Rock Products Committee (RPC) Meeting

AGENDA

Date: October 30, 2013
Time: 1:00 PM to 4:00 PM
Location: Translab Auditorium
5900 Folsom Blvd.,
Sacramento, CA 95819

Meeting called by:	RPC Co-Chairs: Tony Limas, Phil Stolarski, Agustin Rosales and John Stayton
Facilitator:	Phil Stolarski
Attendees:	RPC Members (Caltrans, Industry & FHWA)
Purpose:	Share information related to the activities of the RPC

Time	Topic	Who	Desired Outcome
1:00 – 1:05	**Welcome, Introductions and Review Agenda** **Action Items from July 17, 2013 Meeting**	Phil Stolarski	Member introductions, agreement on agenda, and status of action items
1:05– 1:15	**RPC Co-Chairs Update** • **Industry** • **Caltrans**	Tony Limas, Phil Stolarski, Agustin Rosales and John Stayton	Caltrans management update, Industry update and any heads up notice
1:15 – 2:30	**RPC Task Group Work Plan Status Updates (20 minutes for each Task Group)** • **Asphalt** • **Concrete** • **Pavement Foundations** • **Pavement Preservation**	Task Group Co-Chairs Peter Vacura Joe Peterson Chuck Suszko Jack Van Kirk Jim St. Martin Dan Speer Bill Farnbach Chuck Suszko Charley Rea Ron Stickel Bill Farnbach Dan Speer Chuck Suszko Don Vivant Peter Vacura Chuck Suszko Bill Farnbach Jim Ryan Craig Hennings	• Accomplishments in the last quarter • Planned outcomes for next quarter • Any major cross cutting issues as a heads up or lessons learned.

Rock Products Committee (RPC) Meeting October 30, 2013 AGENDA			
Time	**Topic**	**Who**	**Desired Outcome**
2:30 – 2:35	**FY 14/15RPC Projects** • **Expectations** • **Schedule**	Phil Stolarski	
2:35 – 2:40	**2010 Specifications Task Force**	Chuck Suszko	Update on Progress
2:40 – 2:45	**Break**	All	Refreshment
2:45 – 3:30	**New Business Items** • **Pavement Management System (PAVEM)**	Tom Pyle	Share strategic initiatives • Educational • Informational
3:30 – 3:45	**Round Table**	RPC Members	Interaction and discussion of appropriate, cross-cutting issues and reports
3:45 – 3:50	**2014 RPC Meeting Calendar**	Chuck Suszko	Share information
3:50 - 4:00	**Capture Action Items and Dates** **Next Meeting on January 22, 2014 from 1 PM to 4 PM at TransLab, 5900 Folsom Blvd., Sacramento, CA 95819**	Phil Stolarski	Capture action items Share information

Handouts:

1. July 2013 RPC Meeting Action Items Status Summary
2. October 2013 RPC Management Status Report
3. 2014 RPC Meetings Calendar

Rock Products Committee (RPC)

Meeting Minutes and Action Items
From Wednesday October 30, 2013
1:00 PM to 4:00 PM
TransLab Auditorium, 5900 Folsom Blvd., Sacramento, CA

Meeting Minutes Outline of Discussion

Meeting started at 1:05 PM:

Meeting opened by Stolarski.

Self introductions were made by the RPC members.

Stolarski reviewed agenda items.

Stolarski reviewed the action items from July 17, 2013. All action items were completed except item 4 for 2010 specification Task force which will be covered on today's agenda.

Industry/Caltrans Updates

Industry Update

Limas:

- District lab certifications opportunities for increasing quality.
- Aggregate approval process PCC Task Group has been discussing issues for ready mix concrete
- EA requirement to get aggregates approved. Joe Peterson has talked about this before.
- Request to run special RPC Management Status report 10 days prior to RPC meetings so the information is current.
- Progress being made by PPTG on RPC projects

Caltrans Update

Rosales:

- Related to funding for pavement, we have been working with District's on pavement projects that will be coming out next year.

Stolarski:

- John Stayton has been appointed Assistance Chief for Division of Construction.
- Amarjeet Benipal completed his acting assignment in District 7 and is now Stockton as acting District 10 Director waiting for a new Director to be appointed in District 7. Amarjeet is scheduled to be back in January.

RPC Task Work Plan Status Updates

October 2013 RPC management status report is available at:
http://www.dot.ca.gov/hq/maint/Pavement/RPC/RPC_Workplan.html

RPC Meeting Minutes 10/30/13 Outline of Discussion Continued

Asphalt Task Group —Comments to "Overall Progress"

Peter Vacura presented the Asphalt Task Group Projects:

Project #8 Section 39 Smoothness
Next meeting November 7 to discuss specification

Project #9 Quieter Flexible Pavement
5th year report has been approved.
St. Martin: Is the report available?
Action item: UCPRC research webpage link will be sent out by Peter Vacura.

Project#11 Longer Life Flexible Pavement
Sub Task Group has been reactivated and recently met in Weed and Redding to review long life projects. Group has become very active.
Synder: Nice job was done by Peter on the panel last week at the CALAPA conference.

Project#14 Superpave Specification
Superpave specification has been recently revised and should become the standard early next year for 2015 specifications.
Limas: Will the superpave specification have to be ready by November 2013?
Stolarski: Yes specification needs to be ready later this year to be posted next year.
VanKirk: What are we going to do about the issues that are not resolved. Some are significant issues. The timeline does not make since. There have been a number of changes being made recently to the specifications. We discussed in detail at the Industry meeting today.
Stolarski: Next sub task group meeting is November 14, 2013.
Limas: We will discuss at out next meeting the remaining superpave issues.
Rae: Is this specification being written to eliminate Type B HMA?
Vivant: Don't need to eliminate aggregate quarries when there are not a lot out there.

Project#15 RAP/RAS
Next RAP/RAS meeting is scheduled November 13, 2013.

Project# 18 Intelligent Compaction
Suszko: The next meeting is scheduled for November 5, 2013. There has been a lot of progress and the draft specification for pilot projects is almost completed.

Project#20 Asphalt Rubber Binder Quality Control
Project#21 Performance Graded Asphalt Rubber Binder
Next meeting PGAR and ARB are scheduled for November 6, 2013 and the Sub Task Group will be putting workplans together.
VanKirk: For ARB QC there is no work plan.

Item#22 Aggregate Breakdown in Asphalt Concrete Plant
Limas: We have some feedback for Joe and will discuss at Superpave meeting.

Stickel: What is the status of AMRL for District Labs?
Stolarski: Some Districts are lagging behind the schedule. It is important to the Department and we are working with the Districts. Currently 2, 6 and Southern Regional Lab have received AMRL accreditation.

RPC Meeting Minutes 10/30/13 Outline of Discussion Continued

Concrete Task Group —Comments to "Overall Progress"

Dan Speer presented the Concrete Task Group projects:

Project#5 QC/QA Specification for Cast-in-place Concrete
QC/QA is marking forward progress with three pilot projects underway. Working on getting additional Department staff ACI certified for concrete testing. We are developing lessons learned from pilots. One lesson being discussed is the authority of the QC inspection when it comes to rejecting concrete. District 4 prebid meeting is scheduled for November 13.

Project#9 Statewide Aggregate Source database
Statewide database is now implemented. DIME data is coming in from the projects.
Project#11 Precast Concrete Pavement
Precast pilot projects are being produced by Districts. District 7 has a large ongoing pilot project.

Project#22 Recycled Concrete materials Specification Development
Rae: Sub Task Group is meeting monthly. The Division of Weights and Measured have come to the meetings. We had a tour of concrete plant that recycles concrete recently in Folsum.

Hennings: Where is the scoping document for dowel bar and tie bars?
Speer: The scoping document is being hashed out for dowel and tie bars. We have several items on the bin list.

Fong: We have two pilot projects for roller compacted concrete.

Pavement Foundation Task Group — Additional Comments to "Overall Progress"

Amy Fong presented the Pavement Foundations Task Group projects.

Project#11 Compensation for Ordered Increases in Additives
We have come to a resolution on handling compensation on additives and this will be implemented by NSSP.

Project#12 Intelligent Compaction
This is a parallel effort for IC for HMA. When HMA specification is completed the IC specification for FDR and CIR will be completed.

Pavement Preservation Task Group — Comments to "Overall Progress"

Peter Vacura presented the Asphalt Task Group Projects:

Project#3 Cold In-Place Recycling
CIR is taken a back seat the past three months and we have not done anything. The direction we are heading is to revamp LP 8 for CIR mixes.

Project#4 Fog Seals
Working with Chico State on final report and drafting issue memo to lift moratorium for state projects. Issue memo should be ready in late November.

RPC Meeting Minutes 10/30/13 Outline of Discussion Continued

Pavement Preservation Task Group — Comments to "Overall Progress"

Project#5 Rubberized Slurry Seal
Dmytrow: We need to back progress back down to 20 %. Moving towards a performance based specifications for testing.
Limas: Why are we at 61 percent?
Suszko: The 61 percent is the percentage that is currently shown in the RPC workplan database.
Ryan: There are many cross cutting issue in PPTG. PPTG covers a wide variety of processes and products. We have a problem with allocation of human resources. Staff can only juggle so many balls at a time. Industry has a vested interest in seeing all of the projects moving forward and be successful.

Project #6 Modified Binder Chip Seal
Draft specification is to be discussed at the next Seal Coat Sub Task Group meeting.

Project#7 Scrub Seal
Dmytrow: We now have a draft 2010 plain language version of the specification.

Project#8 Warm Mix asphalt Rubber Chip Seal
One pilot project is completed. There will be a pilot project draft report for the evaluation shortly. Chico work is on hold until we get more financial approval.

Project#14 Quieter Concrete Pavement
Fong: UCPRC is wrapping up the report on NGSC.

Project#16 Concrete Sealer/Hardener
Fong: Sealer harder we are working on reviewing the first years data from pilot projects.

Projecr#17 Concrete Pavement Joint Filler for Wide Joints
Wide joints held first meeting in November.

Project#18 Concrete Spall Repair
Spall repair has scheduled its next meeting in December.

Hennings: Punch out repair scoping document for CRCP?
Suszko: I have scoping document for approval.

FY 14/15 RPC Projects
Stolarski:
Expectations

- December meeting for potential projects presented by Task Groups
- Limit FY14/15 projects to three projects.

Schedule:
Scoping documents submitted in March.
Approval is expected in June for scoping documents.

St. Martin: What date do we expect to meet?
VanKirk: December 10th or 11th
Stolarski: December 10th will be the date for Task Groups meetings and a phone bridge will be provided.

RPC Meeting Minutes 10/30/12 Outline of Discussion Continued

2010 Specification Task Force
Suszko presented the status of the 2010 Specification Task Force:
There were 406 individuals that attended the webinar. Approximately 660 people registered for the webinar.

The Webinar was recorded and has been posted on the Division of Construction training webpage.

There were 80 questions asked during the Q& A portion of the webinar and 25 questions were answered life during the webinar. Responses to all 80 questions will be posted on the Division of Construction training webpage.
The Task Group will meet on November 15, 2013 to work on a decision document concerning how revisions to the specifications standard specifications should be handled in the future.

New Business Items

Pavement Management System
Tom Pyle presented the status on Pavement Management System:
PaveM is the Caltrans Pavement Management System.

The most difficult problem for us is network management. PaveM determines which are the best projects to do based on funding to maintain the highway network. Network management is what we are trying to address.

PaveM includes:

- Ground Penetrating Radar which has been completed.
- APCS Automated Pavement Condition Survey.
- California climate regions. Climate is very important to pavement.
- Pavement Network divided into segments based on climate, traffic and structural section
- Segment Performance Models. We have 320 models in our system based on structural section, climate and traffic.

<u>Goals of PaveM</u>

1. To create a list of projects that
    - Will maintain the roads given a set of constraints
    - Repair or maintain each Class of highway
    - Are based on different budgets for each year for each funding type
    - Considers repair thresholds, like 95% of Class I roads in good condition

2. Optimize Budgets

What's in the box?
Management segments, CTC vote amounts, GPR segments, last project built, APCS Automated Pavement Collection System, Network LRS, Models, Traffic, Climate, Strategies and funding levels.

RPC Meeting Minutes 10/30/12 Outline of Discussion Continued

New Business Items

Pavement Management System Continues

Decision trees will be developed that are distressed driven.
We are doing optimizing. Using every pavement management segment. Trying to optimize the benefit by choosing the correct strategy.
Based on distress we run through decision tree.
When you do a project the distressed is reduced. The program is optimizing the network.

Using PaveM an engineer can request PaveM to maximize the best condition given constraints such as:

- IRI below 170
- 90% Class 2 Green Condition
- HM, SHOPP Budgets different every year
- Existing projects considered
- 12 yeat time period
- List projects by Co-Rte-PM
- Sort projects by location, material type and lane

PaveM gives results on how the District will perform such as meeting IRI of 170.
Future
Training Districts 7 & 10 have been trained to date.
New APCS is going to be done.
Develop and refine models
Establish business process

Questions:
St. Martin: Does PaveM have pavement smoothness IRI data that can be used for projects?
Pyle: It will take several years before we are to the point of being able to use this.

Dmytrow: You should be able to apply this to the entire system so you get the best bang for the buck.
Pyle: The Pavement Management System is only the best as the data and models that we have in the system. There is a need for engineers to review the strategy selected by PaveM to be sure the projects is appropriate.

RPC Meeting Minutes 10/30/12 Outline of Discussion Continued

Roundtable

Limas: Industry would like to have joint co-chairs. We want to have a succession plan so there would be another person ready to step in.

Limas: New projects potential in December and March scoping documents.

Stolarski: Approval is in late June or July based on budget.

Hennings: Brought this up to Dan issues concerning concrete aggregate testing.

Stolarski: Dan and I have discussed this.

Hennings: Dan has asked for facts on projects. I think it is a problem on all projects including asphalt.

Stickel: This can't happen on AC projects.

Tim Vulcan Materials: The concern we have from Industry is for ready mix. We have run into a contract number without the proper funds. Don't have a contract number to charge to.

Stickel: You don't have information? We don't have a problem in District 3 or 10.

Tim Vulcan: This is occurring in District 7 & 8 and 11.

Tim Vulcan: It is a problem on local projects.

Speer: Getting some concrete data on this would define the issue(s) for us.

Rea: No comments.

St. Martin: No comments.

Stickel: No comments.

VanKirk: No comments.

Ryan: No comments.

Dmytrow: Anything we can do as Industry to help Peter and Chuck delivery these projects. We are here to assist.

Healow: Revisit policy on FHWA providing equipment on projects such as IPADS.

Synder: Congratulations to Caltrans for winning the Pioneer award for long life pavement.

Action Items

See attached list of action items.

Meeting adjourned at 3:10 PM.

Rock Products Committee (RPC)
Action Items
From Wednesday, October 30, 2013
1:00 PM to 4:00 PM
TransLab Auditorium, 5900 Folsom Blvd., Sacramento, CA

Action Items Summary

#	MEETING	ITEM	ACTION REQUIRED	WHO	DUE	STATUS
1.	10/30/13	RPC Management Report	Update report 10 days prior to RPC meetings	Chuck Suszko	Whenever required	
2.	10/30/13	Smoothness Report	Link to UCPRC website for reports	Peter Vacura	11/4/13	
3.	10/30/13	Task Group Meeting with RPC Co-Chairs	Schedule meetings with task groups for December 10, 2013	Phil Stolarski	11/4/13	
4.	10/30/13	Industry Co-Chairs	Caltrans RPC Co-Chairs to discuss joint Industry Chairs	RPC Co-Chairs	11/4/13	

Name	Organization	2011				2012				2013			
		1/25	4/20	7/20	10/26	1/18	4/18	7/18	10/17	1/23	4/17	7/17	10/30
Philip J. Stolarski	Caltrans State Materials Engineer **(Co-Chair)**	X	X	X	X	X	X	X	■	■	X	X	X
Amarjeet S. Benipal	Caltrans State Pavement Engineer **(Co-Chair)**	X	X	X	X	X	X	X	X	X	X	X	X[2]
John Stayton	Caltrans Asst. Chief of Construction **(Co-Chair)**	X[1]	X[1]	X[1]	■	X[1]	X[1]	■	X[1]	X[1]	X[1]	■	■
Anthony Limas	Industry-Granite Construction Company, Inc. **(Co-Chair)**	X	X	X	X	X	■	X	X	X	X	X	X
Bill Farnbach	Caltrans Pavement Program (Caltrans Member)	X	X	■	X	X	X	■	X	X	X	■	X[3]
Chuck Suszko	Caltrans Construction (Caltrans Member)	X	X	X	■	X	X	■	X	X	X	■	X
Dan Speer	Caltrans Materials Engineering & Testing Services (Caltrans Member)	X	X	X	X	X	■	X	X	■	X	■	X
Joe Peterson	Caltrans Materials Engineering & Testing Services (Caltrans Member)	X	X	■	X	X	X	X	X	■	■	X[5]	■
Roberto Lacalle	Caltrans Structures Specifications and Estimating (Caltrans Member)	X	■	■	X	X	X	X	■	X	■	X	X
Peter Vacura	Caltrans Pavement Program (Caltrans Member)	X	X	X	X	X	X	X	X	X	X	X	X
Steve Healow	FHWA Pavement Engineer (FHWA)	■	X	■	X	X	■	X	X	X	X	X	X
Ron Stickel	Teichert Materials (Industry Member)						X	X	X	X	X	■	X
Charley Rea	CALCIMA (Industry Member)	X	X	X	X	X	X	X	X	X	X	X	X
Cliff Ohlwiler	Oldcastle Precast, Inc. (Industry Member)	X	■	X	X	X	X	X	X	■	■	X	■
Craig Hennings	Southwest Concrete Pavement Association (Industry Member)	X	X	X	X	X	X	■	X	■	X	X	X
Bob Durham	Durham Stabilization, Inc. (Industry Member)				X[4]	X[4]	■	X[4]	X[4]	X[4]	■	■	■
Don Vivant	Sully-Miller Contracting Company (Industry Member)	■	X	X	X	X	X	X	■	■	X	X	X
Jim Ryan	Paramount Petroleum (Industry Member)					X	X	X	X	■	X	X	X
Jack Van Kirk	Basics Resources, Inc. (Industry Member)	X	X	X	X	X	X	X	X	X	X	X	X
Jim St. Martin	California Asphalt Pavement Association (Industry Member)	X	X	X	X	X	X	X	X	X	X	X	X
Robert P. Humer	Asphalt Institute (Industry Member)	■	■	■	X	X	X	X	■	■	X	X	■
Russell Snyder	California Asphalt Pavement Assoc (Industry Member)	X	X	X	X	X	X	■	X	X	X	X	X
Tom Tietz	California & Nevada Cement Assoc (Industry Member)	X	X	X	X	X	■	X	X	X	X	X[6]	
Scott Dmytrow	Telfer Oil (Industry Member)					X	X	X	X	X	X	X	X

[1]Scott Jarvis
[2]Agustin Rosales
[3]Amy Fong for Bill Farnbach
[4]Sara Alzate
[5]Cathrina Barros for Joe Peterson
[6]Jeff Wykoff for Tom Tietz

Handouts:

1. July 2013 RPC Meeting Action Items Status Summary
2. October 2013 RPC Management Status Report
   http://www.dot.ca.gov/hq/maint/Pavement/RPC/RPC_Workplan.html
3. 2014 RPC Meetings Calendar
   http://www.dot.ca.gov/hq/maint/Pavement/RPC/Rock_Products.html
4. PaveM Presentation

Rock Products Committee (RPC)
Action Items
From Wednesday, July 17, 2013
1:00 PM to 4:00 PM
TransLab Auditorium, 5900 Folsom Blvd., Sacramento, CA

Action Items Summary

#	MEETING	ITEM	ACTION REQUIRED	WHO	DUE	STATUS
5.	7/17/13	New Products Info/Process	Share with group	Phil Stolarski	7/19/13	Complete
6.	7/17/13	Update on CPDs (25% RAP, Smoothness, Dry Weight of Aggregate)	Share with ATG members	Peter Vacura	7/26/13	Complete
7.	7/17/13	Charging to projects prior to 3 and 4 phase.	Share with Shirley/Constr.	Phil Stolarski	7/19/13	Complete
8.	7/17/13	CT/Industry 2010 Specification Task Force update	Contact McMillan/Sewell for update	Phil Stolarski	7/19/13	Requested update
9.	7/17/13	Update management report by removing completed tasks	Remove completed tasks	Chuck Suszko	October meeting	Complete

Rock Products
October 30, 2013
PaveM

Tom Pyle, P.E.
Chief, Office of Pavement Management

Why Do we need a PaveM? What are we doing…

California

Rank in 2009: 47
Rank in 2008: 48
Rank in 2007: 48

California's state highway system is ranked 47th in the nation in overall highway performance and efficiency in the latest *Annual Highway Report* by Reason Foundation. It is a slight improvement for California, which ranked 48th in the previous two *Annual Highway Reports* and has ranked in the bottom 10 every year since 2000.

California's urban interstates are the most congested in the nation, ranking 50th. The state ranks 49th, next to last, in urban interstate pavement condition and 39th in the condition of rural arterial roads.

California's roads are in poor condition despite a significant increase (24 percent more) in per-mile highway expenditures, making total per-mile spending in California 4.7 times the national average.

Our highways look like this…

And this…

California Highways Network

- Urban Areas
  - Concrete Pavement 70%
  - Asphalt Pavement 30%

- Rural Areas
  - Concrete Pavement 30%
  - Asphalt Pavement 70%

Climatic Regions

Desert Environment

High Mountain Snow Environment

Traffic

The Easy Problem…

Bad PCCP must be replaced

Bad HMA must be removed or recycled

Another easy problem: Preventive

PCCP Faulting : Grind

Good HMA : Seal Coat

Not so easy…

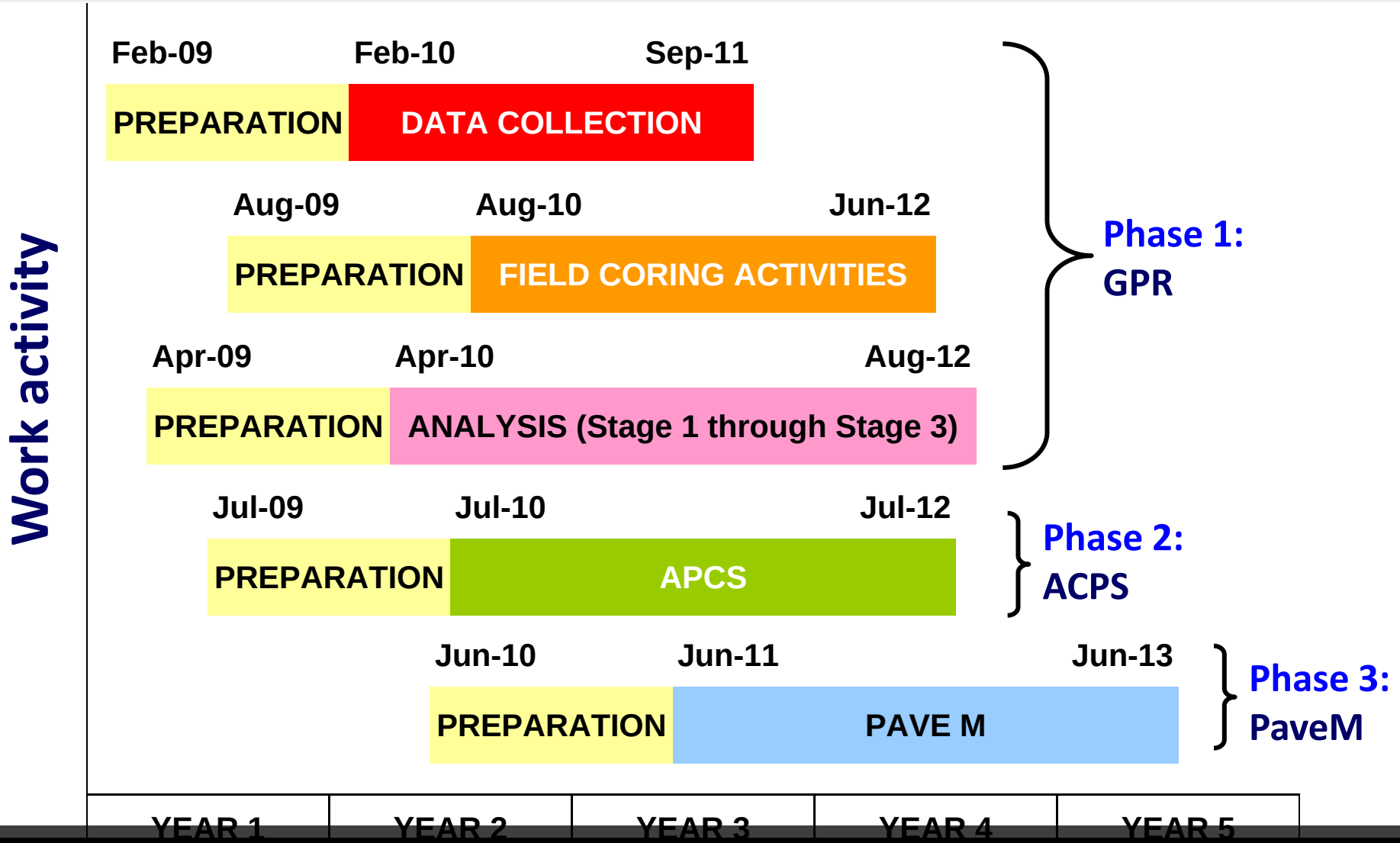
100 miles of this

Or 1 mile of this

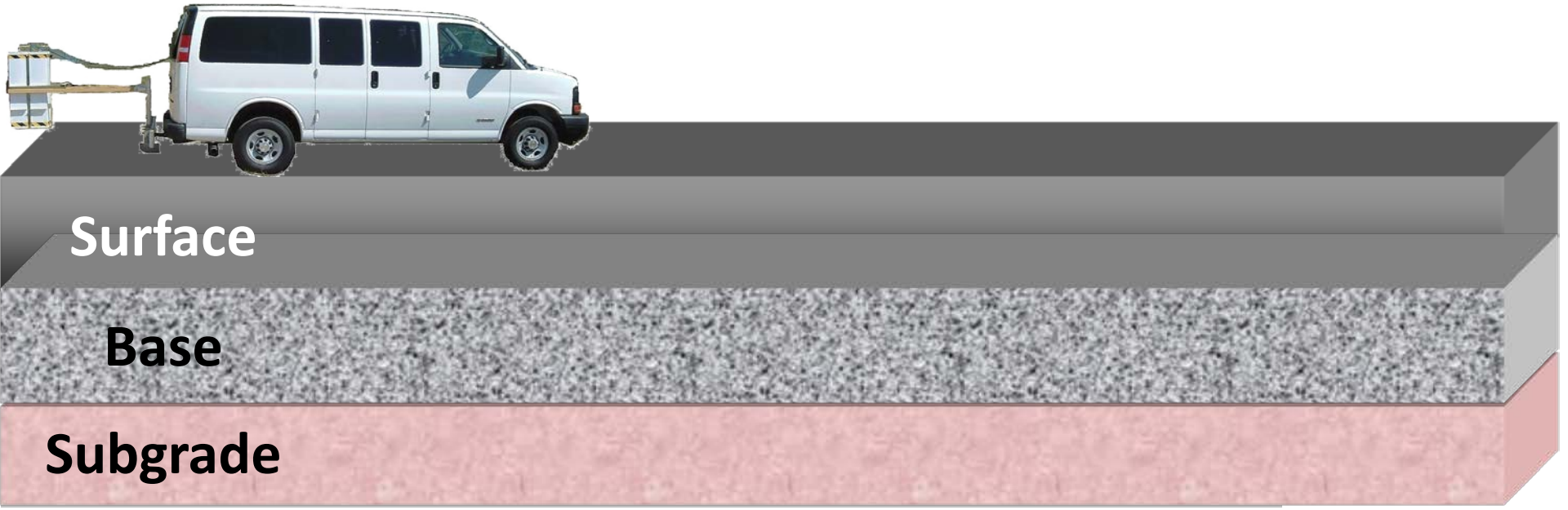
- The most difficult problem for us is network management. For California it is an objective in the FUTURE, while meeting the needs of today (remember that rank 47 thing?)…

So what did California Do?

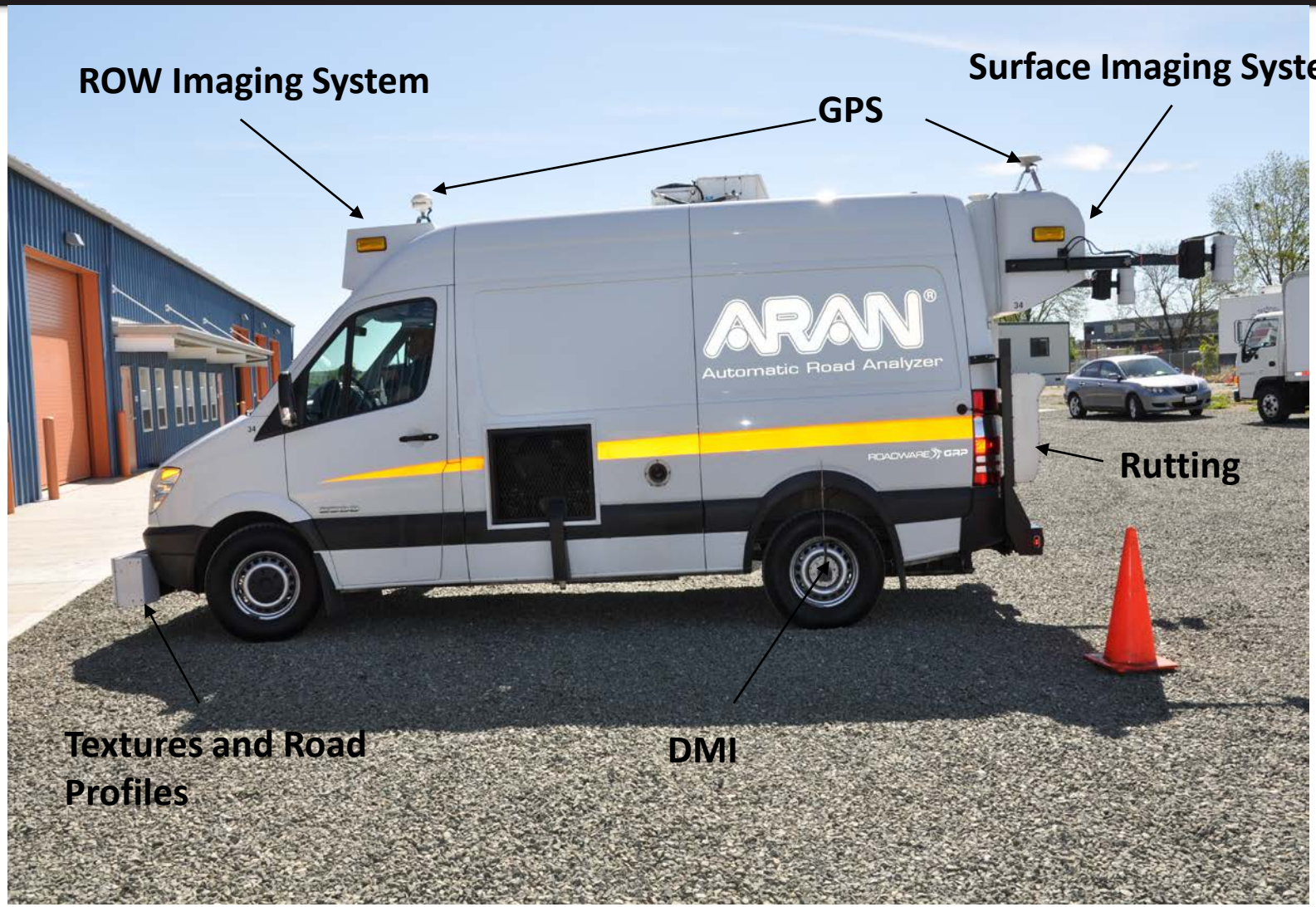
Project Schedule



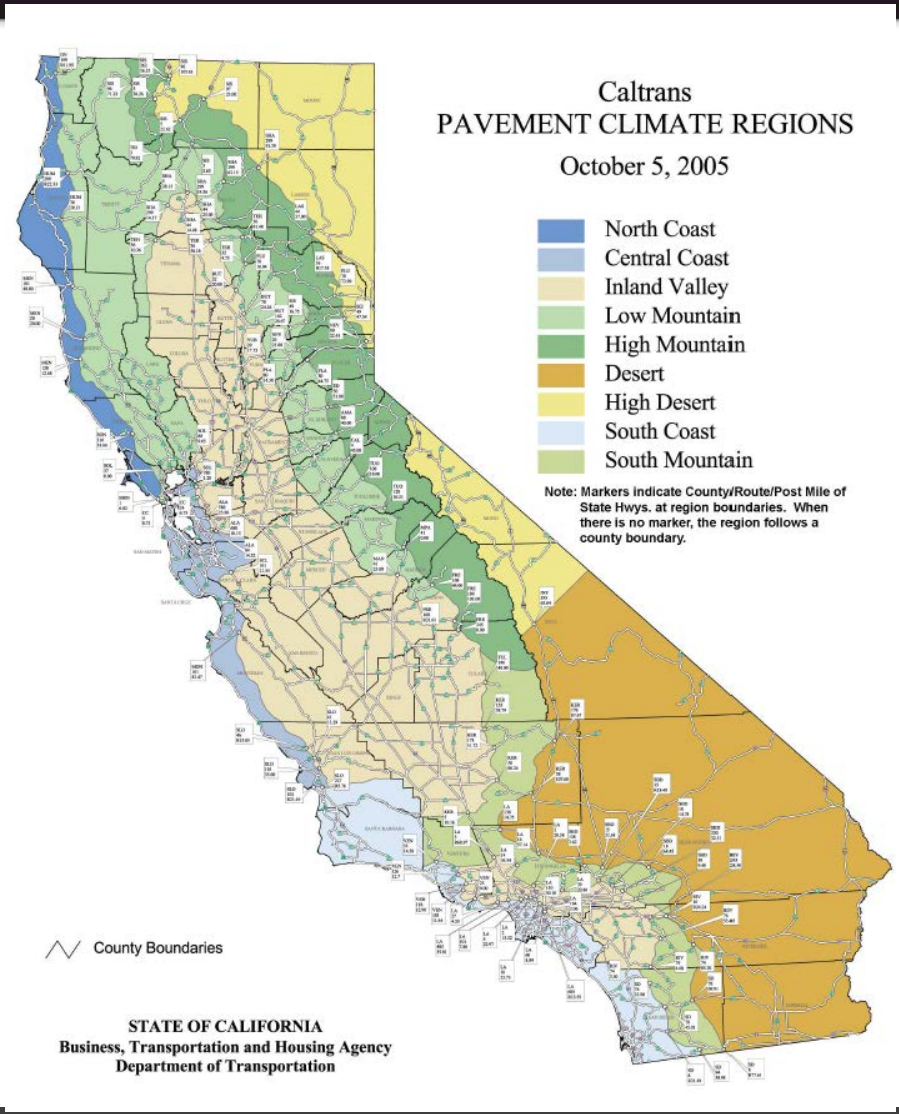
1. Ground Penetrating Radar



2. APCS Vehicle



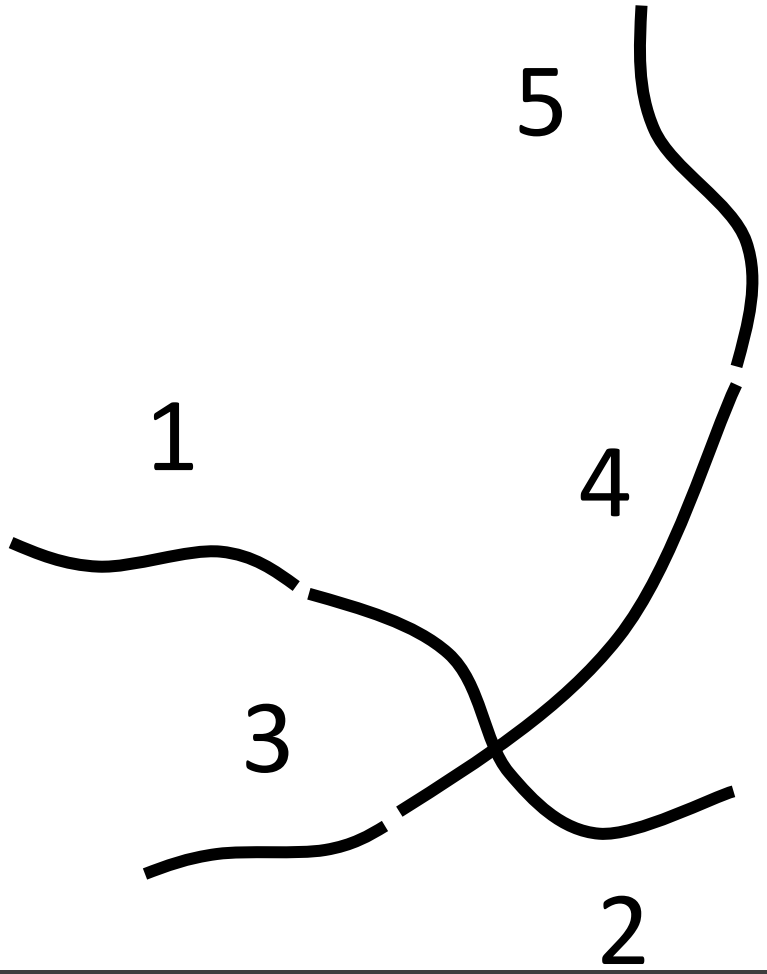
3. California Climate



Average Monthly Temperature Range from
7F to 81F at Bodie
39F to 117F at Death Valley

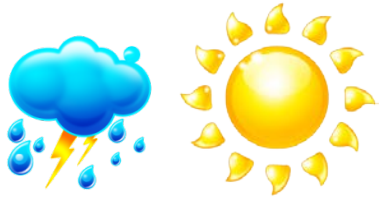
4. Pavement Network

Divided Into Many Segments

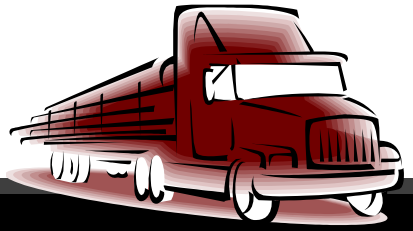


Within each segment there is similar:

Structure

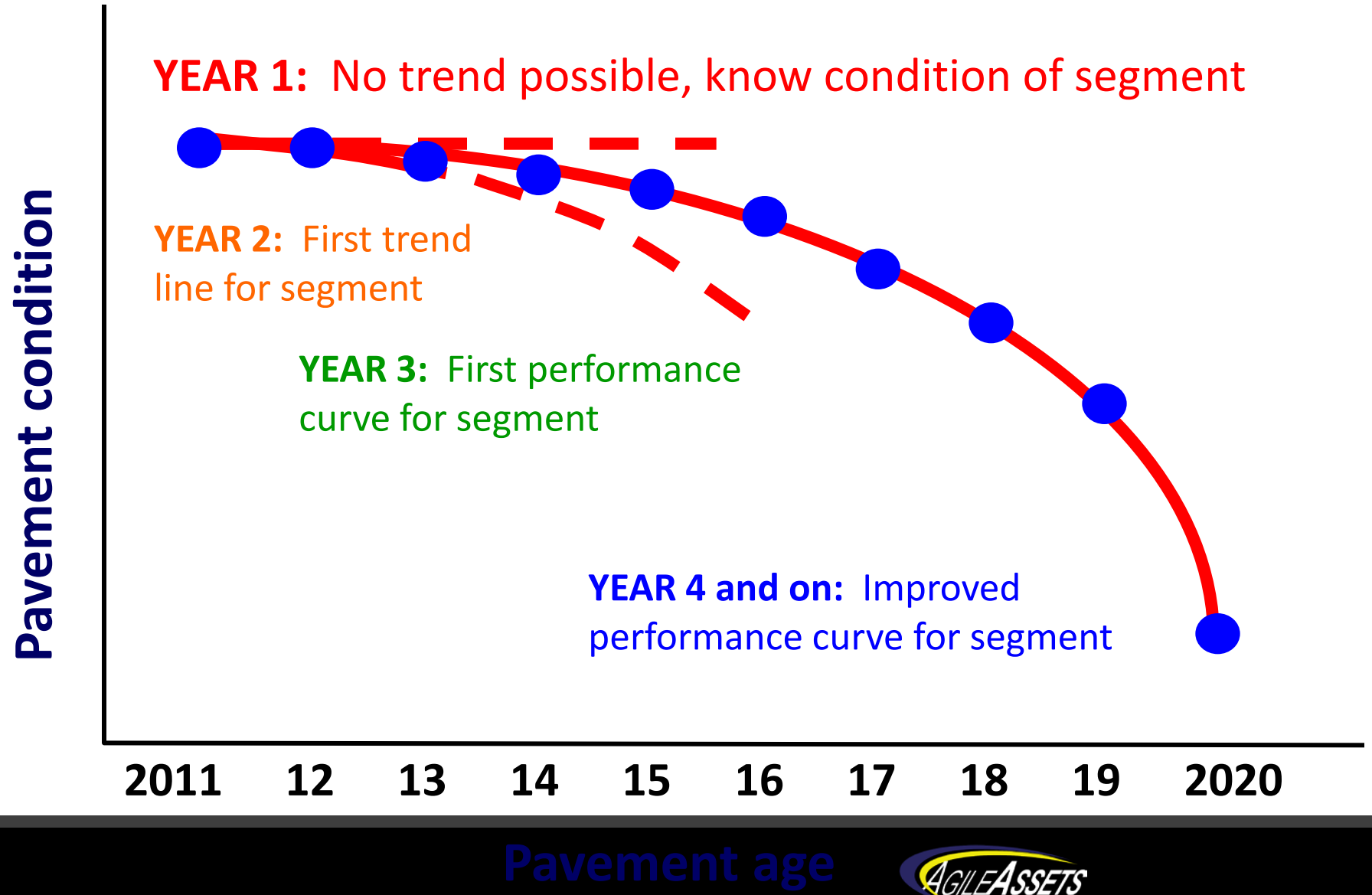


Climate



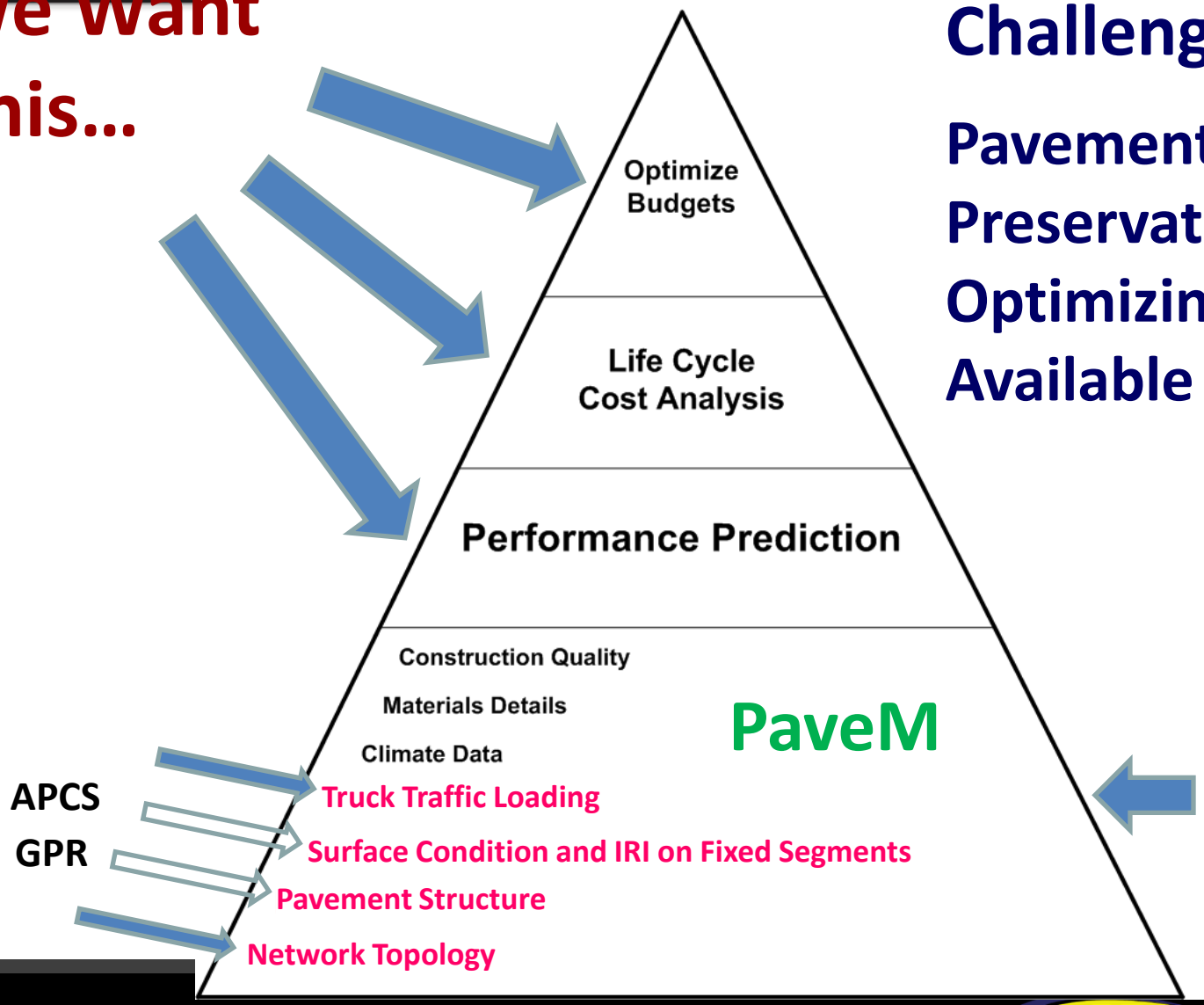
Traffic

5. Segment Performance Modeling



6. Use all this to build a Pave Pyramid

We Want This…



Challenge:

Pavement Preservation & Optimizing $ Available

But Need a Strong Foundation

AGILEASSETS

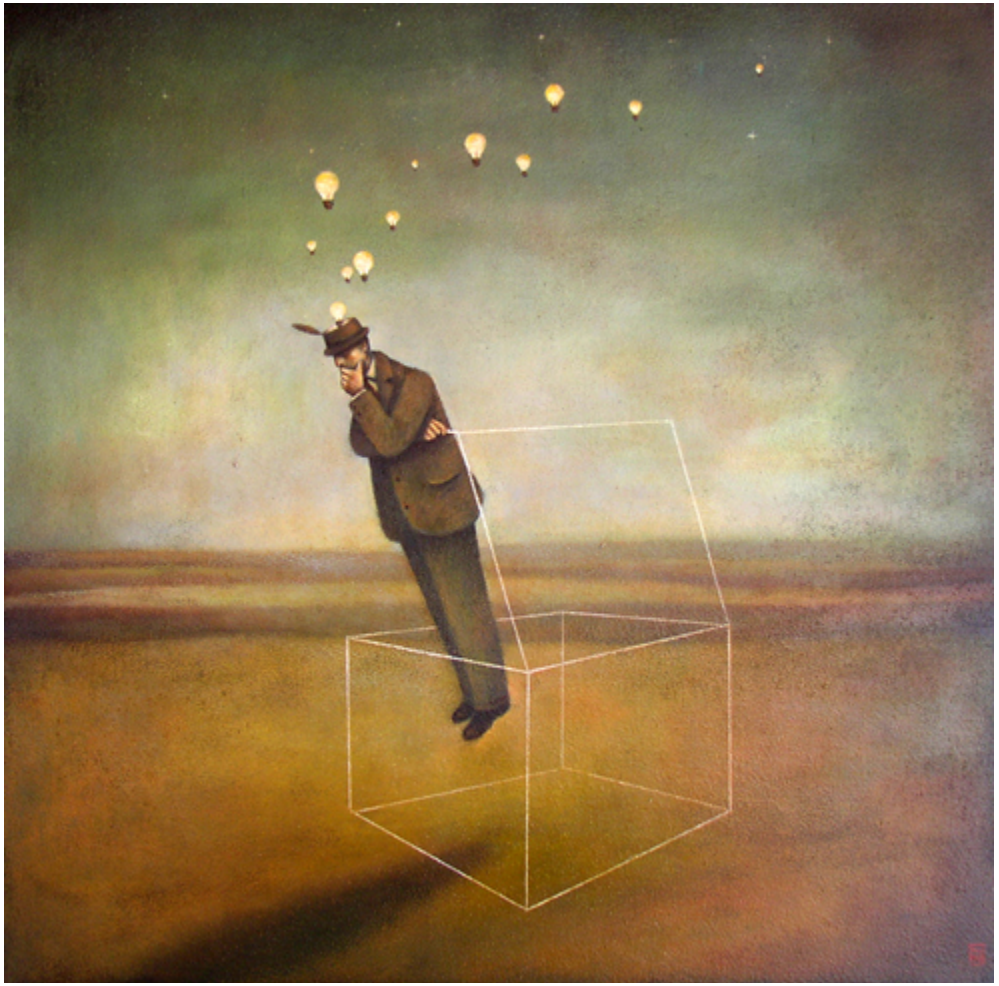
7. The goal of PaveM

1. To create a list of projects.

- …That will maintain the roads given a set of constraints.
- Repair or maintain each class of highway, as well as the material type.
- And do so with different budgets for each year for each funding type.
- And consider repair thresholds, like 95% of Class I roads in “good” condition.

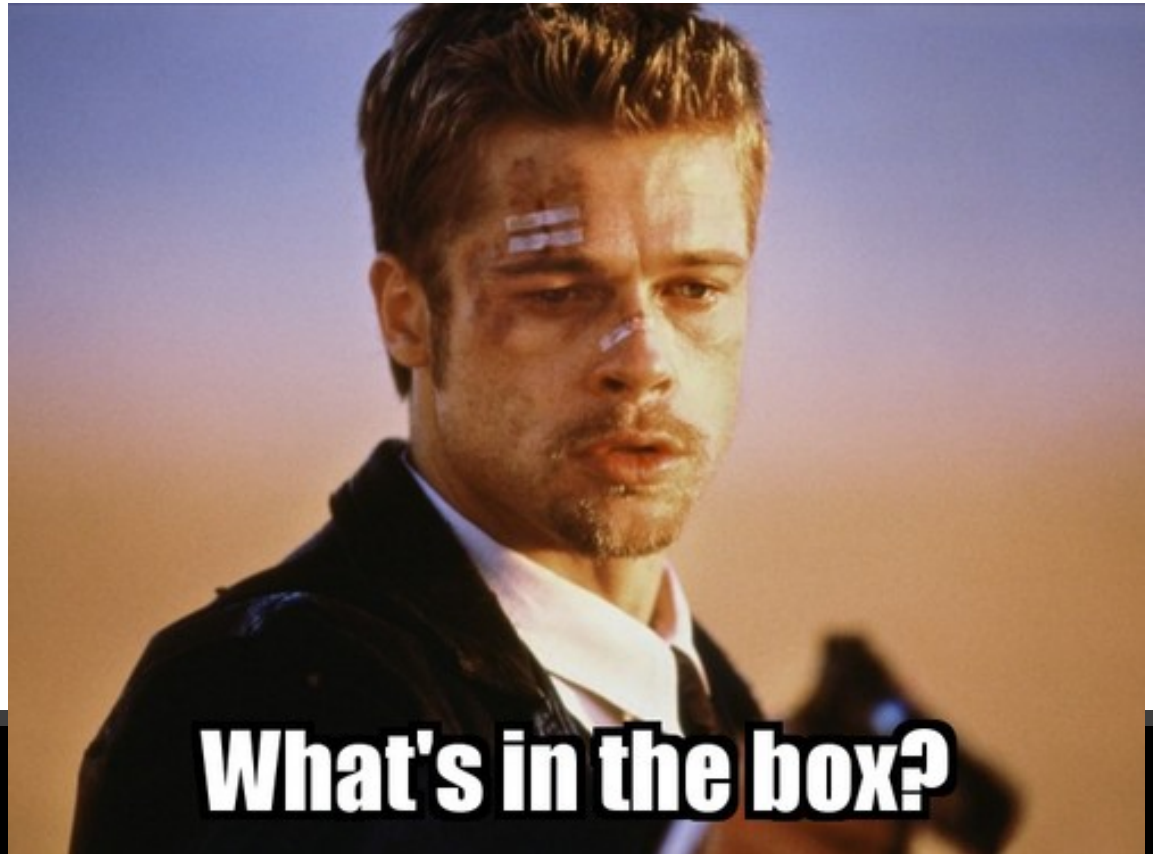
2. To Optimize budgets

PaveM… the engineer in the box…

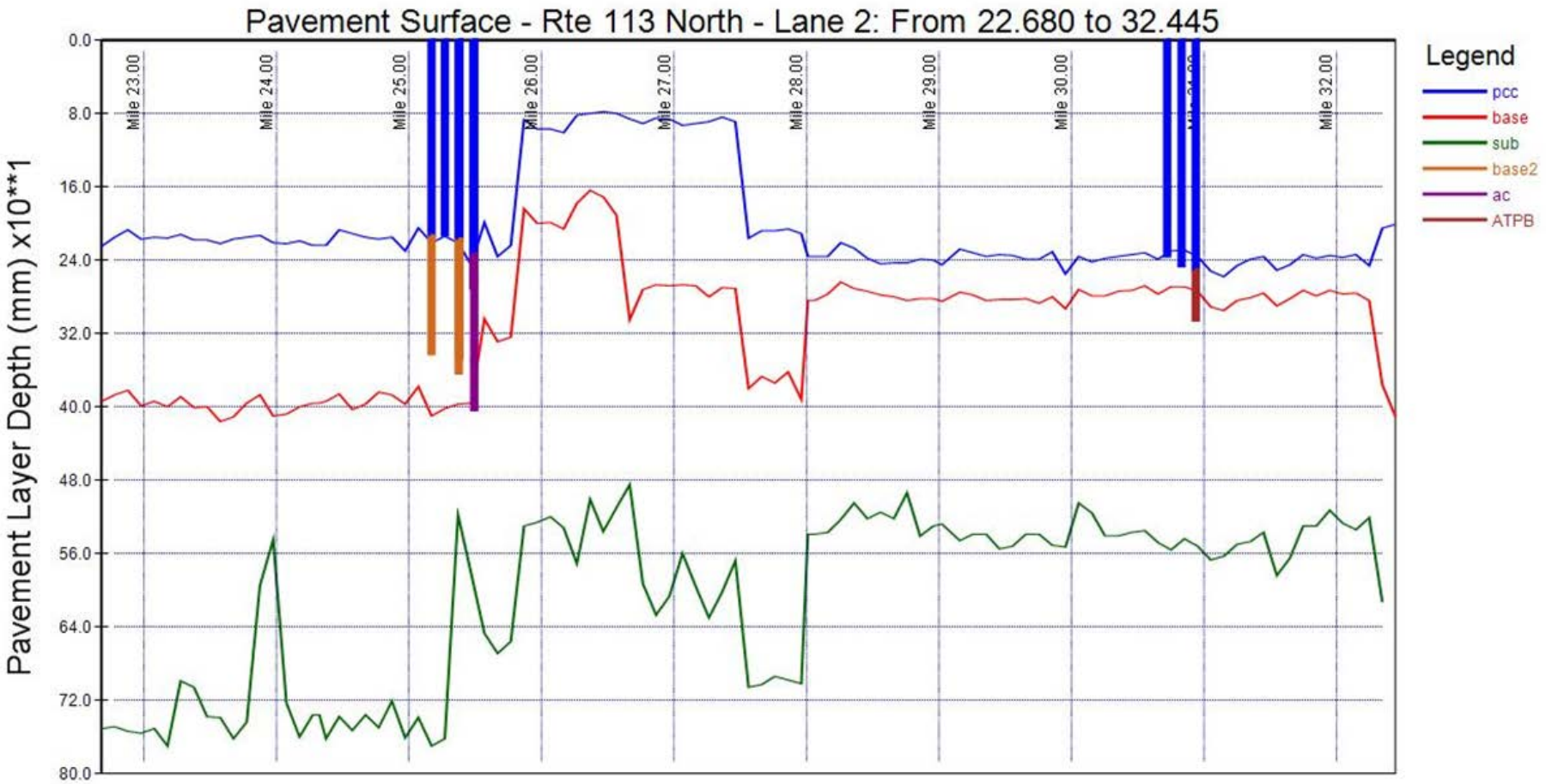


What’s in PaveM?

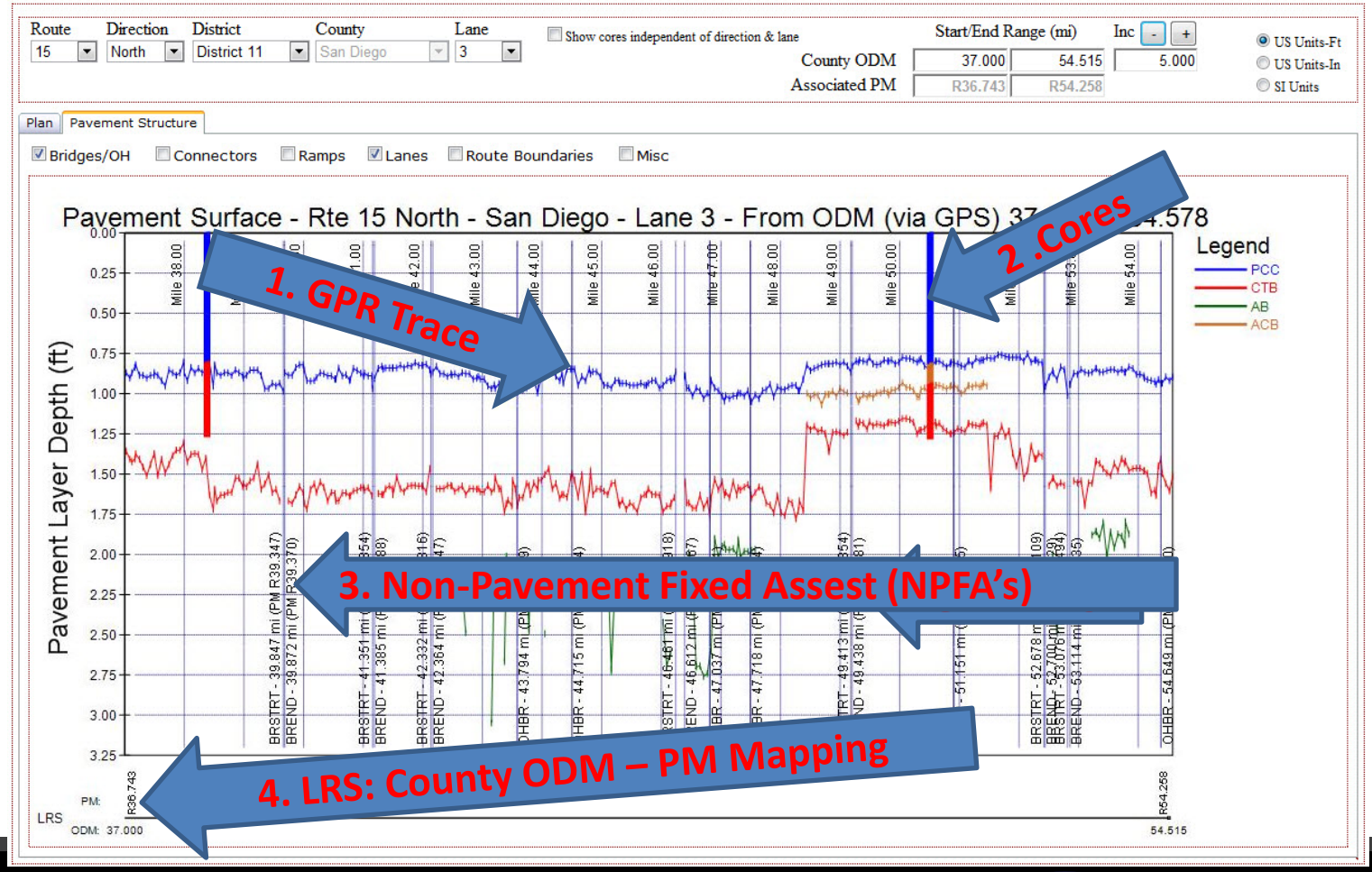
Management segments, CTC vote amounts, GPR segments, last project built, APCS, Network LRS, Models, Traffic, Climate, Strategies, funding levels…



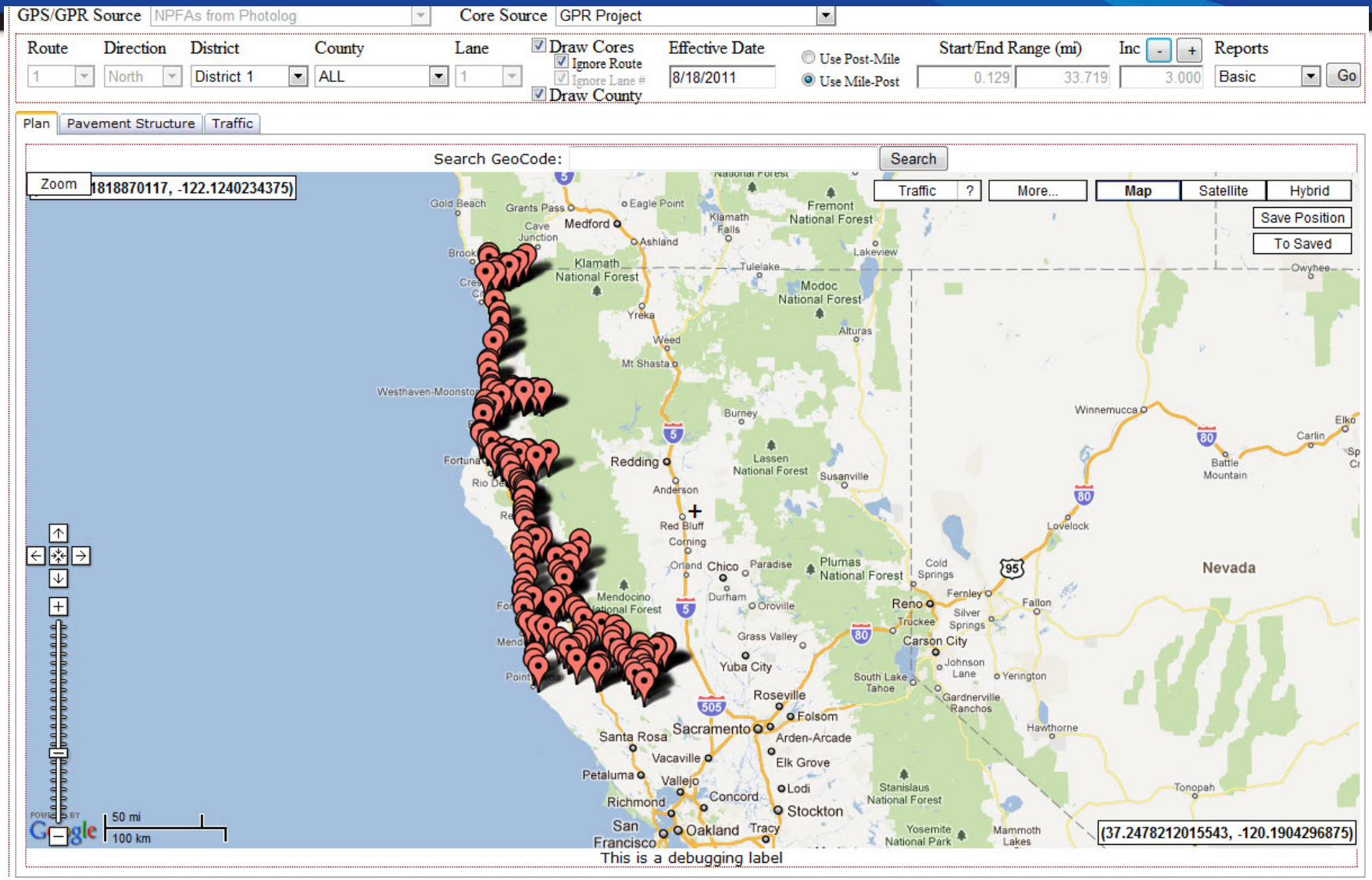
1. Comparison of Core and GPR Data



This is the Pavement Structure view in iGPR

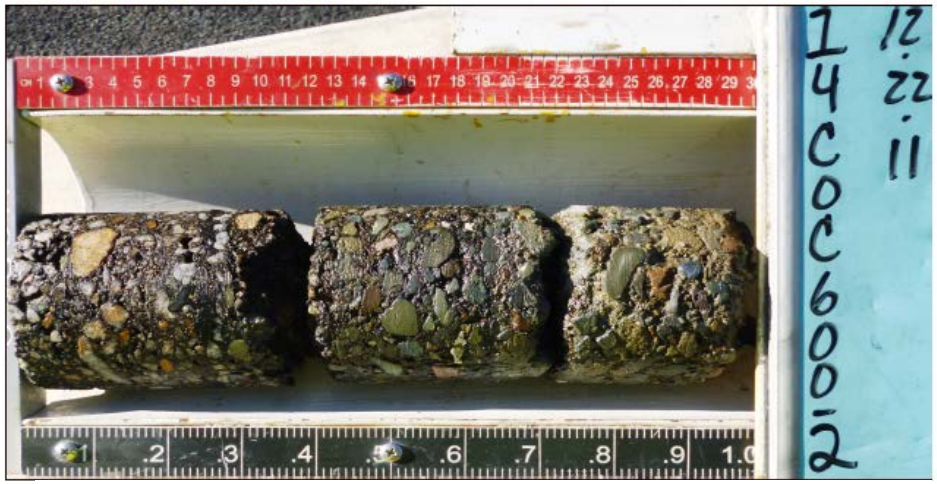


Location of Cores in D1



What kind of pictures are in iGPR of cores?

LocationID: 14C0C600_2



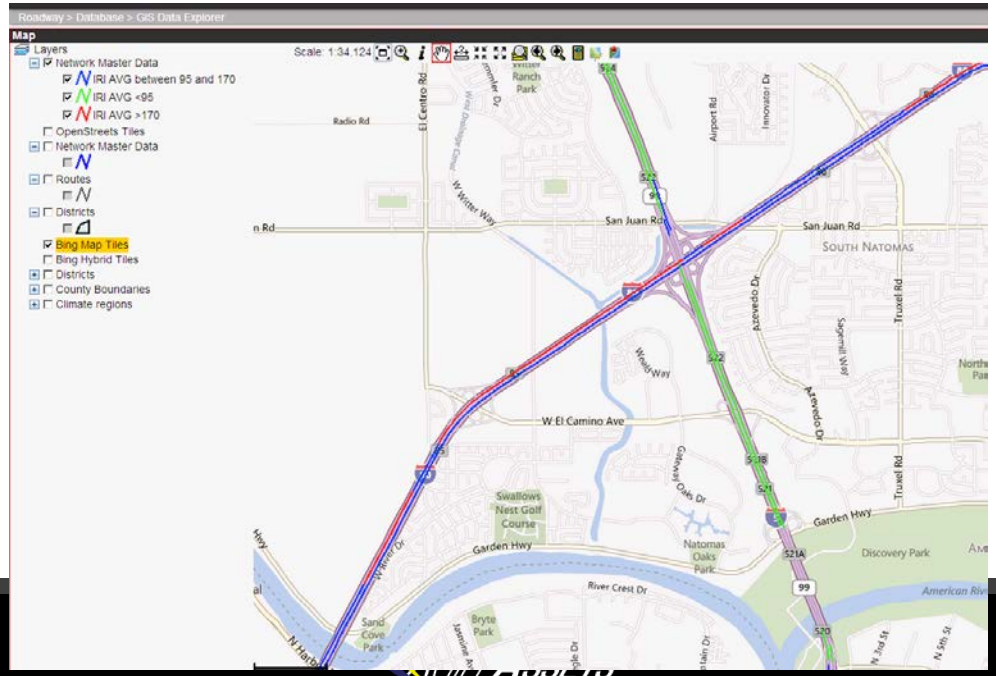
2nd Perform APCS

Collect :

- Longitudinal profile
- Images

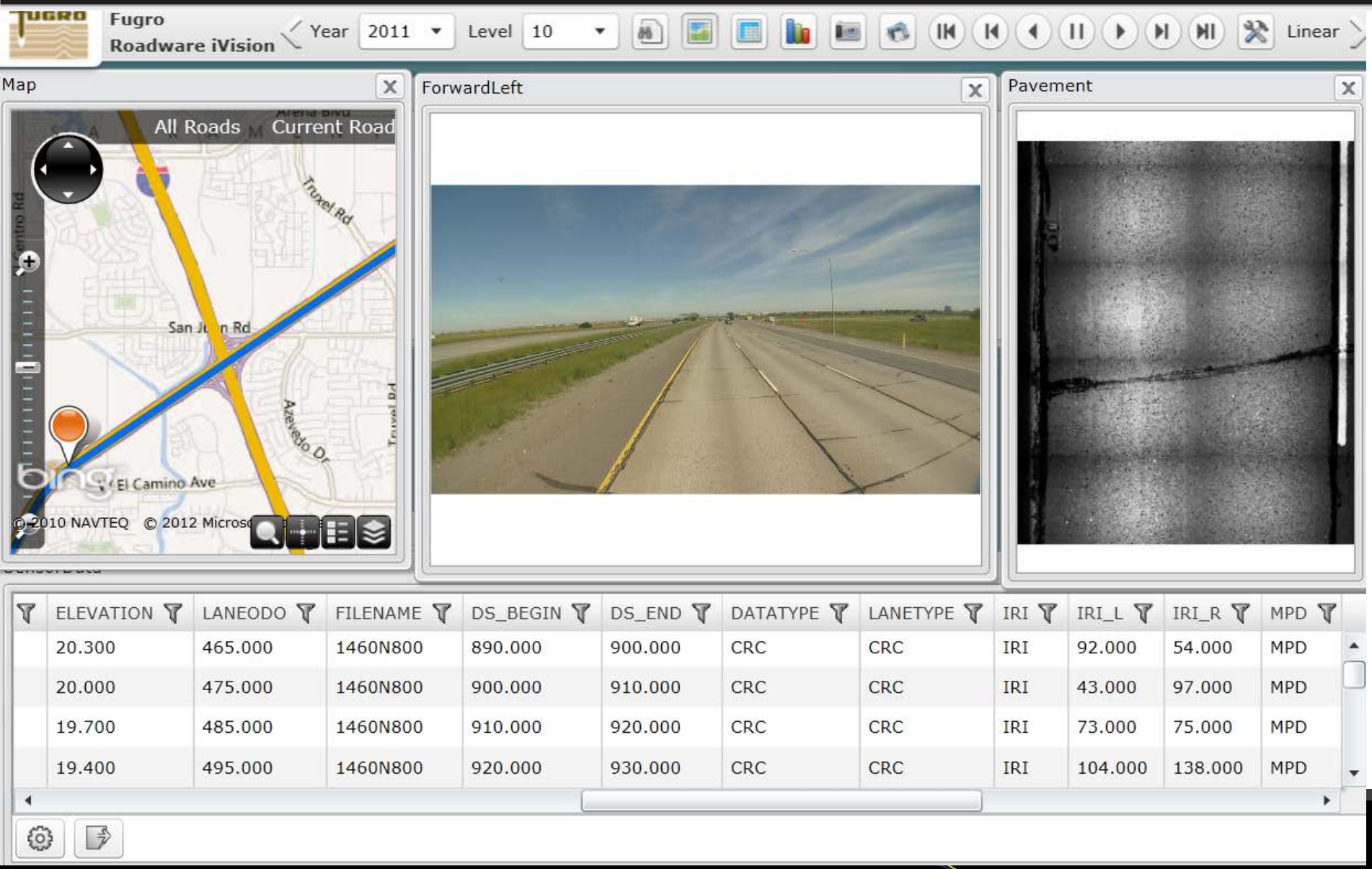
Map:

- Longitudinal profile
- Roughness
- Rutting
- Cracking



Visual Survey 100’/ 5280’

Using APCS Data into PaveM



ELEVATION	LANEODO	FILENAME	DS_BEGIN	DS_END	DATATYPE	LANETYPE	IRI	IRI_L	IRI_R	MPD
20.300	465.000	1460N800	890.000	900.000	CRC	CRC	IRI	92.000	54.000	MPD
20.000	475.000	1460N800	900.000	910.000	CRC	CRC	IRI	43.000	97.000	MPD
19.700	485.000	1460N800	910.000	920.000	CRC	CRC	IRI	73.000	75.000	MPD
19.400	495.000	1460N800	920.000	930.000	CRC	CRC	IRI	104.000	138.000	MPD

4. Management Segments: Traffic, structural section the same, but not the same for modeling purposes.

Management Sections:
Every section has similar structural section, traffic and climate.

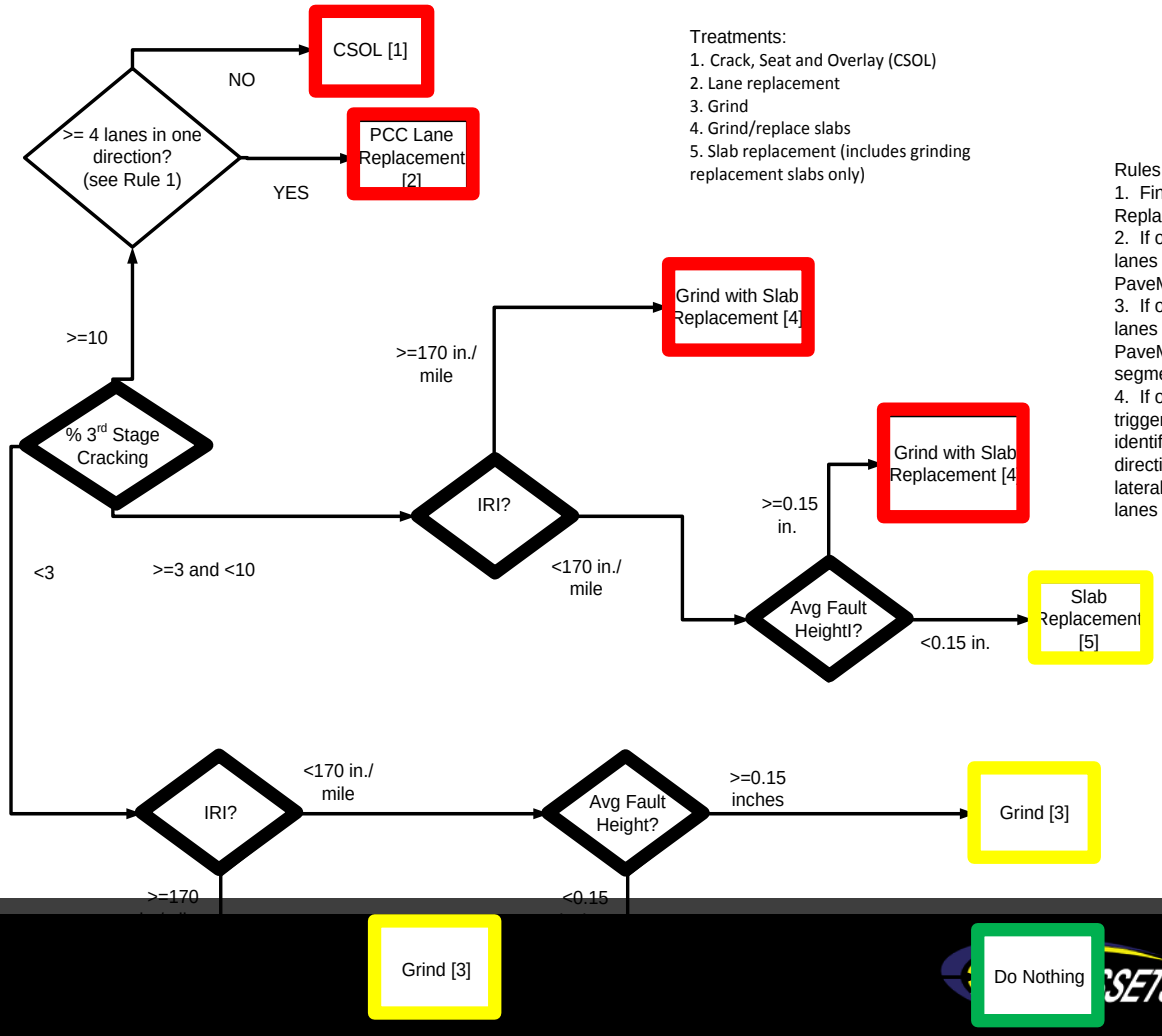
State wide Post Mile for Each Route

728 Go 729 pages (5103 rows)

County	Route	RS	BPP	Beg PM	BPS	EPP	End PM	EPS	Dir	Lane	Beg State ODM	End State ODM
ALA	880		R	31.727		R	33.92		Left	All	41.954	44.147
ALA	880		R	33.92	R	R	35.797	R	Right	All	44.147	46.024
ALA	880		R	33.92	L	R	35.471	L	Left	All	44.147	45.698
SD	905			2.84			2.96		Both	All	0	0.12
SD	905			2.96	R		3.544	R	Right	All	0.12	0.704
SD	905			2.96	L		3.55	L	Left	All	0.12	0.71
SD	905			3.55			5.98		Right	All	0.704	3.134

JPCP Decision Tree

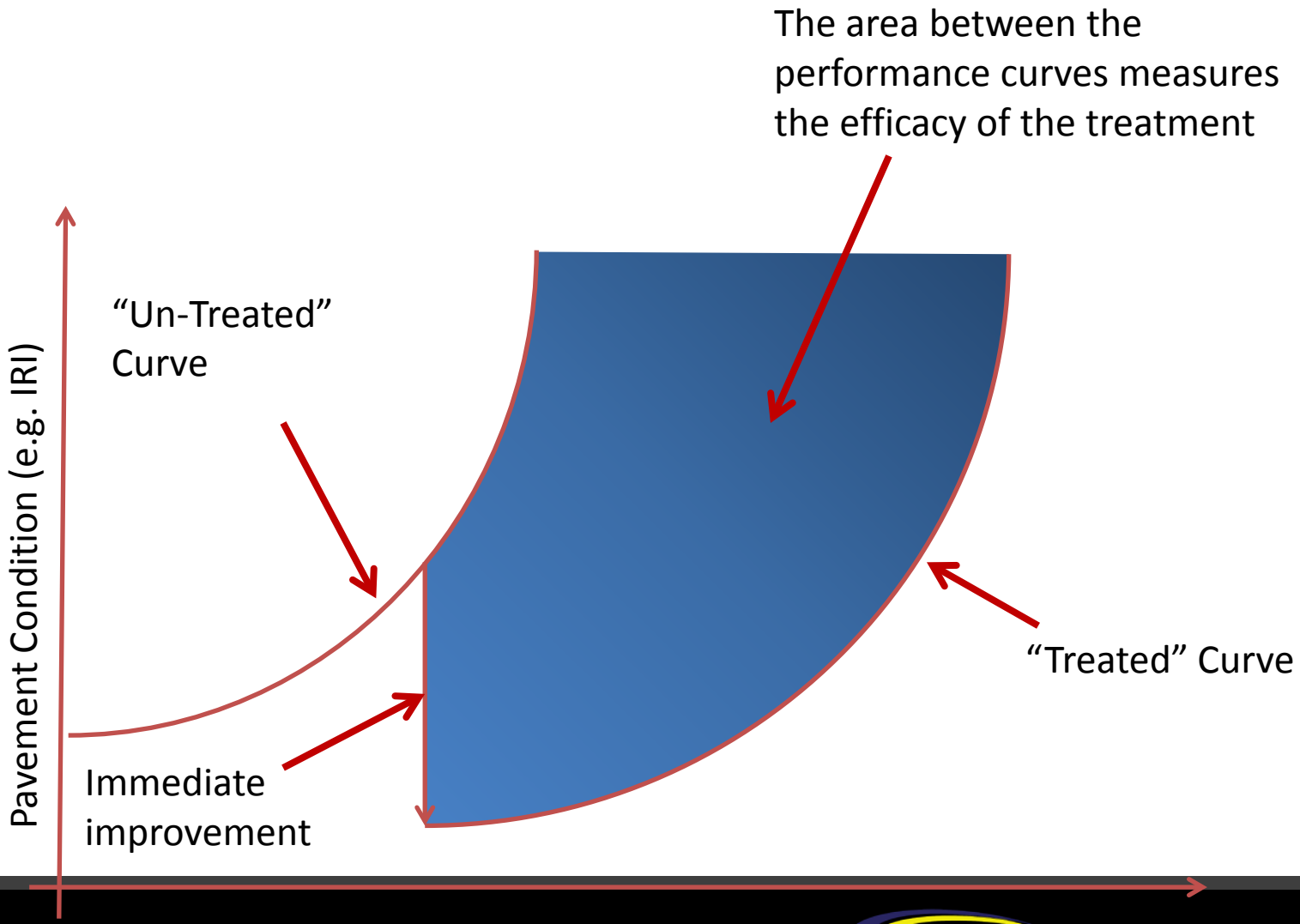
Caltrans			PaveM Jointed Plain Concrete Pavement Decision Tree			Footnotes:
	Version March 27, 2013	Created by:	Initiation: Cracking Extent			



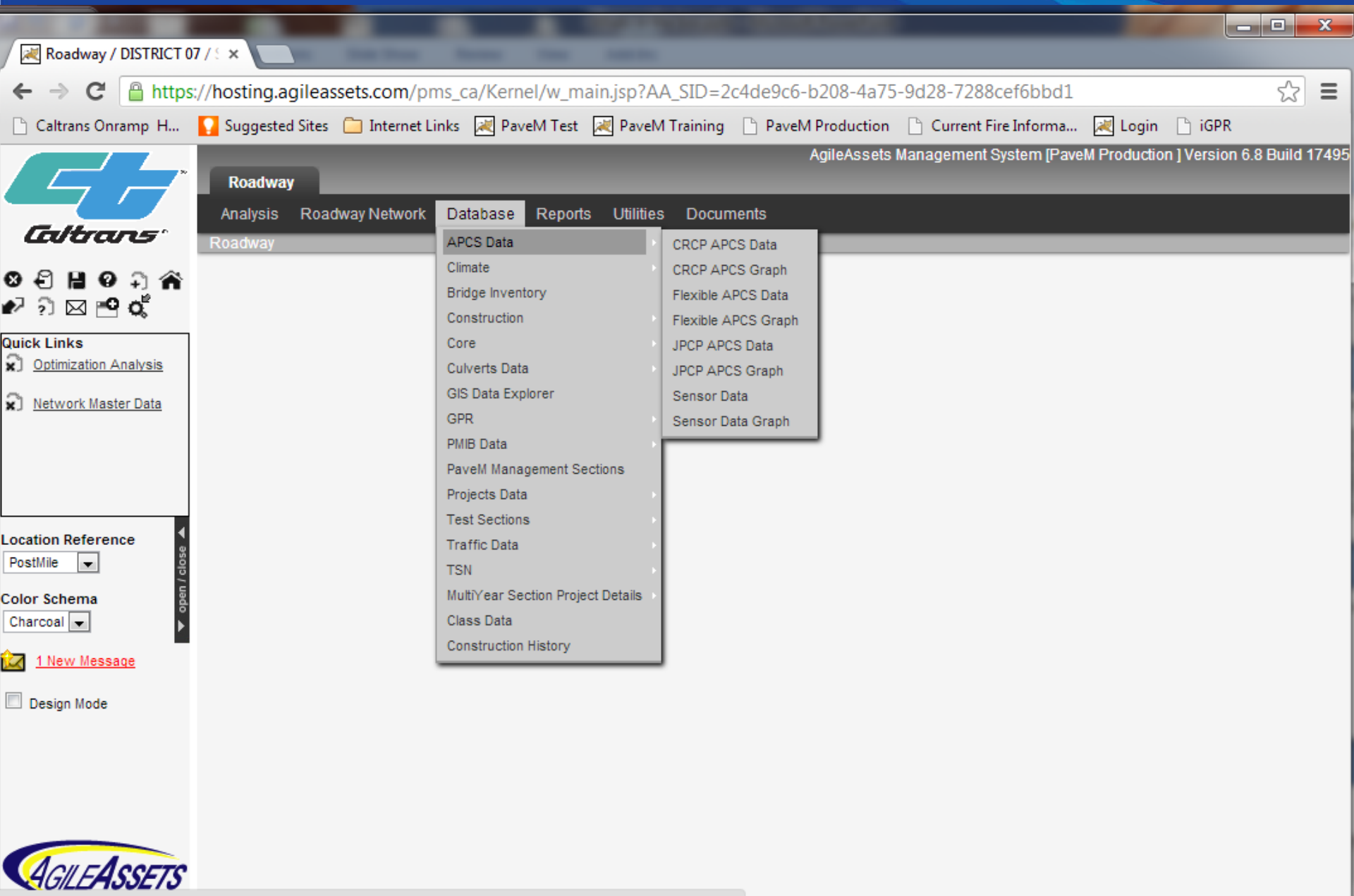
Treatments:
1. Crack, Seat and Overlay (CSOL)
2. Lane replacement
3. Grind
4. Grind/replace slabs
5. Slab replacement (includes grinding replacement slabs only)

Rules to be implemented manually
1. Final determination of strategy CSOL vs PCC Lane Replace determine by project-level LCCA
2. If one lane triggered for Grinding, then trigger all lanes for grinding in that direction. Cost estimate in PaveM to include all adjacent management segments.
3. If one lane triggered for CSOL, then trigger all lanes for CSOL in that direction. Cost estimate in PaveM to include all laterally adjacent management segments.
4. If one lane triggered for Replace PCC/Grind then trigger all truck lanes in that direction (need table to identify truck lane rules for number of lanes in one direction). Cost estimate in PaveM to include all laterally adjacent truck lanes for replacement and all lanes for grinding.

“Performance” in PaveM



Finally: Agile Software…



Two types of data

1. Network Master Data (next 3 slides)
   - APCS
   - Linear Reference Data
   - Pavement type
   - Traffic levels
   - Material type
   - Etc…

2. Work Plan
   - SHOPP
   - CTC vote
   - PID's
   - New Projects

We collect voted projects > CTC Vote Data

Roadway

Analysis Roadway Network Database Reports Utilities Documents

Roadway > Database > Projects Data > CTC Votes Data

- Filter applied

<< < 1 Go > >> 1 pages (19 rows)

District	EA	PPNO	Route	County	CTC Meeting Month	Allocation Amt	Allocation Date
District 07	22820	3036	1	VEN	08-12	$16,400.00	08/22/2012
District 07	25200	3712	405	LA	08-12	$35,752.00	08/22/2012
District 07	25261	3725A	5	LA	08-12	$12,400.00	08/22/2012
District 07	25263	3725C	5	LA	08-12	$11,552.00	08/22/2012
District 07	25870	3865	10	LA	08-12	$457.00	08/22/2012
District 07	25893	3867	210	LA	08-12	$11,852.00	08/22/2012
District 07	26610	3984	134	LA	08-12	$1,217.00	08/22/2012

We collect the programmed projects… > OE Data

Roadway

Analysis Roadway Network Database Reports Utilities Documents

Roadway > Database > Projects Data > OE Data

- Filter applied

1 Go 6 pages (142 rows)

District	EA Number	Actual RTL Date	ACT AWARD DATE	Actual PSE Ready Date	Actual List Advertise Date	P		PSE SOURCE UNIT		FUND REQ DATE	PROJ ALLO
DISTRICT 07	4T3501	09/27/12	01/02/13	09/27/12	11/05/12	07		1961		07/03/12	886500
DISTRICT 07	260701	06/30/11	01/03/12	06/29/11	10/03/11	07		1814		01/18/11	65993000
DISTRICT 07	1W2001	09/28/12	01/07/13	09/28/12	11/13/12			1877		09/27/12	743,300
DISTRICT 07	252801	06/29/11	01/12/12	06/29/11	09/12/11			1964		06/09/11	95526000
DISTRICT 07	251601	06/27/11	01/20/12	06/27/11	10/03/11			1806		05/09/11	34526000
DISTRICT 07	274301	06/27/12	01/30/13	06/27/12	10/15/12			2124			769700
DISTRICT 07	258700	08/22/12	01/31/13	08/22/12	10/08/12			1819		08/17/12	495200
DISTRICT 07	260501	06/03/11	02/02/12	06/03/11	09/12/11			1841		04/27/11	2346000
DISTRICT 07	4T3900	10/01/12	02/06/13	09/27/12	11/26/12	07		1879		07/13/12	203500

Project Data > CAS Contract

AgileAssets Management System [PaveM Productio

Roadway

Analysis | Roadway Network | Database | Reports | Utilities | Documents

Roadway > Database > Projects Data > CAS Data > CAS Contracts

CAS Contracts - Filter applied

1 Go 61 pages (664 rows)

Dist	EA	Approval Date	Bid Cost	Bid Date	CA County	Contractor Address	Contractor City	Current Allotment	Est Compl Date	Est Final Cost
DISTRICT 07	07-260504	02/22/2012	$2,087,087.00	10/13/2011	Los Angeles County	1310 W 23RD STREET	TEMPE AZ 85282	2346000	04/30/2013	2235589.63
DISTRICT 07	07-4T0204	07/09/2009	$321,738.21	06/04/2009	Los Angeles County	PO BOX 7339	RIVERSIDE, CA 92513	401700	05/30/2013	494467.01
DISTRICT 07	07-264704	07/14/2011	$935,267.08	06/02/2011	Los Angeles County	2551 2ND STREET	LIVERMORE CA 94550	1102000	03/25/2013	1240712.41
DISTRICT 07	07-2X9304	11/06/2012	$220,526.00	08/30/2012	Los Angeles County	559 W COVINA BLVD	SAN DIMAS CA 91773	284500	03/18/2013	222461.17
DISTRICT 07	07-4Y7604	07/16/2012	$538,713.00	04/19/2012	Los Angeles County	PO BOX 11238	SANTA ANA, CA 927111238	619100	03/15/2013	676262.72
DISTRICT 07	07-3Y3204	06/20/2012	$1,197,700.00	04/19/2012	Los Angeles County	135 S STATE COLLEGE BLVD #400	BREA CA 92821	1398000	02/26/2013	1265564.27
DISTRICT 07	07-256104	12/02/2010	$2,130,044.00	09/30/2010	Los Angeles County	1792 KAISER AVENUE	IRVINE, CA 92614	2528500	02/21/2013	2079992.52
DISTRICT 07	07-166814	10/23/2008	$131,598,361.80	09/25/2008	Los Angeles County	27422 PORTOLA PARKWAY STE 250	FOOTHILL RANCH CA 92610	151310000	02/21/2013	141188329.02
DISTRICT 07	07-4Y5104	05/09/2012	$1,261,343.30	03/15/2012	Los Angeles County	P O BOX 2229	CORONA CA 92878	1484500	01/30/2013	1171224.03
DISTRICT 07	07-4Y3604	04/09/2012	$1,199,998.10	02/23/2012	Los Angeles County	10641 FULTON CT	RANCHO CUCUMONGA CA 91730	1383000	01/22/2013	1459697.9
DISTRICT 07	07-269004	09/22/2009	$38,838,126.90	07/23/2009	Los Angeles County	320 GODDARD WAY, SUITE 150	IRVINE, CA 92618	47120000	01/21/2013	41848630.51

CAS Contract Items - Filter applied

1 Go 4 pages (41 rows)

District	EA	Estimate #	Est. Date	Item #	Description	Quantity	Units	Unit Price	Auth. Amount	Work Performed Through	Att.	Comments
District 07	07-166814	0019	05/25/2010	0090	HOT MIX ASPHALT	1813.03	TONN	$106.00	11135532.56	05/20/2010		
District 07	07-166814	0019	05/25/2010	0091	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)	431.15	TONN	$119.00	2808400	05/20/2010		
District 07	07-166814	0020	06/17/2010	0090	HOT MIX ASPHALT	6483.82	TONN	$106.00	11135532.56	06/20/2010		
District 07	07-166814	0020	06/17/2010	0091	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)	1829.65	TONN	$119.00	2808400	06/20/2010		
District 07	07-166814	0021	07/23/2010	0090	HOT MIX ASPHALT	7000.15	TONN	$106.00	11135532.56	07/20/2010		
District 07	07-166814	0021	07/23/2010	0091	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)	2000	TONN	$119.00	2808400	07/20/2010		
District 07	07-166814	0023	08/30/2010	0090	HOT MIX ASPHALT	11463.49	TONN	$106.00	11135532.56	08/20/2010		

Project Data > CTIPS Data

Roadway

Analysis Roadway Network Database Reports Utilities Documents

Roadway > Database > Projects Data > CTIPS Data

- Filter applied

10 pages (250 rows)

Dist	County	Route	Post Miles	EA	PPNO	EFIS	Prog Code	FY	RW	Con	Vote $	Vote Date	Fund ID
DISTRICT 07	Ventura County	126	13.1/20.1	07-28010	4237	0700020065	201.010	2010/11	$0.00	$2,100.00	$850.00	01/20/2011	STP
DISTRICT 07	Los Angeles County	5	6.8/11.6	07-25350	3738	0700000460	201.020	2010/11	$0.00	$1,405.00	$1,405.00	06/23/2011	STP
DISTRICT 07	Los Angeles County	5	R87.8/R88.6	07-26640	3993	0700000499	201.020	2010/11	$0.00	$5,094.00	$4,046.00	06/23/2011	STP
DISTRICT 07	Los Angeles County	105	6.0/8.0	07-26470	3965	0700000493	201.110	2010/11	$0.00	$5,032.00	$1,100.00	03/24/2011	HBRR-S
DISTRICT 07	Los Angeles County	47	3.4/4.6	07-13820	0444E	0700000142	201.110	2010/11	$37,000.00	$270,200.00	$230,000.00	08/12/2010	NH
DISTRICT 07	Los Angeles County	710	3.7/6.0	07-22830	3037	0700000379	201.110	2010/11	$0.00	$299,795.00	$299,795.00	06/23/2011	HBRR-S
DISTRICT 07	Los Angeles County	710	3.7/6.0	07-28860	4425	0700021080	201.110	2010/11	$0.00	$200,000.00	$170,205.00	06/23/2011	HBRR-S
DISTRICT 07	Los Angeles County	1	26.8/26.9	07-26110	3927	0700000492	201.113	2010/11	$0.00	$3,473.00	$800.00	05/12/2011	HBRR-S
DISTRICT 07	Los Angeles County	110	R1.2/31.0	07-4Y240	4268	0700020026	201.119	2010/11	$0.00	$2,162.00	$2,000.00	08/10/2011	HBRR-S

2. Work Plan

Master Work Plan / DISTRI

https://hosting.agileassets.com/pms_ca/Kernel/w_main.jsp?AA_SID=a68f0a05-ccc3-4555-aef3-2a55a9b29dfa

Caltrans Onramp H... | Suggested Sites | Internet Links | PaveM Test | PaveM Training | PaveM Production | Current Fire Informa... | Login | iGPR

AgileAssets Management System [PaveM Produ

Roadway

Analysis | Roadway Network | Database | Reports | Utilities | Documents

- Network Analysis...
- Performance Analysis...
- Detailed Optimization Results
- Master Work Plan
- Network Master
- Optimization Analysis
- Section Current Needs
- Section Strategies
- PostMiles Direction Reference

Quick Links
- Optimization Analysis
- Network Master Data

Location Reference: PostMile

Color Schema: Charcoal

1 New Message

Design Mode

Master Work Plan

1 Go 5 pages

| District | Project ID | | |

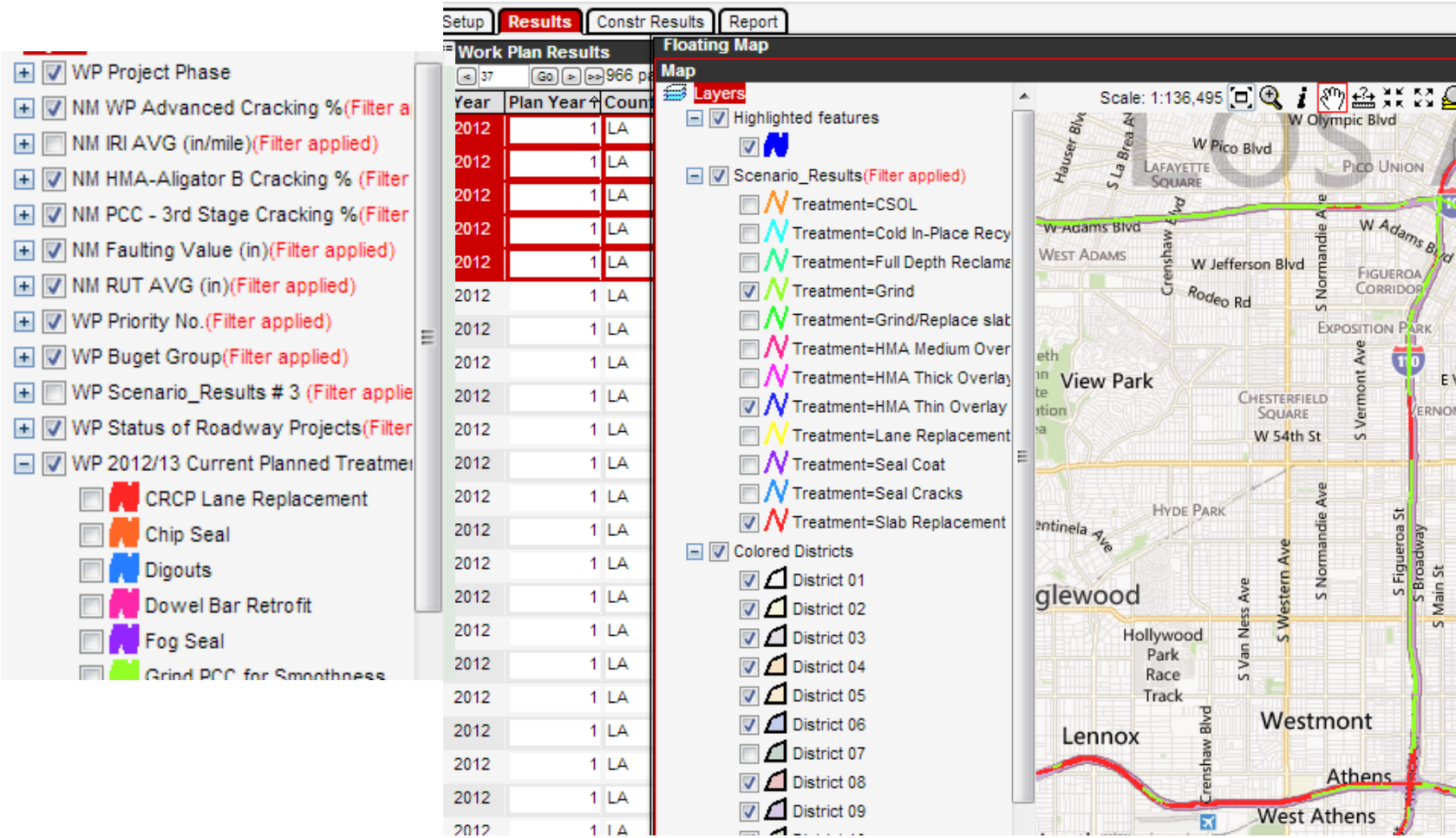
“Engineer in the box…, I want a list of projects that …”

- Maximize Best Condition

  Given…

  - IRI below 170
  - 90% of Class 2 “Green” Condition
  - HM, SHOPP Budget different every year
  - Consider existing projects
  - Go out 12 years
  - List projects by Co-Rte-PM
  - Sort projects by location, Material Type, Lane

“Here is your list…” replies the engineer-in-the-box



We Provide each district with TWO tools…
A master Scenario…

Setup | Results | Constr Results | Report

Find Scenario

Scenarios

62 Go 62 pages (62 rows)

Scenario Number	880	Has Results	✓
* Scenario Name	Copy 879 Applying D7 Approv	Comments	copy of #879
Analysis Scope	District in (District 07)	User ID	S112530
* Analysis Period (Year:	12	Date Update	07/26/2013
* Save Details	✓	Att.	
Work Plan Type	D7 Approved Program		
Analysis Type	Multi-Constraint		
Skip Init. Deterioration			

Constraints

1 Go 2 pages (13 rows)

Is Objective?	Attribute	Type	Constraint Limit Value	Year	Condition Threshold
	CRACKING - HMA	Ratio better than thresho	0.80		
	CRACKING - HMA	Ratio better than thresho	0.80		
	CRACKING - PCCP	Ratio better than thresho	0.80		
	IRI AVG (in/mi)	Ratio better than thresho	0.80		

AgileAssets

2. A Master Mapping

Year	County	Route	RS	BPP	Beg PM	BPS	EPP	End PM	EPS	Dir	Lane	Length	Treatment	Budget Group	Estimated Cost
1	LA	072			4.252			6.416		Right	02	2.164	HMA Thin Overlay	Maintenance	$216,400.00
1	LA	072			5.121			6.662		Left	01	1.541	HMA Thin Overlay	Maintenance	$154,100.00
1	LA	090		R	1.145		R	1.343		Right	01	0.198	Grind PCC for Smoothness	CAPM	$9,900.00

Setup | **Results** | Constr Results | Report

Work Plan Results

37 Go 966 pa

Year	Plan Year	Count
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA
2012	1	LA

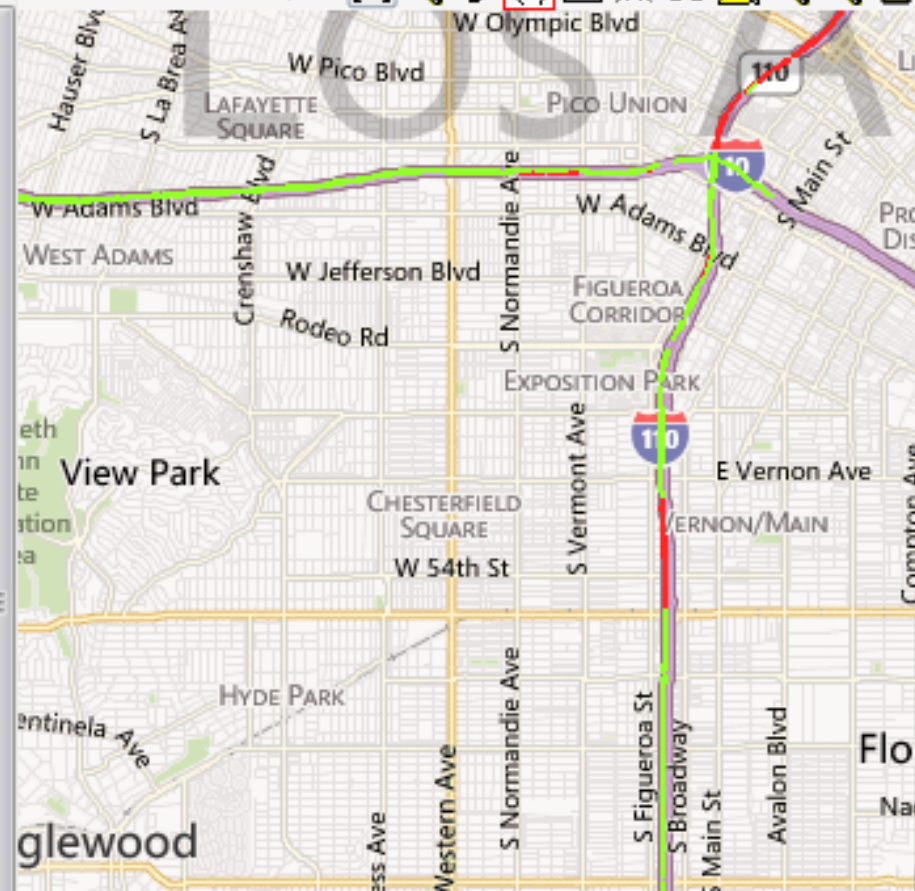
Floating Map

Map

Layers

- Highlighted features
- Scenario_Results (Filter applied)
  - Treatment=CSOL
  - Treatment=Cold In-Place Recy
  - Treatment=Full Depth Reclama
  - Treatment=Grind
  - Treatment=Grind/Replace slab
  - Treatment=HMA Medium Over
  - Treatment=HMA Thick Overlay
  - Treatment=HMA Thin Overlay
  - Treatment=Lane Replacement
  - Treatment=Seal Coat
  - Treatment=Seal Cracks
  - Treatment=Slab Replacement
- Colored Districts
  - District 01
  - District 02

Scale: 1:136,495



PaveM gives results of how the District will perform

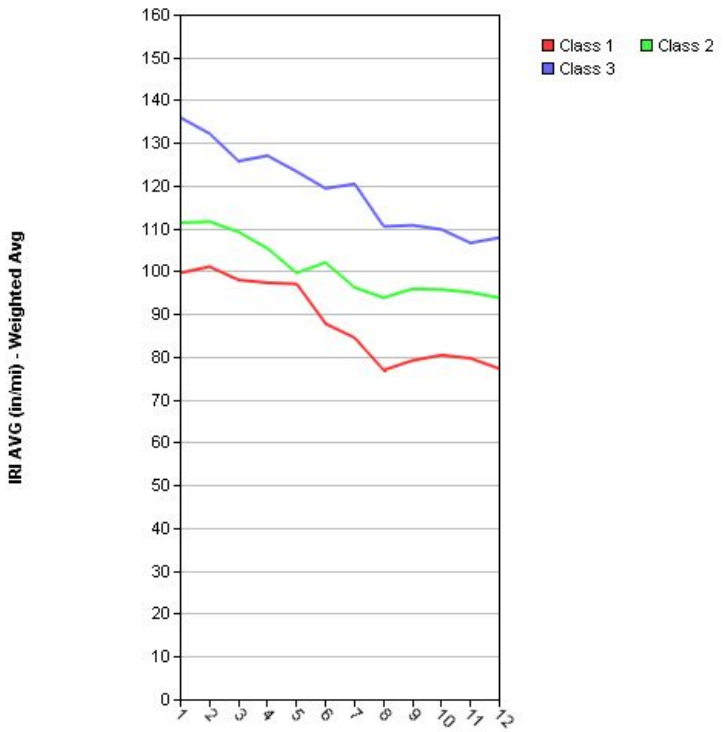
Setup | Results | Constr Results | **Report**

Constraint Report

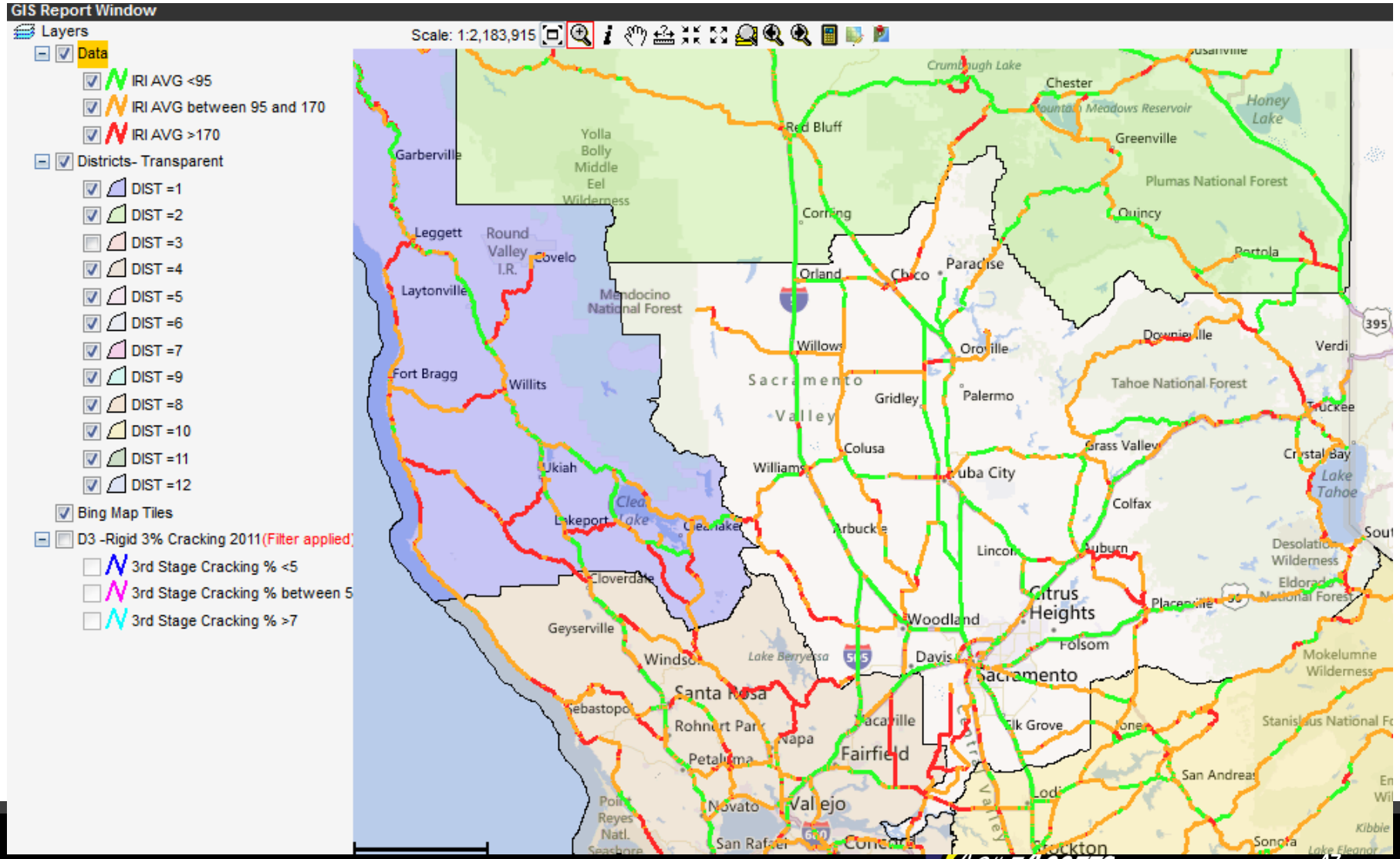
11 Go 13 pages (276 rows)

Constraint Column	Constr. Type	Scenario Year	Resulting Value	Condition
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	5	0.11	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	6	0.13	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	7	0.15	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	8	0.15	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	9	0.16	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	10	0.16	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	11	0.14	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	12	0.16	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	1	0.01	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	2	0.02	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	3	0.04	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	4	0.04	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	5	0.05	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	6	0.07	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	7	0.07	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	8	0.07	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	9	0.08	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	10	0.10	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	11	0.09	
CRACKING - PCCP 3RD STAGE (%)	Weighted Avg	12	0.10	
IRI AVG (in/mi)	Weighted Avg	1	99.63	
IRI AVG (in/mi)	Weighted Avg	2	101.06	

Constraint Column:IRI AVG (in/mi) - Constr. Type:Weighted Avg - Add Constr.:Pavemer



The problem to solve (mathematically speaking) is the NETWORK!!! Over 10 yrs



Training schedule

District	Training date
7	Aug 21-22, 2013
10	Oct 1-2, 2013
8	Nov 13-14, 2013
2	Dec 4-5, 2013
1	Dec 11-12, 2013
12	Jan 22-23, 2014
3	Jan 29-30, 2014
11	Feb 5-6, 2014
6	Feb 19-20, 2014
5	Mar 12-13, 2014
9	Mar 26-27, 2014
4	Apr 2-3, 2014

Future

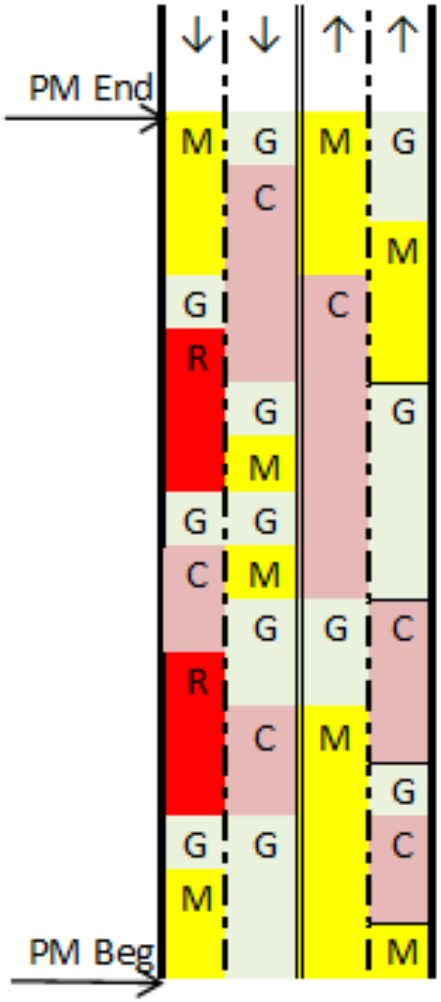
1-2 years

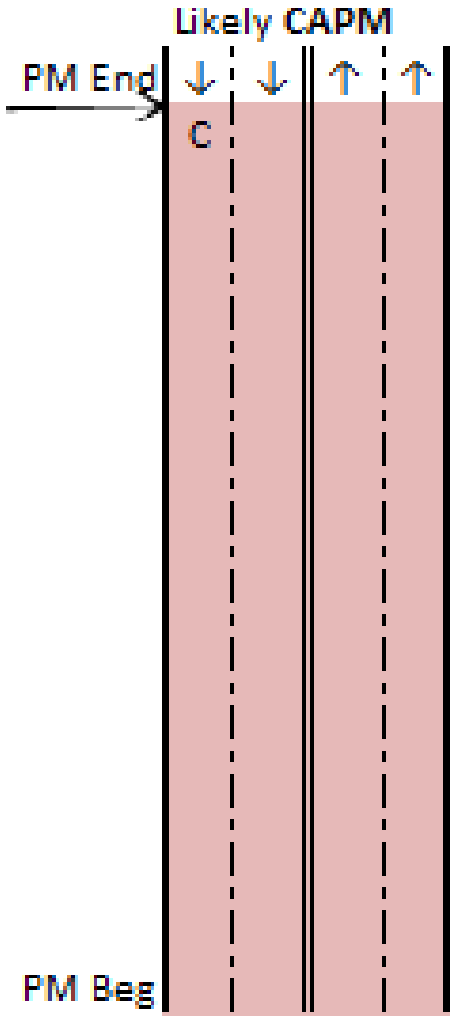
- Train Districts
- New APCS
- New Senior position to manage engineering aspect
- New Senior manage Data
- Project list for consideration
- Attack problem areas (approach slabs)
- Develop training
- Modeling

3-5 years

- Develop models
- Establish business process'
- Work with other Divisions
- Data mining efforts
- New Reports
- Expand to other Asset Management assets
- Rise to the top of condition of pavements

Develop potential projects… Project List Management



Case 2

20	G	0.31
19	M	0.30
19	C	0.30
6	R	0.09