



**By 2030 eThekweni will be Africa's
most caring and liveable city**



eThekweni Roads A Technical Overview

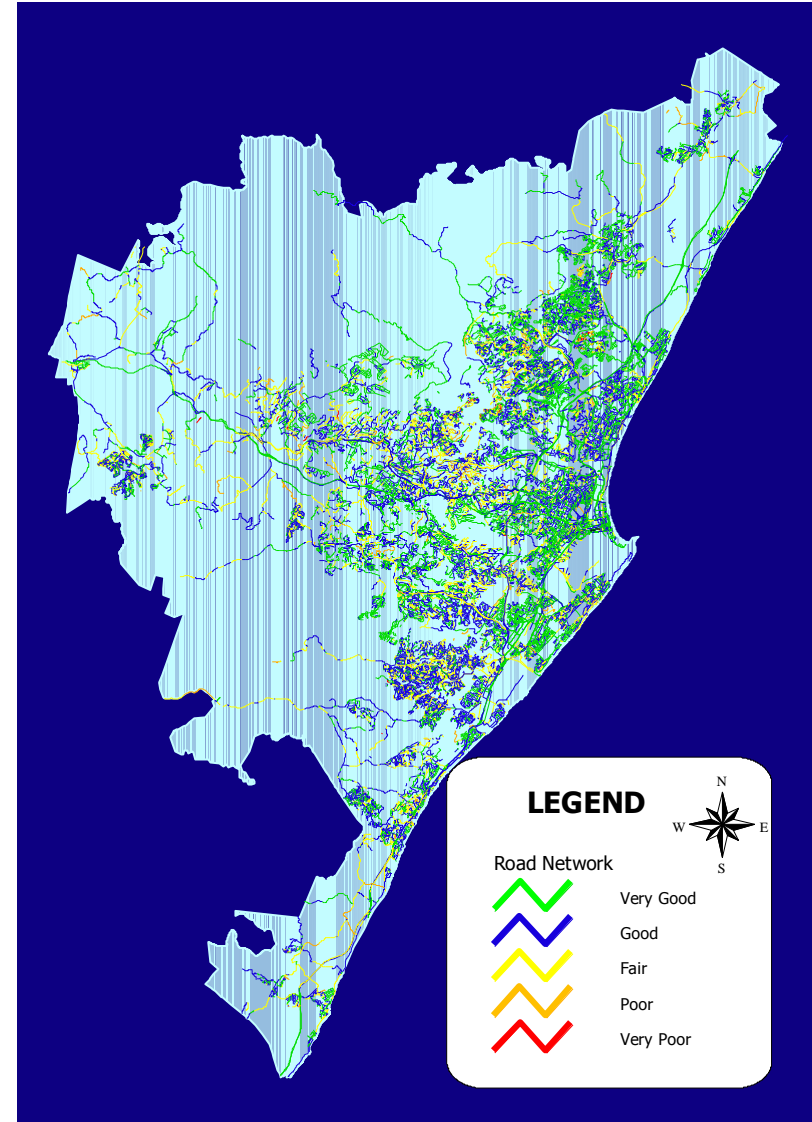
33rd Road Pavements Forum

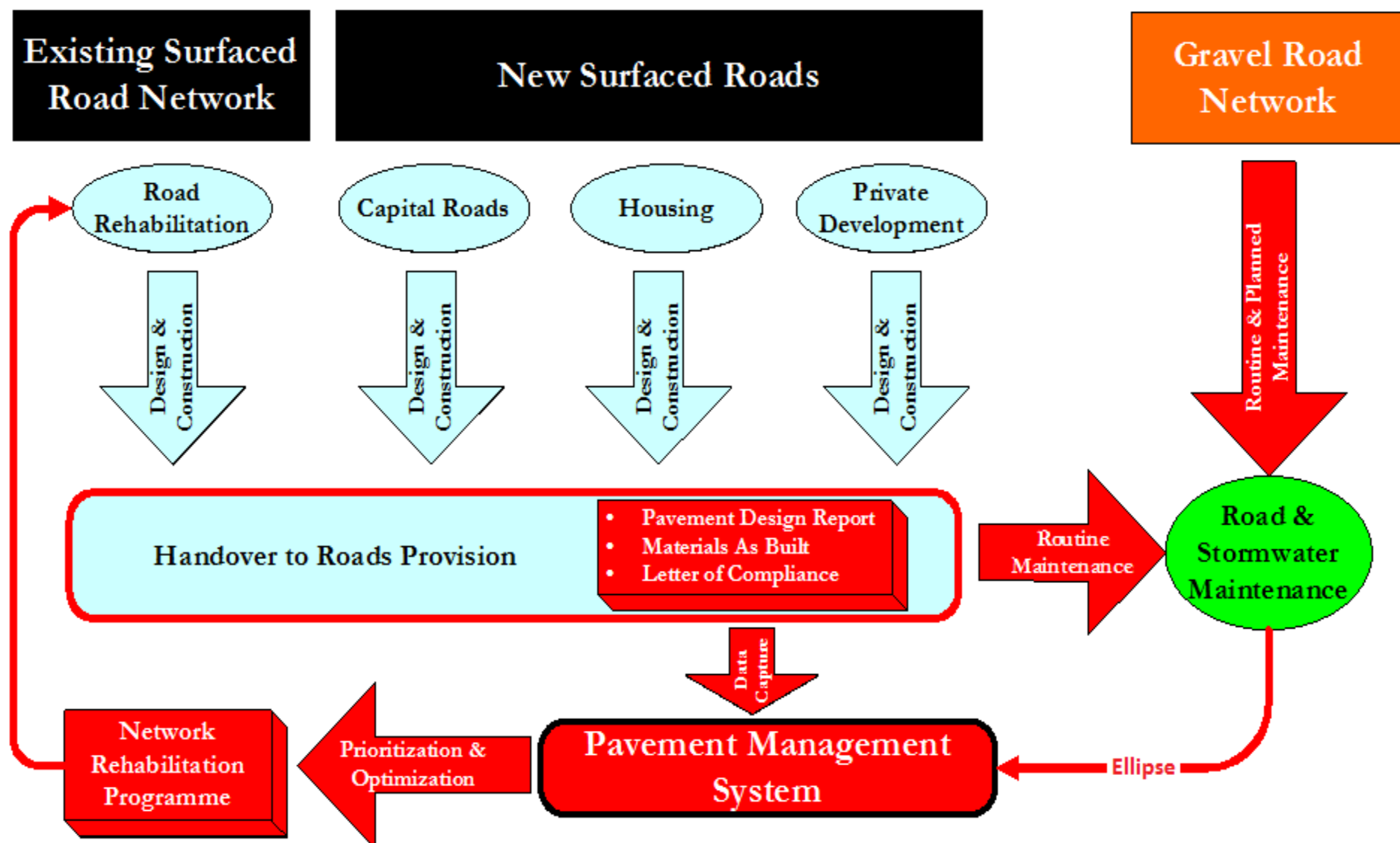
May 2017 - Umhlanga

eThekweni Road Network

- 6380km surfaced roads
 - Estimated value R110 billion
 - Pavement management system
 - Generally in good condition
- 1470km gravel roads
 - Betterment & re-gravelling programme
 - Subject to rapid seasonal deterioration
 - Unsustainable

eThekweni's Road Network Condition





Technical Advances Embraced by eThekweni

- Asphalt mix design (SABITA Manual 35)
- Bitumen PG classification
- Bituminous stabilised materials
- Warm mix asphalt
- EME
- Nano-technologies?

Projects Utilizing Technical Innovation

- Integrated Rapid Public Transport Network
- Gravel to Surfaced Road Upgrades
- Road Rehabilitation
- Annual Supply Contracts
 - Asphalt

IRPTN

- C3 Route
 - KwaMashu to Pinetown
 - EME
 - Largely completed
- C9 Route
 - KwaMashu to Umhlanga
 - EME
 - Construction underway

Gravel to surface road upgrades

- Design Approach
 - Use of marginal materials
 - Higher risk
 - DCP-DN
 - Design
 - Granular Base
 - BSM Base
 - Cementitious Base
 - Construction quality
 - As built

Gravel to surface road upgrades

- Practical Implementation by R&SM
 - 50km per annum
 - 60 separate projects

Gravel to surface road upgrades

- Cost
 - R110 million per annum
 - R2.2 million per km
 - R0.9 million/km prep work
 - R1.3 million/km asphalt

Road Rehabilitation

- ± R350million per year
- Types
 - Surface seals
 - Asphalt overlays / Mill & replace
 - Base re-construction
 - Full depth reconstruction

Road Rehabilitation

- Typical Use of Innovation
 - Category B Network
 - Base reconstruction
 - BSM
 - EME
 - Category C & D Network
 - Base reconstruction
 - BSM
 - Surfacing Rejuvenation
 - ??????

Annual Supply Contracts

- Asphalt
 - SABITA Manual 35 / TRH 8
 - PG Binder Grading
 - Typical eThekweni mixes :-
 - Sa-S10 replaces Mix "A"
 - Sa-S14, Sa-H14 or Sa-V14 replaces Mix "D"

Challenges

- Technology Transfer
- Supply Chain Management
- Organisational Diversity & Structure
- Technical Experience
- Specification Diversity & Age
- Spatial Competition



By 2030 eThekweni will be Africa's most caring and liveable city

Thank You