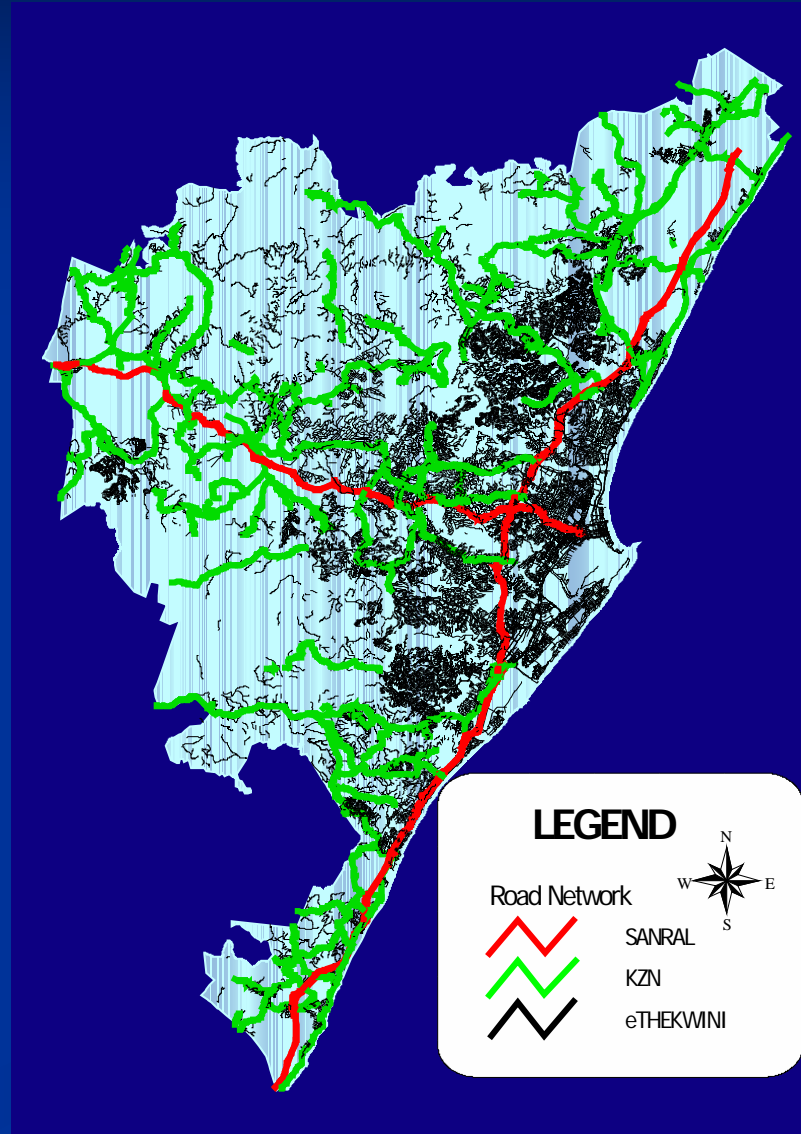# ROADS PROVISION DEPARTMENT

Pavement Management

Durban Road Network Ownership

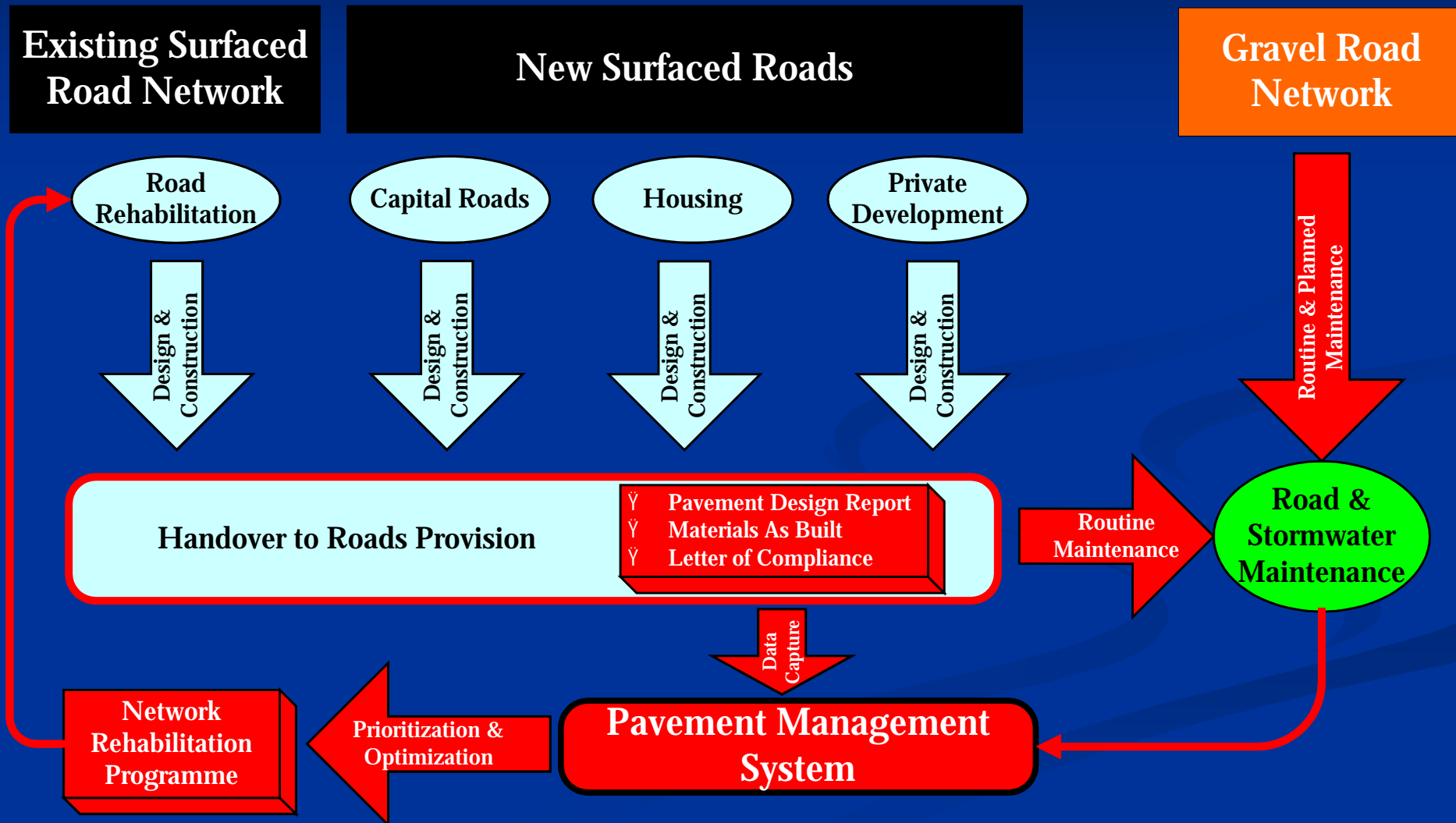## Primary Road Owners

- eThekwini Municipality

- KZN DoT
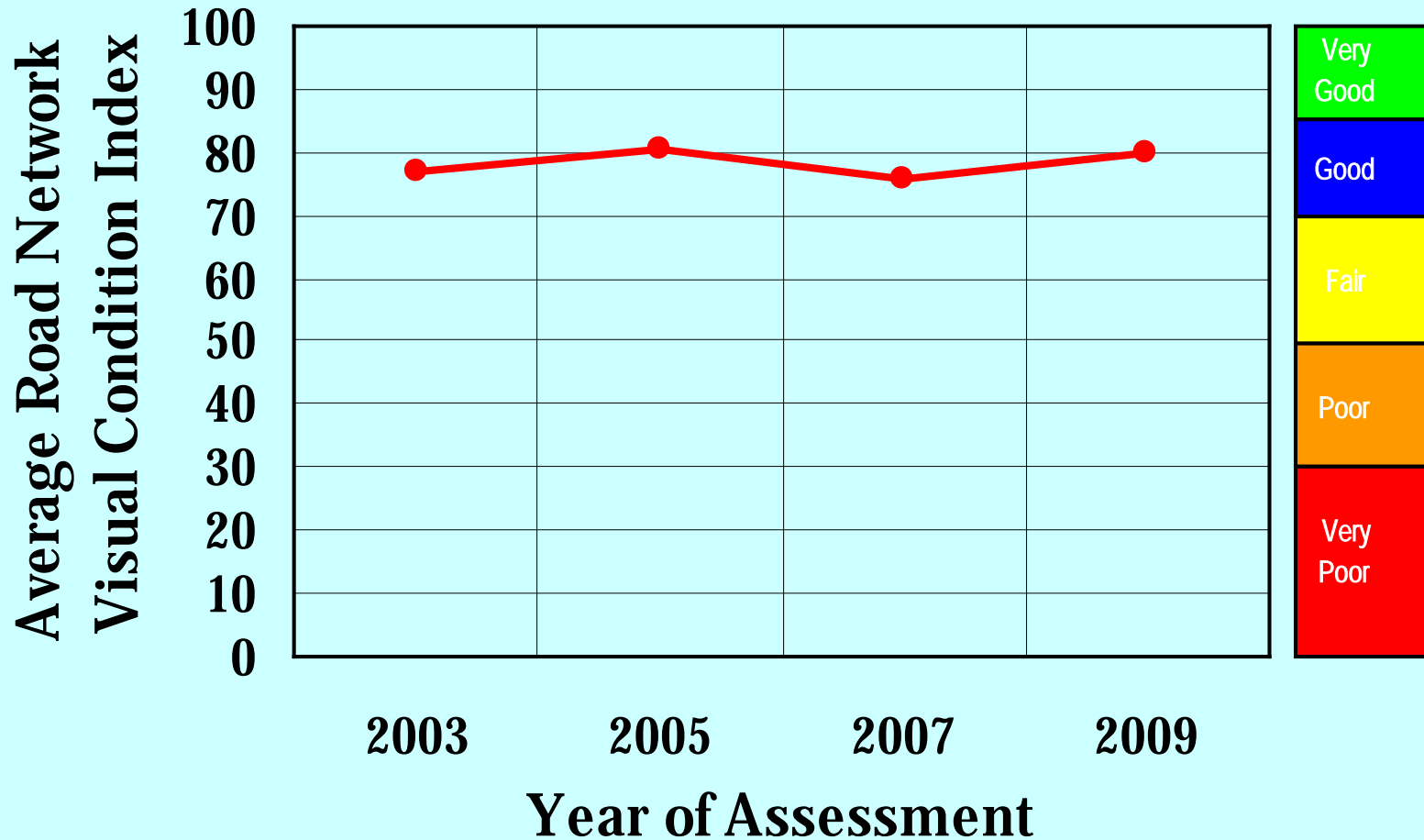
- SANRAL

LEGEND

Road Network

SANRAL

KZN

eTHEKWINI

eThekwini Road Network Statistics

RISFSA Category	Road Length (km) Surfaced	Road Length (km) Gravel	PMS Category	Road Length (km) Surfaced	Road Length (km) Gravel	Total Road Length (km)
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

eThekwini Road Network Management

Existing Surfaced Road Network

New Surfaced Roads

Gravel Road Network

Road Rehabilitation

Capital Roads

Housing

Private Development

Design & Construction

Design & Construction

Design & Construction

Design & Construction

Routine & Planned Maintenance

Handover to Roads Provision

- Ÿ Pavement Design Report
- Ÿ Materials As Built
- Ÿ Letter of Compliance

Routine Maintenance

Road & Stormwater Maintenance

Data Capture

Network Rehabilitation Programme

Prioritization & Optimization

Pavement Management System

eThekwini Surfaced Road Condition Trends

Durban Average Surfaced Road Condition 2009

eThekwini					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
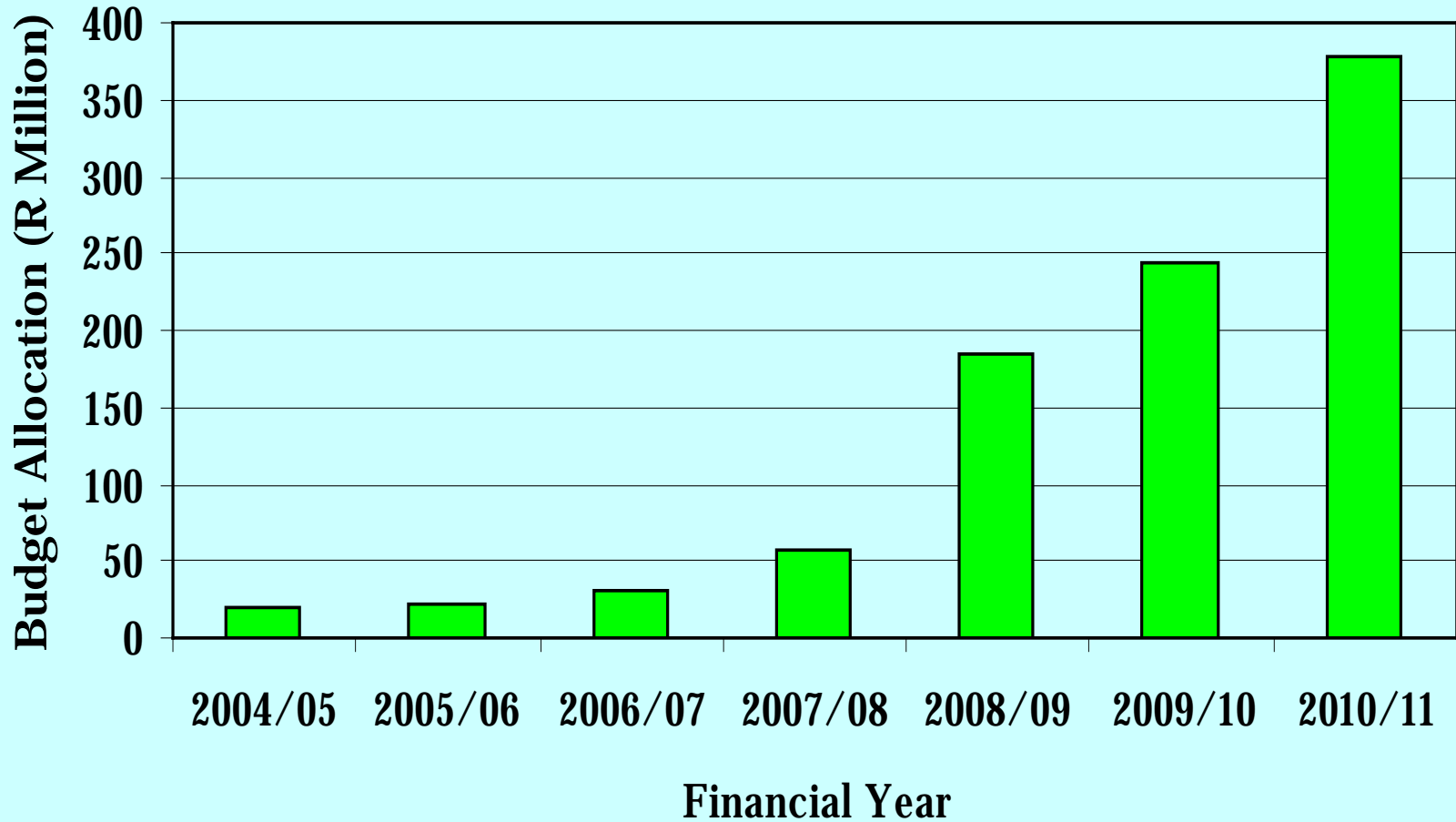
2009 Visual Condition Assessment Outcomes

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

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

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

Skills Shortages

- Highly specialised field

- Few practitioners country wide

- Roads Provision staff :-

    1 Technologist

    1 Technician (no experience)

    1 GIS officer