“The need for a multi-faceted appraisal framework for major public transport investments in South Africa ”

i-Transport UATP conference and exhibition
Sandton Convention Centre, 20th June 2018

Andrew Marsay Transport Economist
"Aligning financial cost with real economic value"

Structure of today's presentation

Review of the conclusions of my UATP 2017 presentation

How we have measured the value of PT in recent years

What stakeholders say that they *want* from public transport

What parameters we need to be able to measure better

Some research proposals for improving our evaluation tools

Conclusions of 2017 presentation (1)

Lack of consensus about our transport investment priorities means that we have competing visions of our future metropolitan form:

- Unreformed rail + commuter buses still serving discriminatory status quo
- MBT, unpriced roads, e-hailing ('Uber') = *go with the flow* of low density
- Modern PT + priced roads to support a high density, high value future

Conclusions of 2017 presentation (2)

Current transport policy, as e.g. in Gauteng's ITMP25, appears to support the development of the high density / value urban future:

- Subsidized housing provision within urban core areas
- Land use densification in support of public transport
- Reinforcing the passenger rail network: 'Gautrain 2' + (reformed!) PRASA
- Integrated road-based public transport systems
- Provincial travel demand management plan
- Well managed, sustainably funded*, highway network

xxxxxxxxxxxxxxxxxxxxxx

*Gauteng review of highway funding options showed that while e-tolling was the *least wanted* option, it was least bad for the poor!

Conclusions of 2017 presentation (3)

A decision-making tool is needed that allows stakeholders to arrive at a consensus that all can 'own', including the following criteria:

- National / provincial / metro policy alignment
- Efficacy of a transport service's institutional delivery model
- Stated preferences of a broad-based cross section of society
- Public cost (subsidy) per passenger km for each investment type
- Sustainability – the ability of different modes of transport to actually secure patronage levels needed to deliver the agreed vision

2017 ‘proto-type’ decision-making matrix

Mode / system	NLTA	IDP / SDF / IPTN	Delivery model	Public pref’	Subsidy / pax km	Sust’blty	Score / 30
Rapid rail extensions	5	5	5	4	2	4	25
PRASA - as is	5	3	2	3	4	1	18
PRASA – with commercial delivery	5	4	4	5	3	4	25
Commuter bus, non-IPTN	5	2	3	3	4	3	20
Commuter bus IPTN	5	4	4	4	3	3	23
BRTs / metro transits	5	5	3	4	4	2	23
Freeways: non-tolled	1	2	4	5	4	3	19
Freeways: tolled	5	4	5	1	5	5	25

How we have measured the value of PT in recent years – two case studies

The 2004-2006 SARCC Railplan: *Priority Rail Corridors*

The Case for Gautrain ‘1’: *The Gautrain Integration Reports*

SARCC's Priority Rail Corridors

SARCC asked by DOT to come up with a commuter railways plan to stem passenger losses and justify operating subsidy

Three options were considered:

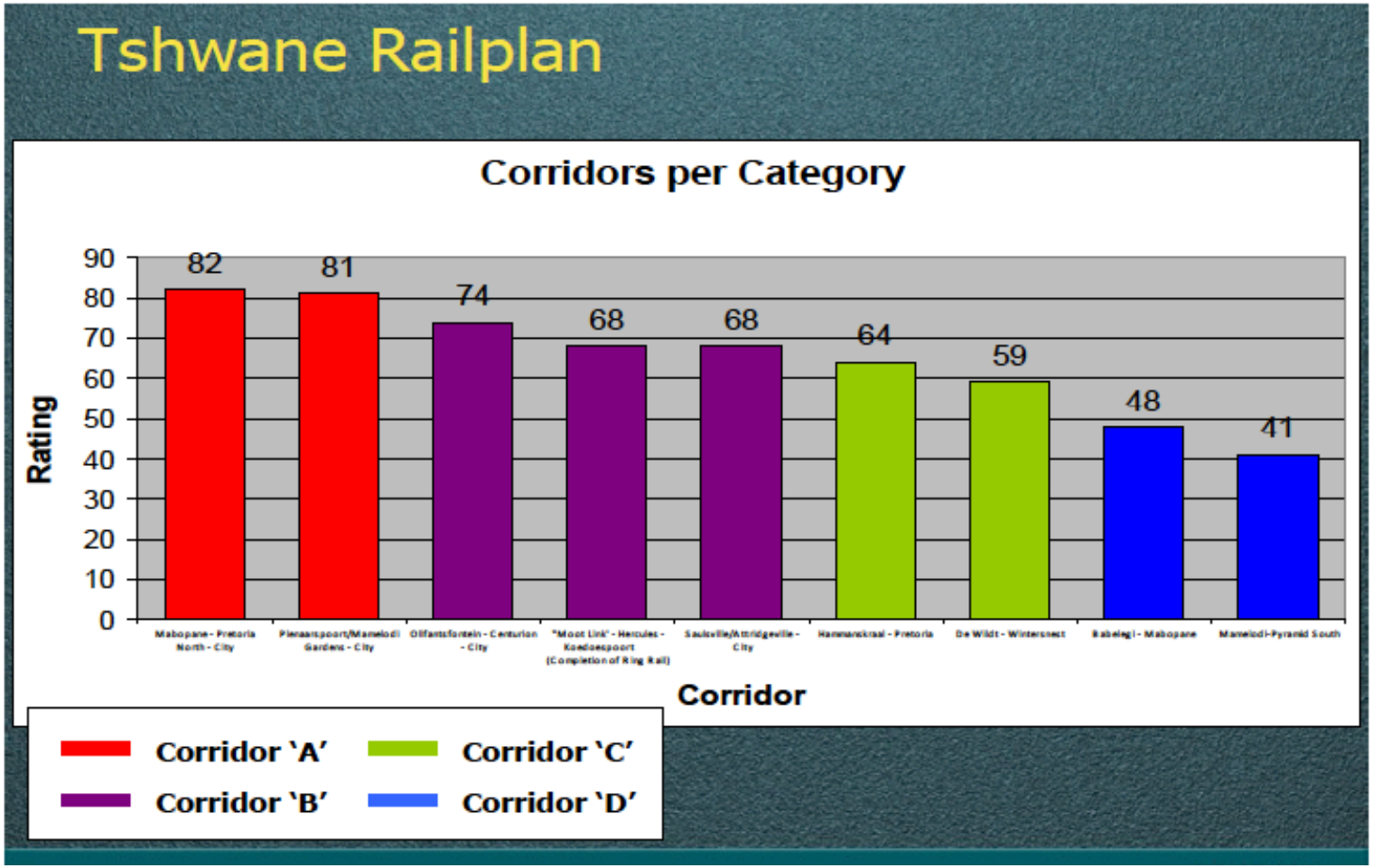
- 'Big Bang' – massive capital injection to restore all infrastructure
- 'Cut to the bone' – only keep lines that have commercial potential
- 'Priority Rail Corridors' – rank lines by functionality vs other modes

Testing rail functionality criteria by corridor

Stakeholder workshops evaluated lines against agreed criteria:

- National/Provincial/Metro ITP Policies
- Current patronage and stated user requirements
- Scope for off peak services
- Scope for bi-directional operation in peaks
- Travel demand patterns – all modes
- Spatial and nodal features supportive of rail (density)
- Infrastructure / topography suitability for rail
- Intensity of competition from other modes by corridor
- Engineering feasibility of enhancing rail
- Operational feasibility of enhancing rail

Corridor ranking based on stakeholder ratings



Outcomes of the Commuter Railplan

Main outcome has been the huge investment in manufacture of new rolling stock and infrastructure currently rolling out

The focus of infrastructure investment on Priority Corridors remains at the heart of PRASA's strategy, in principle at least

But the report's conclusion that a new, more commercially based, operating model was needed was not implemented

As a result, the programme is unresponsive to changing demand patterns; even where needed, the investments could be wasted!

The Case for Gautrain ‘1’

CBA study based on transfer of road traffic from N1; + big economic impact of construction and operational investment

Treasury and national DOT not convinced - so investment was conditional on integration with the wider transport network

Hence, ‘Gautrain Integration Reports’ of 2006 and, ex post, 2010

The 2006 Gautrain Integration Report

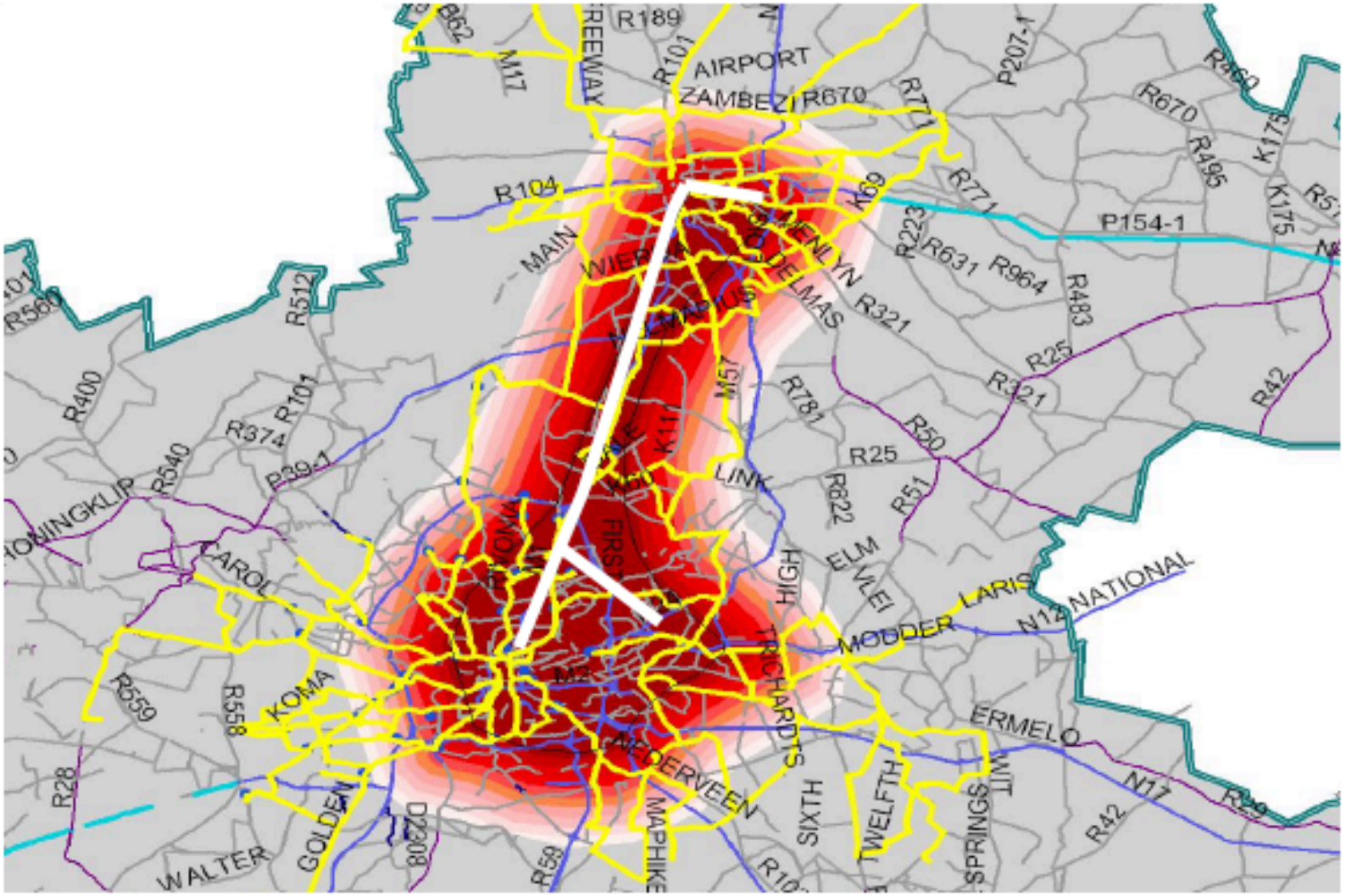
The initial issue was how Gautrain could integrate with other transport systems. The answer was given at strategic level:

The Gautrain network footprint was shown to be well aligned with densification trends and nodal structure in the Province

The Gautrain investment would complement other investments: SARCC Railplan, emerging BRTs, and the freeways programme

The scope for high density, mixed use development at transport interchanges was highlighted as a major value-add opportunity

Gautrain's 'footprint'

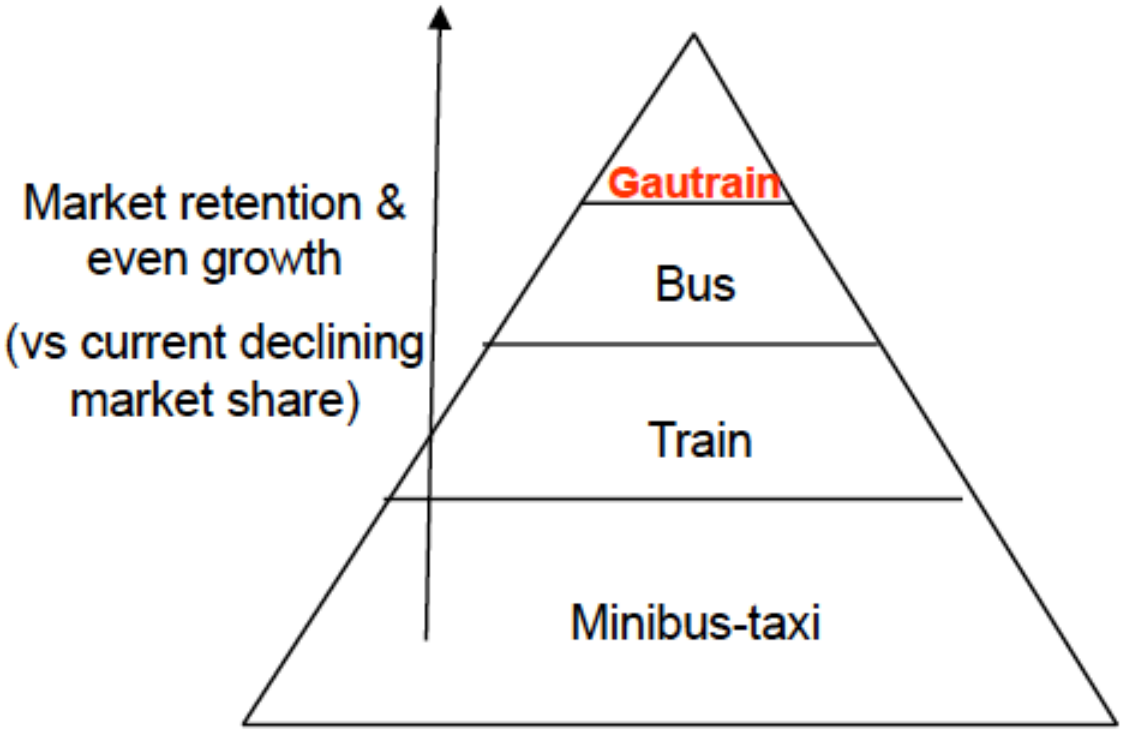


The 2010 Gautrain Integration Report

Assessed Gautrain's strategic integration role, as a catalyst to:

- Spatial integration instead of historic spatial disintegration
- Higher regional economic growth – 'agglomeration economies'
- The potential energization of the whole public transport sector
- Transformation of public funding in support of public transport
- The creativity of public funding combines private delivery skills

Gautrain's positive impact on the PT market?



Where Gautrain is at now . . .

Development impact around key nodes is well documented; operational effectiveness is evident; users appreciate value-add

Patronage growth good but not as expected because forecasts were based on assumption of tolled freeways, in line with NLTA

Better measures of urban economic impact needed, together with implementation of PT supportive policies such as ITMP25

The case for ‘Gautrain 2’ depends on building a new informed consensus around what sort of urban future Gautengers want

What different stakeholders are saying that they want from public transport

Migration trends show that people value proximity to urban job opportunities; subsidised long distance travel is, at best, a proxy

Accessibility research shows that people value availability near their homes, and reliability en route, more than speed in transit

Public policy translates this into commitments to higher quality, higher density, urbanism with more PT-rich transport strategies

But, as individuals, we prefer the immediate access within low density spatial realities afforded by cars, e-hailing and even MBT

Implications of stakeholder views

Stop subsidising longest distance PT commuting; prioritise those PT modes to which people have shown they will actually transfer

Accept that public preferences for convenient mobility within low density urban areas must continue to be be catered for

Seek to communicate inherent contradictions between desire for higher quality urban living and demands for personal access

Initiate ongoing, broad-based, stakeholder consultations around the urban future we want and the investment choices involved

What parameters we need to be able to measure better in future

To assist this broad-based *indaba*, transport professionals and academic research need to improve measures of the following:

- The value-add and hence the proper role of transport subsidisation
- The longer term impacts of roads that are 'free at the point of use'
- What urban future people want - the nature of the vision
- Urban agglomeration economies – the value of the vision
- The best transport investment mix - to realise the vision
- The relative merits of different public transport institutional models

Thank you!