracking and rutting data.
12	Road Class	2	Road classification.
13	Lane Miles	0.677	Estimated Lane miles in the segment. This may be the same value as length of segment for any one lane. This is due to the fact that PaveM segmentation removes bridges.

14	Header	Post Mile: R0.000 to R0.716 / Length: 0.716 / Estimated Lane Mileage: 2.700 / State ODM: 342.197 to 342.913	Header row for each sorted segment in Detailed PCR. Header includes post miles, segment length, and estimated lane miles as well as From and To State ODM's for the segment.