

PAVISION®

Date:	March 7, 2017
Location:	California, SR 60
PaVision® Serial Number:	#001

Background

PaVision® is a pavement data collection and analysis system developed and deployed by Applied Research Associates, Inc. (ARA). The data collection hardware consists of forward-facing and downward-facing high-resolution digital camera, an accelerometer, a GPS antenna, and an onboard computer to control the systems and integrate the data. After image and roughness data are collected, the data are moved to a cloud-based analysis system for automated pavement distress identification processing using a proprietary software algorithm. The identified pavement distresses are aggregated into a traditional Pavement Condition Index (PCI) score following the methods in ASTM D-6433.

Location Map

Figure 1 shows Google map image where PaVision images were collected.

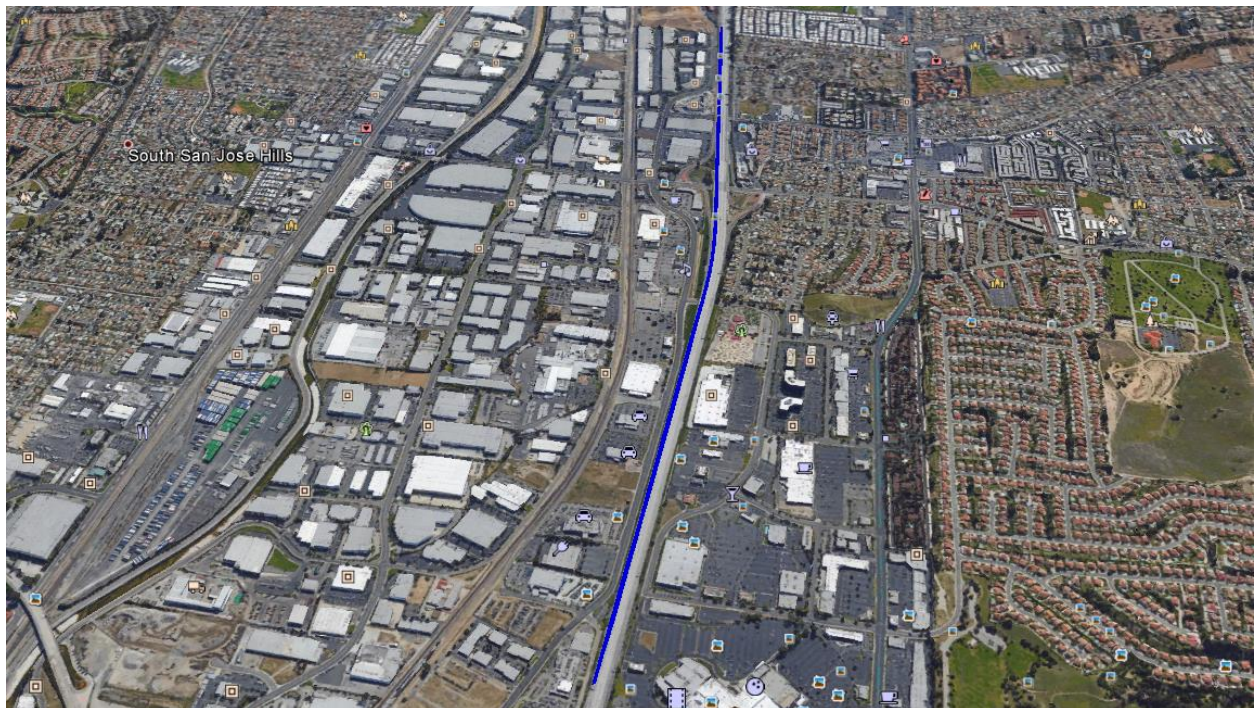


Figure 1: Google Map Image of the surveyed section



Cracking Results

This section represents the various distresses measured by the system on the different segments. Table 1 and Table 2 shows the distress on various lanes on SR 60.

Table 1: Distress Results for SR 60

Distresses	SR60WSegA			SR60WSegB		
	1	3	4	1	3	4
Area	7440	7560	7560	840	840	840
Alligator(L)	0	0	0	0	0	0
Alligator(M)	0	0	0	0	0	0
Alligator(H)	0	0	0	0	0	0
Block Cracking(L)	0	0	0	0	0	0
Block Cracking(M)	0	0	0	0	0	0
Block Cracking(H)	0	0	0	0	0	0
Edge Cracking(L)	0	0	0	0	0	0
Edge Cracking(M)	0	0	0	0	0	0
Edge Cracking(H)	0	0	0	0	0	0
Longitudinal / Transverse(L)	0	0	0	0	0	0
Longitudinal / Transverse(M)	0	0	0	0	0	0
Longitudinal / Transverse(H)	0	0	0	0	0	0
Pothole(L)	0	0	0	0	0	0
Pothole(M)	0	0	0	0	0	0
Pothole(H)	0	0	0	0	0	0
Blowups(L)	0	0	0	0	0	0
Blowups(M)	0	0	0	0	0	0
Blowups(H)	0	0	0	0	0	0
Corner Break(L)	0	0	0	0	0	0
Corner Break(M)	0	0	0	0	0	0
Corner Break(H)	0	0	0	0	0	0
Durability Cracking(L)	0	0	0	0	0	0
Durability Cracking(M)	0	0	0	0	0	0
Durability Cracking(H)	0	0	0	0	0	0
Linear Cracking(L)	1.7	5.1	0.4	0	7.3	2.4
Linear Cracking(M)	0	0	0	0	0	0
Linear Cracking(H)	0	0	0	0	0	0
Patch(L)	0	0	13.1	0	0	0
Patch(M)	0	0	1.8	0	0	0
Patch(H)	0	0	0	0	0	0
Map Cracking(L)	0	0	0	0	0	0
Map Cracking(M)	0	0	0	0	0	0
Map Cracking(H)	0	0	0	0	0	0
Spalling(L)	15.1	2.2	7.9	0	0	0
Spalling(M)	3.4	0	0	0	0	0
Spalling(H)	0.2	0	0	0	0	0



Table 2: Distress Results for SR 60

Distresses	SR60WSegC		SR60SegD	SR60WSegE	SR60WSegF
	1		2	2	2
Area	32040	31920	7560	840	32040
Alligator(L)	0	0	0	0	0
Alligator(M)	0	0	0	0	0
Alligator(H)	0	0	0	0	0
Block Cracking(L)	0	0	0	0	0
Block Cracking(M)	0	0	0	0	0
Block Cracking(H)	0	0	0	0	0
Edge Cracking(L)	0	0	0	0	0
Edge Cracking(M)	0	0	0	0	0
Edge Cracking(H)	0	0	0	0	0
Longitudinal / Transverse(L)	0	0	0	0	8.8
Longitudinal / Transverse(M)	0	0	0	0	0
Longitudinal / Transverse(H)	0	0	0	0	0
Pothole(L)	0	0	0	0	1
Pothole(M)	0	0	0	0	0
Pothole(H)	0	0	0	0	0
Blowups(L)	0	0	0	0	0
Blowups(M)	0	0	0	0	0
Blowups(H)	0	0	0	0	0
Corner Break(L)	0	0	0	1	0
Corner Break(M)	0	0	0	0	0
Corner Break(H)	0	0	0	0	0
Durability Cracking(L)	0	0	0	0	0
Durability Cracking(M)	0	0	0	0	0
Durability Cracking(H)	0	0	0	0	0
Linear Cracking(L)	14.1	11.6	11.7	19.9	13.9
Linear Cracking(M)	0	0	0	0	0
Linear Cracking(H)	0	0	0	0	0
Patch(L)	7.6	42.7	11.5	0	3.8
Patch(M)	0	0	0	0	0
Patch(H)	0	0	0	0	0
Map Cracking(L)	595.2	618.4	0	158.8	458.1



Roughness Results

Error! Reference source not found. shows the amount of roughness measured along the road segments. Since the PaVision system does not have a Class I profiler, it does not produce an International Roughness Index (IRI) or Profile Index (PI). Rather, it reports a roughness index that is unique to the PaVision system. The results have been analyzed and a reliable approximation is reported here.

Table 3: Roughness results for different sections

Section	Run	Roughness
SR60WSegA	1	84.5
SR60WSegD	2	111.8
SR60WSegA	3	95.7
SR60WSegA	4	95.9
SR60SegB(Control)	1	166.9
SR60WSegE	2	84.9
SR60SegB(Control)	3	141.3
SR60SegB(Control)	4	165.5
SR60WSegC	1	127.9
SR60WSegF	2	112.7

PCI Results

Error! Reference source not found. contains the final PCI scores for each segment as defined by the user. For reference, figure 2 depicts the PCI scale as described in ASTM D-6433.



Figure 2. ASTM D-6433 scale for PCI ratings.

Table 4: PCI Results for different sections

Section	Run	PCI
SR60WSegA	1	99.9
SR60WSegD	2	99.9
SR60WSegA	3	99.9
SR60WSegA	4	99.9
SR60SegB	1	100
SR60WSegE	2	94.6
SR60SegB	3	99.5
SR60SegB	4	99.8
SR60WSegC	1	99.4
SR60WSegF	2	97.5
SR60WSegC		99.3