




ROADS PROVISION DEPARTMENT

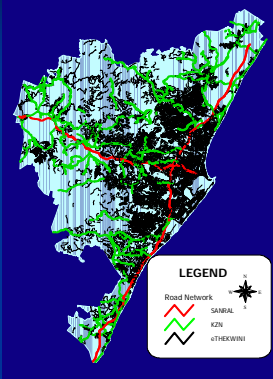
Pavement Management



Durban Road Network Ownership


Primary Road Owners

- eThekweni Municipality
- KZN DoT
- SANRAL



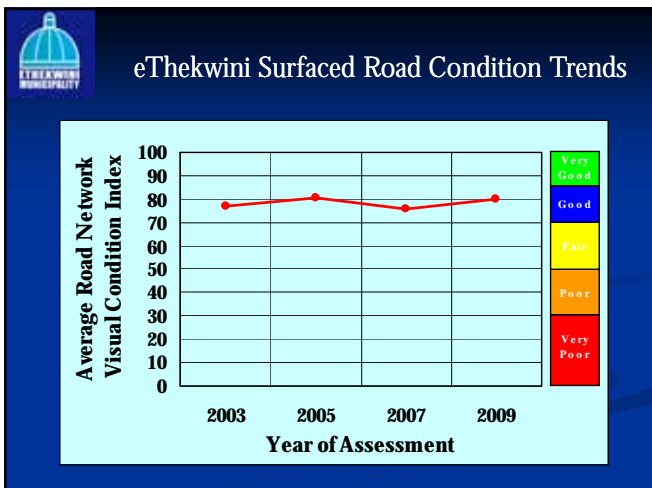
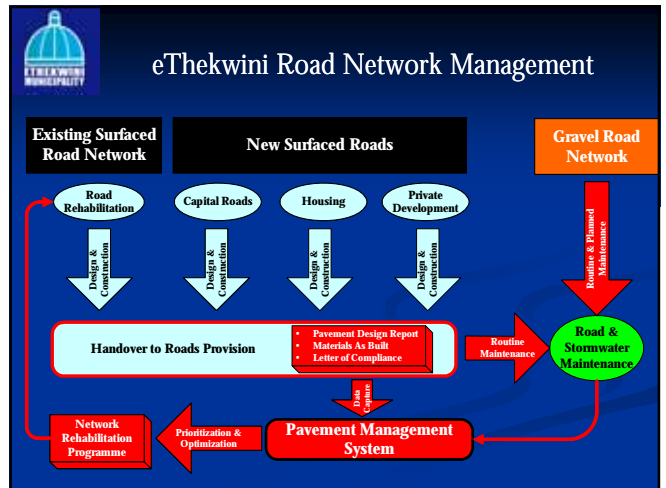

LEGEND

- Road Network
- SANRAL
- KZN
- eTHEKWENI



eThekweni Road Network Statistics

RISFSA Category	Road Length (km)		PMS Category	Road Length (km)		Total Road Length (km)
	Surfaced	Gravel		Surfaced	Gravel	
2	117	0	A	117	0	117
3	359	0	B	1 343	0	1 343
4	2 259	0	C	1 275	0	1 275
5	3 192	1 052	D	3 192	1 052	4 244
Total	5 927	1 052	Total	5 927	1 052	6 979

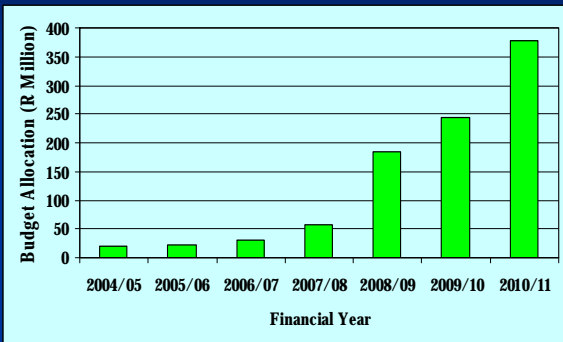



Durban Average Surfaced Road Condition 2009

eThekweni					SANRAL	KZN DoT
PMS Road Categories				Overall		
A	B	C	D			
79.5	81.2	80.2	79.8	80.3	85.3	73.5



Road Rehabilitation Budget Allocation



2009 Visual Condition Assessment Outcomes

Constraints

- All roads Visual Condition Index (VCI) > 30
- All category A & B roads VCI > 50
- < 10% category C & D roads VCI < 50
- Average VCI of entire network > 70

Outcomes

Length (km) of network - VCI < 30	7.3
Length (km) of category A & B roads - VCI < 50	24.8
% of category C & D roads - VCI < 50	4.7
Average VCI for entire network	80.3



Consequential Road Life-spans

PMS Category	A	B	C and D
Total Rehab. (% Length of Category)	3.1	4.9	2.7
Years Between Rehab. Treatments	32	21	37
Standard Design Lifespan (Years)	30	20	20



Challenges 1

Condition Assessment

- Based on Visual Condition Index (TRH 22)
 - Subjective
 - Quality and significance of data
 - Excessive data captured for minor roads (75% of network)
 - Slow assessment rate
- Mechanical testing preferable
 - Generates large quantities of data



Challenges 2

Network Level versus Project Level Analysis

- 60% conversion rate (by project)
- Optimisation on greatest benefit/cost - not area
- Analysis based on links (intersection to intersection)

Network Variability

- Ad hoc development (intersection improvements, widenings, etc.)
- No "As Built" records



Challenges 3

GIS Issues

- Corporate GIS Co-ordination
 - Subservient to Property Management System
 - Asset identifier (Road ID) not "owned" by Roads Provision Department

Accounting Issues

- Legislated register (MFMA) on accounting system (JD Edwards)
- Separate database from GIS & PMS



Challenges ... 4

Skills Shortages

- Highly specialised field
- Few practitioners country wide
- Roads Provision staff :-
 - 1 Technologist
 - 1 Technician (no experience)
 - 1 GIS officer



Thank You

