South African Pavement Design Method (SAPDM)

Status Report

17th RPF Meeting

14 May 2009

L Kannemeyer

Historical Overview – SAPDM Revision

- Process initiated at RPF -May 2005
- R&R framework - November 2005
- Pavement Performance Information System (LTPP)
  - Material Classification Concept
  - Pavement Number Concept (PN)
  - 50 Projects Completed – February 2008
  - 15 Stabilized Projects Added – February 2008
- Mechanistic-Empirical Analysis System (MEAS)
  - Phase 1 – Develop Detailed Project Briefs – November 2006
  - Phase 2 - Inception Phase (22 Projects) – July 2007
  - Peer Review – Phase 2 Reports – November 2007
  - Additional SANRAL Requirements – December 2007
  - Appointment of Main Service Providers – September 2008
    - CSIR Built Environment
    - Pavement Modelling Corporation
    - SC Van As Traffic Engineering
- SAPDM Website (www.sapdm.co.za) – May 2009

CONTENTS

Search: >>

Username:

Password: >>

Not registered, click here | Forgot your Password, click here

welcome to the South African Pavement Design Method Website...

About the project

Mechanistic-empirical pavement design has been one of the primary pavement design tools in South Africa since the early 1970s. Although some improvements were made to the original method over the years, the main components of the current method are still based on research done during the 1970s and 1980s. The problems associated with the current method were highlighted at the Conference for Asphalt Pavements in Southern Africa held in 2004. These problems were again raised at the subsequent Roads Pavement Forum meeting held in May 2005 and a workgroup appointed to initiate the revision of the South African Mechanistic-Empirical Design Method.

Project sponsors

Currently two sponsors have approved funding for the revision of the flexible pavement design method, the South African National Roads Agency Ltd (SANRAL) and the CSIR. CSIR funding covers mostly research activities to establish the foundation from which the development and implementation activities will be launched. SANRAL is the main sponsor and largest client body to implement the revised design method.

NEWS

1st Industry feedback session at the May RPF

The first industry feedback session on the development of the South African Pavement Design Method t...

2009-04-20

more...

Click here for all news items

CALENDAR

May - 2009						
Mo	Tu	We	Th	Fr	Sa	Su
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

PROJECT SPONSORS:

South African National Roads Agency Ltd. (SANRAL)

Council for Scientific and Industrial Research

CONTACT INFORMATION:

For any queries regarding the project please contact the project team at **info@sapdm.co.za**

CONTENTS

PROJECT SPONSORS:

South African National Roads Agency Ltd. (SANRAL)

Council for Scientific and Industrial Research

CONTACT INFORMATION:

Dr Hechter Theyse

Tel: +27 12 332-5507
Fax: +27 12 332-5508

Please fill in below to register

Name:	
Surname:	
Email:	
Password:	
Retype:	
Image:	fb5ee1 Reload
Key:	*Note: Type the above word here

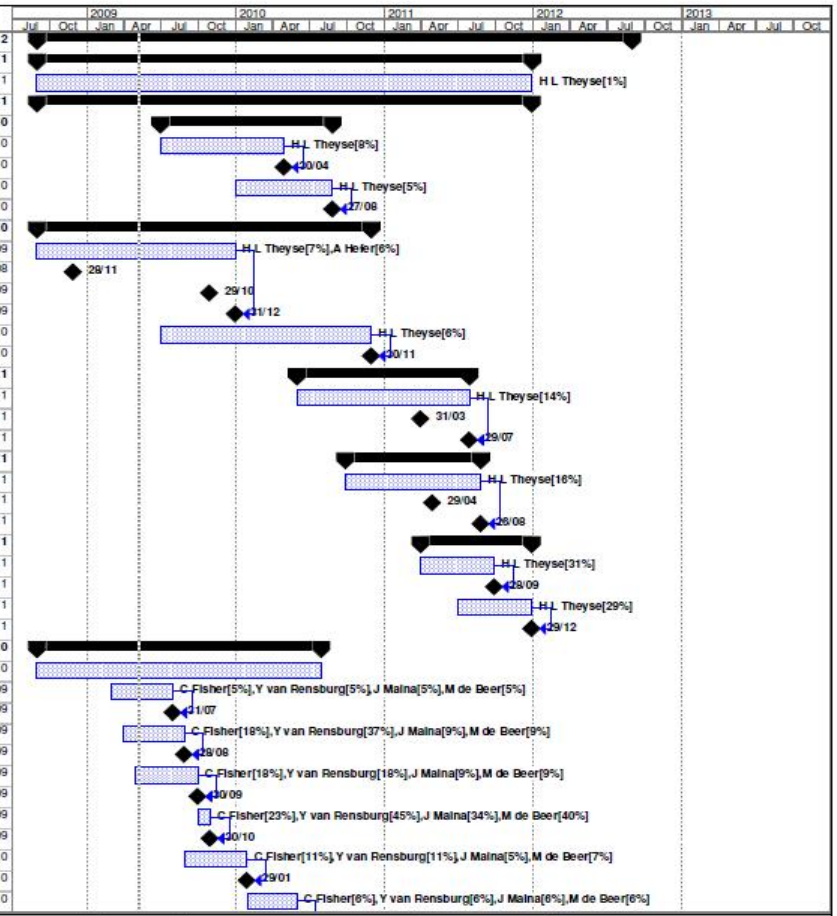
Choose from the following:

- Traffic: ☐
- Materials: ☐
- Analysis and simulations: ☐
- Information systems: ☐

Do you want to receive mail? ☐

Submit

ID	Task Name	Start	Finish
1	**SAPDM**	**Mon 01/09/08**	**Fri 31/08/12**
2	**SAPDM/ILP Integration Level project (PMC)**	**Mon 01/09/08**	**Fri 30/12/11**
3	ILP project management	Mon 01/09/08	Fri 30/12/11
4	**ME-design module**	**Mon 01/09/08**	**Thu 29/12/11**
5	**Design investigation subsystem**	**Wed 01/07/09**	**Fri 27/08/10**
6	Subsystem design and requirements	Wed 01/07/09	Fri 30/04/10
7	ILP/1(a)	Fri 30/04/10	Fri 30/04/10
8	Develop, test and document	Fri 01/01/10	Fri 27/08/10
9	ILP/1(b)	Fri 27/08/10	Fri 27/08/10
10	**HDM-4 performance simulation**	**Mon 01/09/08**	**Tue 30/11/10**
11	Model development and specification	Mon 01/09/08	Thu 31/12/09
12	ILP/2(a)I	Fri 28/11/08	Fri 28/11/08
13	ILP/2(a)II	Thu 29/10/09	Thu 29/10/09
14	ILP/2(a)III	Thu 31/12/09	Thu 31/12/09
15	Development, testing and documentation	Wed 01/07/09	Tue 30/11/10
16	ILP/2(b)	Tue 30/11/10	Tue 30/11/10
17	**ME performance simulation**	**Tue 01/06/10**	**Fri 29/07/11**
18	Development, testing and documentation	Tue 01/06/10	Fri 29/07/11
19	ILP/3(a)I	Thu 31/03/11	Thu 31/03/11
20	ILP/3(a)II	Fri 29/07/11	Fri 29/07/11
21	**Economic analysis subsystem**	**Tue 28/09/10**	**Fri 26/08/11**
22	Development, testing and documentation	Tue 28/09/10	Fri 26/08/11
23	ILP/4(a)I	Fri 29/04/11	Fri 29/04/11
24	ILP/4(a)II	Fri 26/08/11	Fri 26/08/11
25	**Integrated system**	**Fri 01/04/11**	**Thu 29/12/11**
26	System design	Fri 01/04/11	Wed 28/09/11
27	ILP/5(a)	Wed 28/09/11	Wed 28/09/11
28	Development, testing and documentation	Fri 01/07/11	Thu 29/12/11
29	ILP/5(b)	Thu 29/12/11	Thu 29/12/11
30	**SAPDM/A-1 Contact stress information system (CSIR)**	**Mon 01/09/08**	**Fri 30/07/10**
31	A-1 project management	Mon 01/09/08	Fri 30/07/10
32	Design framework for T-CSIS	Tue 03/03/09	Fri 31/07/09
33	A-1/(a)	Fri 31/07/09	Fri 31/07/09
34	Concept development of T-CSIS	Tue 31/03/09	Fri 28/08/09
35	A-1/(b)	Fri 28/08/09	Fri 28/08/09
36	Linking with other projects (C-1, A-2, A-3, A-4)	Fri 01/05/09	Wed 30/09/09
37	A-1/(c)	Wed 30/09/09	Wed 30/09/09
38	Prepare SIM data for pavement analysis (linked to C-1)	Thu 01/10/09	Fri 30/10/09
39	C-1-2	Fri 30/10/09	Fri 30/10/09
40	Testing and debugging beta version	Mon 31/08/09	Fri 29/01/10
41	A-1/(d)	Fri 29/01/10	Fri 29/01/10
42	Ongoing population of CSIS (CSIR SRP R570k)	Mon 01/02/10	Mon 31/05/10



Project: SANRAL FlexPave (Base Plan
Date: Thu 07/05/09

Task Progress Summary External Tasks Deadline
Split Milestone Project Summary External Milestone

CONTENTS

PROJECT SPONSORS:

South African National Roads Agency Ltd. (SANRAL)

Council for Scientific and Industrial Research

CONTACT INFORMATION:

Dr Hechter Theyse

Tel: +27 12 332-5507
Fax: +27 12 332-5508

Phase 1: Project briefs

Research area	Project title	Project brief number
Integration project	Integration of design subsystems and methodologies into an integrated design system	SAMDM project brief - (ILP).pdf
Traffic demand analysis	A tyre-pavement contact stress information system	SAMDM project brief - (A-1).pdf
	A traffic volume and axle load information system	SAMDM project brief - (A-2).pdf
	Guidelines on conducting traffic surveys and processing the data for the purpose of pavement design	SAMDM project brief - (A-3).pdf
	The effects of vehicle dynamics and vehicle speed on traffic input to the design method	SAMDM project brief - (A-4).pdf
Material resilient response models	Resilient response models for unbound material	SAMDM project brief - (B-1a).pdf
	Resilient response models for bituminous material	SAMDM project brief - (B-1b).pdf
	Resilient response models for stabilised material	SAMDM project brief - (B-1c).pdf
	Agreement between different methods of calibrating material response models, especially linear-elastic material models.	SAMDM project brief - (B-2).pdf
	Documentation on material testing, the interpretation of results, the derivation of design inputs and model calibration.	SAMDM project brief - (B-3).pdf
	A design input information system for pavement materials	SAMDM project brief - (B-4).pdf
Primary pavement response models	Improved modelling of the complex tyre-pavement contact patch in terms of stress magnitude and contact area shape	SAMDM project brief - (C-1).pdf
	A benchmark of measured stresses and strains collected on a variety of pavements for various loading conditions	SAMDM project brief - (C-2).pdf
	Improved modelling of the primary resilient response of pavement systems	SAMDM project brief - (C-3).pdf
	Improved modelling of geometric non-linearity in the pavement system	SAMDM project brief - (C-4).pdf
	Improved modelling of material non-linearity and dynamic response in pavements	SAMDM project brief - (C-5).pdf
Damage models calibrated for the effects of field variables and traffic loads	Improved damage models for bituminous material	SAMDM project brief - (D-1).pdf
	Improved damage models for unbound material including the pavement subgrade	SAMDM project brief - (D-2).pdf
	Improved damage models for stabilised material	SAMDM project brief - (D-3).pdf

CONTENTS

PROJECT SPONSORS:

South African National Roads Agency Ltd. (SANRAL)

Council for Scientific and Industrial Research

CONTACT INFORMATION:

Dr Hechter Theyse

Tel: +27 12 332-5507
Fax: +27 12 332-5508

Phase 2: Project inception reports

Research area	Project title	Project inception report number
Integration project	Integration of design subsystems and methodologies into an integrated design system	PB-2006-ILP.pdf
	Framework for a highway planning system	PB-2007-HPS.pdf
Traffic demand	A tyre-pavement contact stress information system	PB-2006-A1.pdf
	A traffic volume and axle load information system	PB-2006-A2.pdf
	Guidelines on conducting traffic surveys and processing the data for the purpose of pavement design	PB-2006-A3.pdf
	The effects of vehicle dynamics and vehicle speed on traffic input to the design method	PB-2006-A4.pdf
Material resilient response models	Resilient response models for unbound material	PB-2006-B1a.pdf
	Resilient response models for bituminous material	PB-2006-B1b.pdf
	Resilient response models for stabilised material	PB-2006-B-1c.pdf
	Agreement between different methods of calibrating material response models, especially linear-elastic material models.	PB-2006-B2.pdf
	Documentation on material testing, the interpretation of results, the derivation of design inputs and model calibration.	PB-2006-B3.pdf
	A design input information system for pavement materials	PB-2006-B4.pdf
Primary pavement response models	Improved modelling of the complex tyre-pavement contact patch in terms of stress magnitude and contact area shape	PB-2006-C1.pdf
	A benchmark of measured stresses and strains collected on a variety of pavements for various loading conditions	PB-2006-C2.pdf
	Improved modelling of the primary resilient response of pavement systems	PB-2006-C3.pdf
	Improved modelling of geometric non-linearity in the pavement system	PB-2006-C4.pdf
Damage models calibrated for the effects of field variables and traffic loads	Improved damage models for bituminous material	PB-2006-D1.pdf
	Improved damage models for unbound material including the pavement subgrade	PB-2006-D2.pdf
	Improved damage models for stabilised material	PB-2006-D3.pdf
Variability, statistics	An environmental and field variable information system	PB-2006-E1.pdf

CONTENTS

PROJECT SPONSORS:

South African National Roads Agency Ltd. (SANRAL)

Council for Scientific and Industrial Research

CONTACT INFORMATION:

Dr Hechter Theyse

Tel: +27 12 332-5507
Fax: +27 12 332-5508

Calendar of 2009

May - 2009						
Mo	Tu	We	Th	Fr	Sa	Su
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

June - 2009						
Mo	Tu	We	Th	Fr	Sa	Su
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

July - 2009						
Mo	Tu	We	Th	Fr	Sa	Su
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Calendar Event For: 2009-5-22

	Time Begin:	Time End:	Event Type:	Event Title:
1	09:00:00	12:30:00	Meeting	Analysis and simulation cluster meeting
2	13:00:00	16:30:00	Meeting	Integration meeting

South African Pavement Design Method - Windows Internet Explorer

http://www.sapdm.co.za/login_page.php

File Edit View Favorites Tools Help

South African Pavement Design Method

CONTENTS

- Home
- Technical
- Project Management
- Public documentation
- Project Team Documentation
- Frequently Asked Questions
- Disclaimer

Welcome user: **Louw Kannemeyer**

Project Administrator

Request Number | Download Template | Submit Draft Report | Aprove Reports | View Reports

PROJECT SPONSORS:

South African National Roads Agency Ltd. (SANRAL)

Council for Scientific and Industrial Research

CONTACT INFORMATION:

Dr Hechter Theyse

Tel: +27 12 332-5507
Fax: +27 12 332-5508

Internet 100%

start | MTN F@stLink | South African ... | Slides | Microsoft Pow... | EN | 10:38 PM

Questions ?

www.sapdm.co.za