



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

• I N T E R N A T I O N A L •
Road Maintenance Day

ROAD MAINTENANCE FORUM

Road Maintenance and the Environmental Impact

Directorate: Urban Mobility
Road Infrastructure Management
H Scholtz 13 April 2023

Contents

- a) Road Maintenance and the Environment
- b) Road Maintenance through the different lenses
 1. Environmental degradation
 2. CO2 Emissions
 3. Economic environment
 4. Social Development
- c) Adaptation Strategies
 - a) Re-think
 - b) Reduce
 - c) Re-Use
 - d) Re-Purpose

• I N T E R N A T I O N A L •

Road Maintenance Day

MAINTAINING ROADS IS PROTECTING THE ENVIRONMENT

Road maintenance is the most effective action to reduce emissions from road transport



a) Road Maintenance and the Environment

- Road maintenance, upgrading and adaptation to future mobility stands for social progress: well-maintained road infrastructures ensure socio-economic development, sustainable growth and environmental conservation.
- The 2018 pavement summit revealed the alarming degradation of the road network and especially the pavements and that an urgent need to ensure investment to:
 - protect the road asset,
 - **avoid a debt burden on future generations,**
 - adapt them to geographic challenges,
 - **respond to social demands for mobility,**
 - improve road safety, and
 - **preserve the environment.**

http://roadmaintenanceday.org/wp-content/uploads/2018/04/fact_sheet_IRMD_ENG.pdf

b) Road Maintenance through the different lenses - 1. Environmental Degradation lens



Do no harm, let the road not lead to nowhere

b) Road Maintenance through the different lenses – 2. CO₂ Emissions lens

- CO₂ Emissions of a standard car could increase by 10 – 13% when driving on pavements with bad or very bad surface condition,
- Upgrading 1/3 of the entire road network of Europe by 2030 would result in CO₂ savings equivalent of replacing 3 million cars with zero emission cars
- Each m² of well maintained pavement avoids the emission of up to 2350 kg of CO₂ from a standard vehicle driving on it (30 years)
- every single kg of CO₂ invested in paving/road maintenance can avoid the emission of 36kg of CO₂ caused by vehicles driving on this road.

http://roadmaintenanceday.org/wp-content/uploads/2018/04/fact_sheet_IRMD_ENG.pdf

b) Road Maintenance through the different lenses – 3. Economic environment

- Badly maintained roads give rise to:
 - Rise in vehicle maintenance and breakdowns
 - Increase in the cost of logistics due to:
 - increased packaging cost
 - Fuel cost and time losses
 - Increase in the price of goods
 - Inability of manufacturers to move sensitive goods, eg. Power generation equipment
- This Leads to slower economic growth

c) Road Maintenance through the different lenses – 4. Social Development

- Roads links communities and communities to employment and facilities, like hospitals.
- Bad maintenance regimes hampers this linking and stifles mobility and the ability of the community to further develop.
- Roads forms the foundation of community services and the provision of utility, EWWS

Adaptation Strategies

- Re-Think
 - Our design principals, grade of the road etc
 - Specifications
 - Materials that we use and their future impact (can it be recycled?)
 - What happens at the end of the life cycle of that material that we use and specify (plastics)

Adaptation Strategies (2)

- Reduce
 - Energy in manufacturing of materials
 - Waste materials during production
 - Reworking of established areas

Adaptation Strategies (3)

- Re-Cycle
 - All “waste” material
 - RESIN8,
 - Do not dump excavated material
 - Do not landfill reclaimed asphalt
 - Do not mix your materials – plastics and road building materials
 - Do not contaminate material that can be recycled

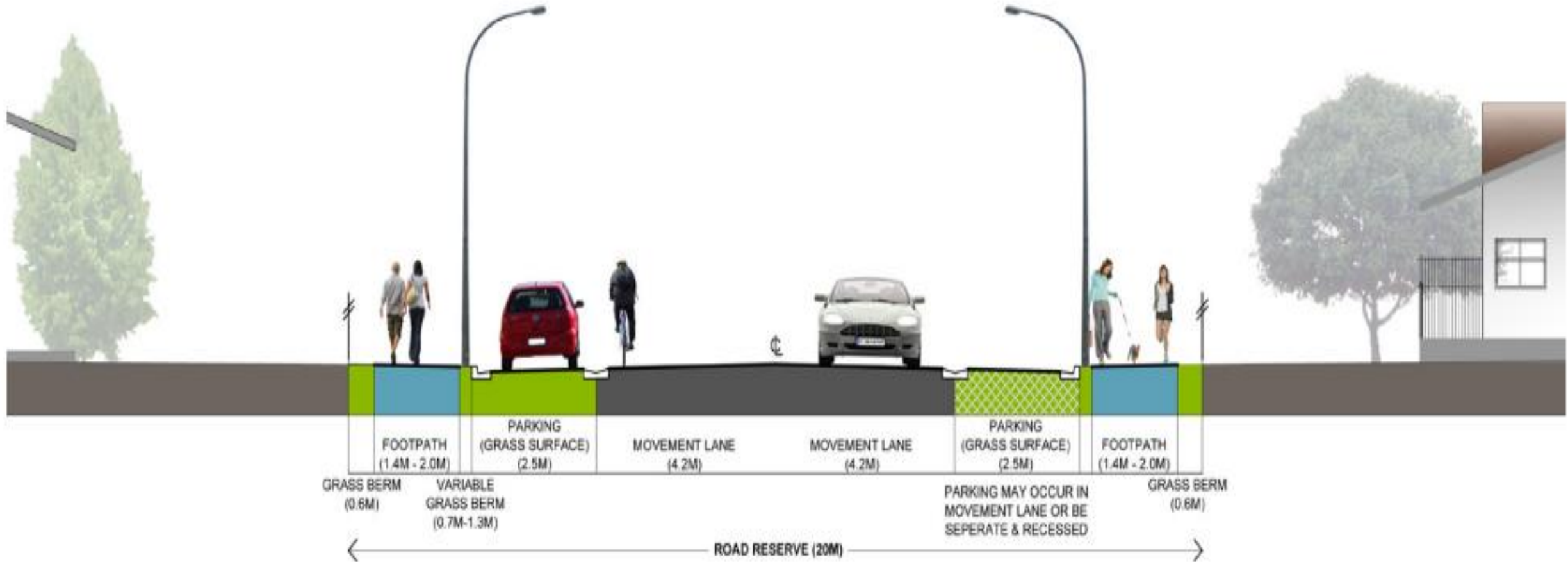
Adaptation Strategies (4)

- Re-Use
 - BSM on all major projects – Jakes Gerwel
 - Paving labs on the Formula E

Adaptation Strategies (5)

- Re-Purpose
 - All old road building material,
 - Concrete kerbs
 - Paving blocks
 - Reclaimed asphalt

Graphic view





CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

THANK YOU | DANKIE | ENKOSI

Hilton Scholtz

Director: RIM