# GAUTENG DEPARTMENT OF ROADS AND TRANSPORT

## PRESENTATION TO THE PORTFOLIO COMMITTEE ON ROADS AND TRANSPORT

## **02 SEPTEMBER 2022**









## UNDERSTANDING THE BRIEF FROM THE PORTFOLIO COMMITTEE

- The Roads and Transport Portfolio Committee in the Gauteng Provincial Legislature has decided to undertake a research study on the political economy of the transport systems in the province.
- The Committee intends to embark on the study internally through public hearings to get information on the ownership of service providers in the transport sector in the Department and its entities, namely Gautrain Management Agency, g – Fleet Management and Transport Authority for Gauteng in relation to the implementation of the transformation agenda.
- Furthermore, the study will conduct public hearings with various stakeholders focusing on the assessment of the relationship between the implementation of transformation agenda by the Department and its entities and the impact that this have in the economic growth and quality of life in the Gauteng Province





## **KEY FOCUS AREAS BY THE PORTFOLIO COMMITTEE**

- Statistical report on registered ownership on all modes of public transport in the Province, in relation to; Race, Gender, Age and Disability;
- Statistical report on the company ownerships involved in the value chain of construction and maintenance of road and rail (Gautrain) infrastructure in the Province per Race, Gender, Age and Disability;
- Report on the contribution to the transformation agenda in the Province;
- Report on the relationship between the current state of transport and economic growth in the province;
- Report on the relationship between the current state of transport and quality of life in the Province;
- Report on the efficiency and effectiveness of transport system in the Province, focusing on the success, challenges and benefits derived from the province's transport sector/system;
- Report on how they are responding to the 4<sup>th</sup> Industrial Revolution and transport technology, focusing on the public transport, road and rail infrastructure.





## **INTRODUCTION AND CONTEXT**

- The understanding of the brief from the portfolio committee is firstly:
  - To gain an extensive understanding of the value proposition of the transport sector;
  - ➢Get a statistical analysis of the transport sector;
  - Transformation process and initiatives of the transport sector;
  - >The current state of the transport sector;
  - >The challenges and complexities of the transport sector;
- The above in itself, requires extensive research and the questions from the Portfolio Committee will be responded to in each of the presentations, albeit not in full, due to the different sets of research reports and information that needs to be accessed.
- This presentation aims to provide the Portfolio Committee with a sense of the current status of the transport sector and there may be a need for further research, analysis and data collection, to ensure a comprehensive report.





## **RESPONSE TO THE PORTFOLIO COMMITTEE**

In responding to the request by the Portfolio Committee, the presentation is divided into the following parts:

- Part A Providing a Global overview of the issues in the Transport Political Economy (CEO TAG)
- **Part B** Research and analysis of the transport sector (HOD DRT)
- **Part C** Addressing Challenges faced by the transport sector (CEO TAG)
- Part D Transport and the Political Economy of Gauteng, A Gautrain Perspective (CEO GMA)
- Part E The current state of the transport sector and transformation of the sector (HOD DRT)
- Part F Presentation of the Transport Management Centre, including the visit to the Transport Management Centre

## PART A PROVIDING A GLOBAL OVERVIEW OF THE ISSUES IN THE TRANSPORT POLITICAL ECONOMY

# INTRODUCTION

• J F Kennedy:

"American roads are not good because America is rich, but America is rich because American roads are good"

 In the context of the Gauteng Global City Region we can replace the word 'roads' with 'transport' "Gauteng's Transport System is not good because Gauteng is rich, but Gauteng is rich because Gauteng's Transport System is good"

# INTRODUCTION

 Transport is an enabler of Sustainable Economic Growth and Development, this is even more applicable in Gauteng, the economic powerhouse of Southern Africa, which houses nearly 25,3% of the countries total population and contributes 34% to the country's GDP.



## I: Globilisation:

- UITP estimates that by 2025, 60% of the World's population will be living in urban areas, this will result in:
- Rapid urbanisation & economic development that will increase the demand for the movement of people, goods & services;
- Lagos currently has a population of 22 million, growing by 2 million every 3 years;
- Global trend is towards private vehicles as the preferred mode of transport;
- 6.2 billion private motorised trips will be made every day in cities worldwide; and
- Gridlock, pollution, road traffic accidents & greater dependency on fossil fuels.
- The emergence of 'Smart Cities"; and a greater dependency on ICT will be the only workable solution.

#### II. The Environment, pollution and Greenhouse gasses:

- There seems little doubt left that climate change is one of the most significant threats to the future of humanity.
- Environmental pollution is one of the most serious problems facing humanity and other life forms on our planet today. ... Any use of natural resources at a rate higher than nature's capacity to restore itself can result in pollution of air, water, and land and ultimate catastrophe.
- Public transport is at the forefront of this fight against climate change, as it is three to four times more energy efficiency per passenger than private cars. It must play a major part in providing greener mobility solutions to reduce CO2 emissions, it must take the responsibility to offer new technologies, business models and opportunities to help decision makers achieve their objectives

## Ill: The Fourth Industrial Revolution (4IR):

- The Fourth Industrial Revolution as it pertains to the Disruption of the Energy and Transportation sectors; and
- The Fourth Industrial Revolution as it pertains to the prevalence of Big Data.
- Technology is only half the story. The other half is how the global polity chooses to embrace the Fourth Industrial Revolution. Governments, businesses, and people all need to play their part in being participants rather than observers of this revolution:
- New technologies and platforms will allow governments to engage better with their citizens and improve their protection.
- Disruption is coming from agile, innovative businesses using global digital platforms to oust well-established incumbents by improving the quality, speed, or price of their services.
- This revolution will have a profound impact on people changing how we consume, work, and assess our health.

- what is a disruption? When a new product or service helps create a new market and significantly diminish, transform, or destroy an existing product, market category / industry.
- Tony Seba, the author of the #1 Amazon best-selling book "Clean Disruption of Energy and Transportation – How Silicon Valley Will Make Oil, Nuclear, Natural Gas, Coal, Electric Utilities and Conventional Cars Obsolete by 2030".
- According to him the world is amid the most radical transformation in energy in a century. Exponentially improving technologies such as solar, electric vehicles, and autonomous (self-driving) cars are turning the industrial-era energy industry on its head and making the internal combustion vehicle obsolete.

- Market disruptions caused by exponential technology improvement, business model innovation, and disruptive product design enabled by this convergence. He predicts that by 2030:
  - All new energy will be provided by solar or wind;
  - The architecture of energy will flip from centralized, command-and-control, secretive, and extractive to distributed, mobile, intelligent, and participatory;
  - Electric Utilities as we know them will be obsolete;
  - Oil will be obsolete;
  - Nuclear will be obsolete;
  - Natural Gas will be obsolete;
  - Coal will be obsolete; and
  - All new mass-market vehicles will be electric.



# 95% of Passenger Miles TaaS (AEV) by 2030





## IV. Workforce Challenges;

- In a recent study of the World Economic Forum, they predict that by 2025 robots will handle 52% of the current tasks, almost twice as many as now. Humans will have to revamp their skills to keep pace with this 'seismic shift."
- The WEF study found that; "a major challenge will be to retrain workers, who will themselves be pressed to update skills especially in areas of 'creativity, critical thinking and persuasion'" they identified an overall trend towards lifelong learning and adaptation.
- If you are currently 12 years old, you have a 70% chance of working in a job that does not exist today;
- If you are currently 2 years old, you have a 100% chance of working in an industry that does not exist today!; and
- How do you adjust the curriculum of schools & Universities to accommodate this unknown future?

## V. Covid-19 Pandemic;

- The COVID-19 virus has had a profound, dramatic impact on our world. But while it is still very much an ongoing situation, there are already a lot of talk about the scenarios that could unfold after the pandemic, will we pick up where we left off? Or is this the beginning of a new chapter?
- These questions are top of mind for professionals in transport, a sector that has been hit particularly hard by the crisis. Over recent months, falling demand and contagion risk have caused a drastic reduction in transport services all over the world.
- This might not be the first time that communities have had to suspend or limit transport for health reasons, but the scale of these restrictions are unprecedented. By showing what an immobile world looks like, this new reality has shed light on the centrality of transport in the global economy, and in almost all aspects of our lives."
- The challenge is: "Protecting public transport from the coronavirus... ..... and from financial collapse"

## **DISCUSSION / INPUTS / COMMENTS**

## PART B RESEARCH AND ANALYSIS OF THE TRANSPORT SECTOR





#### EXECUTIVE SUMMARY: ACCESS TO TRANSPORT CASE STUDY

- A public transport system is the lifeblood of a society and town, as it caters to ensuring human mobility in various metropolitan areas.
- Public transport in south Africa is comprised of various modes of transportation such as taxis, buses and trains, being viewed as primary transport modes. Most public transport users consist of black working class citizens, who commute from their homes to work, though these modes of transport.
- Black working class women provided an insight into the safety concerns and overall wellbeing which is not evident, whilst undertaking a particular trip, through public transportation. Some of these concerns were from anxiety and fear of being victimized, harassed, raped or killed while either commuting to or from work.
- The expenditure on public transportation also affects the quality of life; essence of safety and also ease of access, to which communities determine which mode of transportation, is more accessible and efficient.
- In relation to five case studies conducted by the University of Johannesburg, in collaboration with





#### BACKGROUND

- Gauteng has the highest population share in South Africa, with the following cities (Johannesburg, Ekurhuleni, and Tshwane, as well as the district municipalities of the West Rand and Sedibeng)
- Gauteng has a current population of approximately 15,81 million people, according to South Africa's mid-year population estimate for July 2021.
- COVID-19 had a negative impact on transportation because most people were forced to work from home (as well as attend meetings virtually) and attend classes virtually.





## DATA COLLECTION

- This was delayed by six months due to the state of emergency, however this allowed sets of questions to be included on the impact of Covid-19 on households.
- The data collection began on October 26, 2020, to 27 May 2021.
- The rate of data collection slowed slightly in early 2021 as the COVID-19 second wave increased refusals and more stringent COVID-19 protocols made access to some areas more difficult. A period of heavy rain across Gauteng complicated logistics and slowed fieldwork progress.
- Sanitized data collection devices were given to participants to complete the self-completion section. During the second wave, which lasted from early January 2021 to early March 2021, COVID-19 protocols were strengthened to ensure safety.

## QUALITY OF LIFE SURVEY





## **QUALITY ASSURANCE**

- The quality control processes for QoL 2020/21 were designed to ensure confidence in the survey results while also ensuring the timely and smooth implementation of data collection and finalization.
- To ensure the accuracy of sampling and interview administration, as well as the data itself, quality control used a variety of methods.
- All incoming data was subjected to automated checks to ensure that any issues with sampling, questionnaire administration, or data quality were identified quickly.
- Telephonic call backs and in-field revisits were used to resolve data queries. Furthermore, approximately 25% of respondents received random telephonic call backs during the data collection period.





#### **QOL REPORT FINDINGS**

Most Frequent Trips:

Trips to the shops were the most common reason for respondents' trip-making in the QoL 2020/21 Survey, accounting for nearly half (44 percent) of the most frequent trips – a 15 percentage point increase from 2017/18 (29 percent), as indicated below.

Figure 3.1: Percentage of respondents reporting purpose of most frequent trip over survey iterations. Data sources: GCRO QoL 6 (2020/21), GCRO QoL V (2017/18) and GCRO QoL IV (2015/16).







## MOST FREQUENT TRIPS: PURPOSE OF TRIPS

#### Summary:

- Trips to the shops were the most common reason for respondents' trip-making in the QoL 2020/21 Survey
- Thus, representing a significant shift from 2017/18, when commuting to work was the most common reason for people to travel.
- Compared to the previous two surveys, the percentage of respondents who travel to work, look for work, or study has decreased. These findings are most likely the result of the pandemic's altered mobility patterns.





## **QOL REPORT FINDINGS**

Most Frequent Trips:

Shopping trips, respondents' most frequent trip, have become more local, with nearly half (48%) taking less than 15 minutes to reach the shops (Figure 3.2).

Figure 3.2: For respondents whose most frequent trip is for shopping, reported travel time over survey iterations. Data sources: GCRO QoL 6 (2020/21), GCRO QoL V (2017/18) and GCRO QoL IV (2015/16).







#### **QOL REPORT FINDINGS**

Most Frequent Trips:

Commuting time has decreased in recent years, with 57 percent arriving at work in less than 30 minutes (Figure 3.3). This could be due to a variety of factors, including respondents traveling shorter distances and less traffic.

Figure 3.3: For respondents whose most frequent trip is to work, reported travel time over survey iterations. Data sources: GCRO QoL 6 (2020/21), GCRO QoL V (2017/18) and GCRO QoL IV (2015/16).







#### **MOST FREQUENT TRIPS - COMMUTING TIMES**

#### Summary

- Private vehicles and minibus taxis continue to be the most popular modes of transportation in Gauteng (33 percent and 43 percent, respectively), followed by walking (19 percent).
- Figure 3.4 shows that the percentage of people who use trains as their primary mode of transportation has decreased significantly, from 3% in 2015/16 to nearly zero (0.4%) in 2020/21.
- This could be explained by a modal shift caused by train closures during lockdown level 5, as well as the extent of train infrastructure vandalism in 2020 and 2021.
- Cycling has increased in other parts of the world as a result of the pandemic. This trend has
  not been seen in South Africa, most likely due to the barriers to cycling as a mode of
  transportation, such as long distances and hazardous conditions.





## **QOL REPORT FINDINGS**



Most Frequent trips:

Figure 3.4: Main mode of transport used in the most frequent trip, over survey iterations. Data sources: GCRO QoL 6 (2020/21) and GCRO QoL IV (2015/16).





## PUBLIC TRANSPORTATION ACCESSIBILITY AND PERCEIVED SAFETY



The vast majority of Gauteng respondents (79%) said they live within ten minutes of a public transportation access point (e.g. bus station, taxi route).

Figure 3.5 shows that these results are fairly consistent across the province's municipalities.



## PUBLIC TRANSPORTATION ACCESSIBILITY AND PERCEIVED SAFETY

- The Survey also found that a vast majority of Gauteng respondents (79%) reported that they live within a ten-minute walk of a public transport access point (e.g. bus station, taxi route). These results are fairly consistent across Municipalities in the Province.
- There has been an encouraging drop in the proportion of respondents who walk more than twenty-five (25) minutes to reach public transport (from 9% in 2017/18 to 5% in 2020/21).
- The majority of those who use public transportation reported feeling safe while waiting for and using public transportation (75 percent and 74 percent respectively).
- Nearly one in every five people feels unsafe while waiting for or using public transportation (18 percent for both). This demonstrates that more work needs to be done to improve public transportation safety.



#### PUBLIC TRANSPORTATION ACCESSIBILITY AND PERCEIVED SAFETY - GENDER

- There is a slight difference in perceived safety between men and women, with women feeling slightly more unsafe than men while waiting for and using public transportation (Figure 3.6).
- Women are also less likely than men to feel safe.



Figure 3.6: Male and female public transport users' perceived level of safety while waiting for and using public transport. Data source: GCRO QoL 6 (2020/21).





#### **E-HAILING**

24 percent of QoL 2020/21 respondents said
 they use e-hailing services (Figure 3.7).



Figure 3.7: For each income group, percentage of respondents reporting frequency of use of e-hailing taxis. Data source: GCRO QoL 6 (2020/21).

- According to the survey, the use of ehailing taxis is correlated with income, with usage increasing with income.
- Some twenty-four percent (24%) of QoL 2020/21 respondents indicated that they make use of e-hailing services
- While these services can be more expensive than other forms of public transportation, the fact that 14% of people in the lowest income group (R1–R800 per month) use e-hailing, and in some cases on a regular basis, shows that it is not solely a high-end transport option.





#### FINDINGS FROM THE GCRO QOL 6 2020/21 REPORT

- There was a decrease in the percentage of people traveling to work, to look for work, and to places of study when compared to previous surveys. The Survey concludes that the following findings are most likely a result of the changed mobility patterns due to the pandemic.
- The percentage of respondents citing shopping as the most frequent trip purpose has increased significantly, from 29 percent (2017/18) to 44 percent (2020/21).
- In comparison to previous surveys, there has been a significant shift in mobility patterns, with people's most frequent trips now more likely to be short (less than 15 minutes) and less likely to be longer than 30 minutes.
- For the first time, the survey asked about the perceived safety of public transportation. Although most people feel safe waiting for and using public transportation, nearly one-quarter of those who use it feel a little or very unsafe.
- There has been a notable decrease in the percentage of people using trains as their main mode, dropping from three percent (3%) in financial year 2015/16 to virtually zero, zero, four percent (0.4%) in financial year 2020/21.





#### FINDINGS FROM THE GCRO QOL 6 2020/21 REPORT

- While the use of e-hailing increases with income, 14 percent of respondents in the lowest income group use these services at least twice a year, and for some much more frequently.
- Private vehicles and minibus taxis remain the primary modes of transport for most frequent trips in Gauteng thirty-three percent (33%) and forty-three percent (43%) respectively), followed by walking nineteen percent (19%).
- Despite one in four people reporting, they had changed their mode of transport to mitigate COVID-19 risk, there's only been marginal shifts across the main transport modes since financial year 2015/16. However, the Survey concludes that this could be due to changes being temporary rather than permanent.
- There has been a notable decrease in the percentage of people using trains as their main mode, dropping from three percent (3%) in financial year 2015/16 to virtually zero, zero, four percent (0.4%) in financial year 2020/21.

## **DISCUSSION / INPUTS / COMMENTS**
### PART C ADDRESSING CHALLENGES FACED BY THE TRANSPORT SECTOR

### The Political Economy of the Transport Sector in the Gauteng Province: Gauteng Roads and Transport Portfolio Committee

#### ROADS AND TRANSPORT PORTFOLIO COMMITTEE

 The Roads and Transport Portfolio Committee in the Gauteng Provincial Legislature has decided to undertake a research study on the political economy of the transport systems in the province, with a focus on ownership in the transport sector value chain and impact in the economic growth



#### **THOUGHT PROCESS: RESEARCH BACKGROUND**

Transport systems contributing to the economy of the province. Transport systems enables the movement of people goods and services

*GHTS (2020)* shows this is not the case. "One of the key findings of the study is that "access time to public transport has increased". In this regard, the question is therefore how is the transport system contributing to economic growth and quality of life in the Province? The Survey revealed that the quality of life is severely affected by the travelling patterns in the Province as "significant proportion of household income is spent on commuting". The *Quality of Life Survey (2020/21)* reveals that "many more households are more broadly vulnerable, across multiple socio-economic" due to Covid – 19 pandemic.

for this reason that the Committee is concerned with the current state of the Gauteng transport and infrastructure systems, and contribution to economic growth.

A series of workshops were held with key stakeholders in the transport industry and stakeholders were afforded an opportunity to present on the status quo of the Transport Systems in the Province and interventions that are in place or envisaged. The objectives of the workshops were to solicit information on the current state of transport and infrastructure in the Province.

This did not yield adequate respond in relation to the objectives of the workshop. It is against this lack of information that the Committee took a decision to commission a research study to better understand who owns what within the Gauteng province transport sector value chain and the contribution of this sector to the economic growth of the province.

# **THOUGHT PROCESS: RESEARCH PROBLEM**

The problem is that the Portfolio Committee does not have enough information on who own(s) the various modes of transport and companies participating in the transport sector value chain, including those contracted to construct and maintain the transport infrastructure in the Province. There is also not enough information on the relationship between the implementation of transformation agenda by the Department and its entities and impact that this have in the economic growth and quality of life in the Province. These make it difficult for the Portfolio Committee to effectively oversee the executive/department in terms of transformation to benefit the vulnerable and the historically marginalized groups.

# THOUGHT PROCESS: RESEARCH PURPOSE AND OBJECTIVES

The main purpose of this research is to investigate how the current transport system contribute to the transformation agenda and ultimately, the economic growth and quality of life in the province.

The main purpose will be achieved by investigating the following objectives, namely:

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- to discover the ownership of the various modes transport in the province.
- to discover the ownership of companies involved in the value chain of construction and maintenance of transport infrastructure in the province.
  - to assess the relationship between implementation of transformation agenda and the impact that this have in the economic growth as well as quality of life, and this will also focus on:
    - assessing the efficiency and effectiveness of the Gauteng Province's transport sector/system.
    - o assessing the responsiveness of the Gauteng transport system to the 4th Industrial Revolution.
      - discovering the perceptions of the Transport Users, Transport Operators and Transport Experts
        - in Gauteng regarding the state of transport system in the Province.



# **THOUGHT PROCESS: SCOPE**

The Committee will conduct public hearing to gather information, and various stakeholders will be requested to make inputs on specific areas

In relation to the objectives of the study, the various stakeholders will be requested to make inputs in the public hearing on the following issues:

- Ownership in the modes of transport that are operating in the Province
- Ownership of companies involved in the value chain of construction and maintenance of the following transport infrastructure in the province:
  - o road (Provincial)
  - o rail (Gautrain)

- The relationship between the current state of transport ownership and economic growth as well as quality of life.
- The efficiency and effectiveness of the Gauteng Province's transport sector/system, focusing on the following:
  - o State of transport system and intervention in place to address the identified challenges on the various modes of transport in the Province:
  - o State of infrastructure and intervention in place to address identified challenges in relation to the various modes of transport in the Province:

# **THOUGHT PROCESS: SCOPE**

The Committee will conduct public hearing to gather information, and various stakeholders will be requested to make inputs on specific areas (CONTINUE)

In relation to the objectives of the study, the various stakeholders will be requested to make inputs in the public hearing on the following issues:

The responsiveness of the Gauteng transport system to the 4th Industrial Revolution and transport technology, focusing on:

o The state of readiness on the 4th Industrial Revolution and transport technology in the:

- o The state of readiness on the 4th Industrial Revolution in the:
  - Road infrastructure
  - Minibus Taxi infrastructure
  - Metered Taxi infrastructure
    - Bus infrastructure
      - E hailing infrastructure
      - Gautrain infrastructure

The experience of the people of Gauteng on the benefits derived from the province's transport sector/system, focusing on:

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The experience of people of Gauteng on the benefits derived from transport sector/system in relation to the various modes of transport in the province:

# **Functions of the Transport Sector**

# **RISK**

The heart of Engineering and Project Management Science is Risk



# **'FUNCTION' OF THE TRANSPORT SECTOR**

Gauteng Transport Sector



# **'FUNCTION' OF THE TRANSPORT SECTOR**

#### Factors that have a *positive* effect on the 'Function'

Movement of People, Goods & Services

#### 1. Holistic Integrated Transport planning & Implementation;

- 2. Co-ordination between Transport / Land use / and Economic Planning;
- 3. Optimal shift in modes:
  - a) Shift from motorised --> non-motorised;
  - b) Shift from private vehicles public transport;
  - c) Shift from Road (passengers and freight) Rail.
- 4. Optimise usage of all infrastructure, rolling stock & modes of public transport;
- 5. Interoperability between modes (IFM)
- 6. Ensure sustainable funding for:
  - a) Capex;
  - b) Opex;
  - c) Maintenance; and
  - d) Upgrade / Replacement.
- 7. Governance Structures (NLTA, Act 5 of 2009);
- 8. Enforcement (Permits & Permissions / Road safety);
- 9. Going Green;
- 10. 4IR (ITS):
- 11. Restricting Road freight movements in the city & during peak;
- 12. Ensure Universal Access.

#### Factors that have a negative effect on the 'Function'

- Globilisation (urbanisation Gauteng Global City Region) growth in population (547 people/day move to Gauteng from other Provinces);
- 2. Continued wrong land use patterns (Location & density) historic spatial distortion entrenched;
- 3. Metrorail ridership:
  - a) Massive drop in ridership (2009 2019);
  - b) Destruction of Infrastructure (Covid-19); and
  - c) Passenger shift from Rail to minibus taxis (increased road congestion).
- 4. Covid-19 Pandemic (drop in PT ridership);
- 5. Result of e-tolls decision (GFIP phases 2 and 3);
- 6. Negative growth in Bus passengers:
  - a) Slow rollout of 3 BRT systems in Gauteng; and
  - b) Slow transformation of subsidised bus services (PTOG).
- 7. Bringing the Taxi Industry into the mainstream of PT;
- 8. Delays in the building of Gautrain Extensions;
- 9. Maintenance backlog on transport infrastructure; and
- 10. Lack of enforcement.

# **Statistical Information on Transport**

# National Household Travel Survey – All Trips





# National Household Travel Survey – Work Trips





#### National Household Travel Survey

- With the drastic reduction in Metrorail services, Commuters have been forced to use other modes of public transport. (usually Taxi's)
  - With a monthly average increase in fares from R581 to R960 (65,2%)



#### **\*\*** Taxi Industry: R10.279 billion income per month



# National Household Travel Survey

60.0 50,0 40,0 30,0 **bercentage** 20,0 10,0 0,0 Disabled: Taking care of Unable to leave Financial Not well Did not need to Too old/young No particular children/ sick/ reasons/ Too enough to Other the travel to travel reason expensive travel/ sick elderly relative house/transport inaccessible Urban 50,6 19,3 9.2 4,5 4.7 5.2 4,9 1.5 Rural 43.5 26.0 10,4 5,4 4.8 3,9 2,1 3.9 RSA 47.9 21.9 9.7 5.3 4.9 4.3 1.7 4.4

Figure 2.4: Percentage distribution of main reasons for not travelling in the seven days prior to the interview by urban and rural status, 2020

More than half (50,6%) of persons residing in the urban areas cited that they did not need to travel as being the main reason for not travelling in the seven days prior to the interview, which is higher than the national percentage at 47,9%, as shown in Figure 2.4. Too young/old to travel and financial reasons were more commonly cited as reasons in rural areas than in urban areas.



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National Household Travel Survey





#### National Household Travel Survey (NHTS)

Only two provinces in the country – the Western Cape and Gauteng – reported household usage rates above 3%. In 2013, more than 10% of Western Cape households surveyed reported using trains as their made mode of travel. This dropped to just 3.1% in 2020. Similarly, 8.2% of Gauteng households previously relied on trains and that number has since shrunk to 4.2%.

The average time of a trip on a train has increased by 45% over the past eight years to 107 minutes. 26

# National Household Travel Survey

Overall, between 2013 and 2020, the average travel time for work has increased across all modes of transport, with the exception of those who walked.





Table 7.27: Dissatisfaction with train services by province, 2013 and 2020

#### National Household Travel Survey

Attributes of the train service	RSA (per cent within RSA)	
	2013	2020
Dissatisfaction		
The level of crowding in the train	78,2	86,8
The waiting time for train	52,5	86,6
The frequency of train during peak period	46,7	81,7
The frequency of train during off-peak period	50,7	81,7
The travel time by train	50,3	73,7
Security on the walk to/from the train station	56,6	70,6
The train service overall	47,0	68,7
Security on the train	47,4	65,3
The facilities at the train station, e.g. toilets, offices	45,9	59,1
Security at the train station	32,3	57,7
The distance between the train station and your home	52,6	52,6
Safety from accident in the train	29,4	39,1
The train fare	15,3	9,6

The totals used to calculate percentages excluded unspecified cases

In 2013, reasons mostly likely to be indicated for dissatisfaction with train services were the level of crowding in the train (78,2%), followed by security on the walk to/from the train station (56,6%). In 2020, the level of crowding in the trains (86,8%) and waiting time for trains (86,6%) were the biggest problems mentioned by households. The frequency of trains during peak periods and off-peak periods was also one of the most significant problems cited by households. The train service overall as a reason for dissatisfaction increased from 47,0% in 2013 to 68,7% in 2020.



#### GAUTENG PROVINCIAL HOUSEHOLD TRAVEL SURVEY

#### **Commuter Household Expenditure on Transport**



Figure 5: Commuter household expenditure on transport (2003 NHTS, 2014 GHTS)

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The cumulative graph for commuter household expenditure in past HTSs is exhibited in Figure 5. In Gauteng, the 2014 GHTS was estimated to be 55% of commuter household spending, 10% or less on public transport, and this was 10% of the national average of 65% of households. In the 2019 GHTS, the district municipalities exhibited a relatively higher average compared to the metros, as illustrated in Figure



#### GAUTENG PROVINCIAL HOUSEHOLD TRAVEL SURVEY

# **Peak Morning Trips**

Figure 10 illustrates the comparison of peak morning trips using different studies. Reported peak trips in the past 20 years have generally declined and comparison to past GHTSs have shown a steady but negligible decline in the annual growth rate of about 1%, in the number of reported peak-period trips between surveys.





Figure 10: Comparison of number of estimated peak morning trips

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#### GAUTENG PROVINCIAL HOUSEHOLD TRAVEL SURVEY

# **Gauteng PHTS**

#### The Following Findings are Noteworthy:

§ Average household sizes have generally decreased from thrperson households to twoperson households.	§ Singleperson households are on the rise.	
§ Number of non-carowning households increased.	§ A significant proportion of household income is spent on commuting.	
§ Low-capacity mobility modes, i.e., minibus taxi and private car, continue to absorb increasing demand.	§ Private car use leads motorised share split.	
§ Household trip generation rates have declined with declining employed households.	§ Public transport mode share is dominated by minibus taxis	
§ Average travel time has doubled over the past 20 years and increased substantially by 17% from the 2014 figures.	§ The dominant mode of travel for commuting is walking all the way.	
§ Access time to public transport has increased	§ A third of workers do not work the usual five days a week.	
§ Substantial latent demand exists for public transport as most households perceived higher capacity public transport modes as mostly being inaccessible and unavailable.	§ Travel demand is sensitive to travel time and cost changes as exhibited by reduced trips and employed households, including their respective distribution morning peak departure times.	
§ Of all the internunicipal corridors, the West Rand and the CoJ corridor was estimated to have the largest density of travel demand in contrast to highest density in 2014, which was between the CoE. and the CoJ.		



# Focus areas for the GDRT & Entities

#### **FOCUS AREAS OF THE GDRT & ENTITIES**

1. The Department and its entities should provide and present a statistical report on registered ownership on all modes of public transport in the Province. Such statistical report should cover, but not limited to, the following areas: Race, Gender, Age and Disability.

2. The Department and its entities should provide and present a statistical report on the company ownerships involved in the value chain of construction and maintenance of road and rail (Gautrain) infrastructure in the Province per Race, Gender, Age and Disability.

3. The Department and its entities should provide and present a report on their contribution to the transformation agenda in the Province.

4. The Department and its entities should provide and present a report on the relationship between the current state of transport and economic growth in the Province.

5. The Department and its entities should provide and present a report on the relationship between the current state of transport and quality of life in the Province.

6. The Department and its entities should provide and present a report on the efficiency and effectiveness of transport system in the Province, focusing on the success, challenges and benefits derived from the province's transport sector/system (including infrastructure) in all modes of transport.

7. The Department and its entities should provide and present a report on how they are responding to the 4th Industrial Revolution and transport technology, focusing on the public transport, road and rail infrastructure.

1. The Department and its entities should provide and present a statistical report on registered ownership on all modes of public transport in the Province. Such statistical report should cover, but not limited to, the following areas: Race, Gender, Age and Disability.

- A Data-base model for all public transport modes in Gauteng has been developed by the CSIR:
  - This model will now be implemented by TAG;
  - TAG will investigate if the four required indicators of Race, Gender, Age and Disability can be included in the Data-base;
  - The expected completion date is August 2023 (12 months);
  - The Data-base will then be continuously updated;
  - The initial focus will be on securing the minibus taxi industry information;
  - POPI Act requirements:
    - will be investigated to determine the granularity of information that can be accessed by the various authorities / entities / role players and stakeholders in the Transport sector;
    - Information will be published, within an agreed interval, in an aggregated format; and
    - The data-fields of the proposed Data-base that can be shared with the Portfolio Committee.

2. The Department and its entities should provide and present a statistical report on the company ownerships involved in the value chain of construction and maintenance of road and rail (Gautrain) infrastructure in the Province per Race, Gender, Age and Disability.

- All contracts that are awarded through the Government prescribed SCM process (PFMA Act / Regulations / Practice notes) include empowerment and transformational requirements. These requirements are set by DTI, Treasury and Gauteng Provincial Government.
- This information is verified and used by the Bid Adjudication and Bid Evaluation Committees in the evaluation and awarding of the tenders.
- Currently the age indicator is persons below the age of 35 years.
- At the GMA & TAG a quarterly Report on each tender that has been awarded, showing the BBBEE and Transformation indicators achieved, is compiled. These Reports are interrogated by the Audit & Risk Committees of the Boards and approved by the respective Boards.

2. The Department and its entities should provide and present a statistical report on the company ownerships involved in the value chain of construction and maintenance of road and rail (Gautrain) infrastructure in the Province per Race, Gender, Age and Disability.

- The veracity of these Reports are checked by Internal Audit and audited yearly by the Auditor General.
- These Reports can be made available to the Portfolio Committee at a frequency of their choice.
- The following process is followed by the GDRT & G-fleet.....
- This information can also be made available to the Portfolio Committee at a frequency of their choice

# FOCUS AREAS OF THE GDRT & ENTITIES

3. The Department and its entities should provide and present a report on their contribution to the transformation agenda in the Province.

- All personnel appointments and total staff compliment are reported within a matrix of Race/Gender/disability/ Management position as prescribed by the DPSA, Department of Labour & Provincial Government. (Employment equity Plan)
- A Report thereof is done on a quarterly basis (GMA & TAG) which is approved by the respective Boards
- The reporting process of the GDRT & G-fleet staff is......
- All products/ Supplies/ RFQ's/ Service Providers are procured within the framework of the empowerment and transformation guidelines, set by National Treasury, and reported on.
- In determining the priorities of these services preference is given to:
  - Marginalised areas and communities;
  - Township economy

### FOCUS AREAS OF THE GDRT & ENTITIES

3. The Department and its entities should provide and present a report on their contribution to the transformation agenda in the Province.

- Training and Development:
  - Bursaries for internal and external candidates;
  - Mentorships & Candidate Engineers;
  - Swartkops Training Centre;
  - UITP / UATP Training Centre;
  - Training and development classes (Knowledge Management).
- Temporary workers at taxi-ranks during the Covid-19 pandemic.
- Workers on the CBPWP programme.
- Employment Equity Reports can be made available to the Portfolio Committee

4. The Department and its entities should provide and present a report on the relationship between the current state of transport and economic growth in the Province.

- Please refer to the Slides on "*Function' of the Transport Section*" that have a positive or negative effect on the movement of People, Goods and Services.
- Statistical information on the NHTS (2020) as produced by Statistics South Africa, and the GPHTS (2020) as produced for Gauteng by the SCIR. (Please note that both these surveys were completed before the Covid-19 pandemic in March 2019).
- The CSIR has been instructed by the GDRT to update the GPHTS with post-Covid-19 data. This report is expected during the third quarter of 2022.

5. The Department and its entities should provide and present a report on the relationship between the current state of transport and quality of life in the Province.

- Please refer to the Slides on "*'Function' of the Transport Section*" that have a positive or negative effect on the movement of People, Goods and Services.
- Gauteng Quality of Life Survey 6 (2020/21) conducted by the GCRO.
  - The GCRO's biennial Quality of Life Survey, first conducted in 2009, measures quality of life and wellbeing, broadly defined, of residents in every ward of Gauteng province. In a face-to-face interview, randomly selected respondents are asked questions about their living and socio-economic circumstances, their opinions about service delivery and government, and their experiences, perceptions and opinions on a broad range of personal, social and political issues. The overall methodology, and a large proportion of questions have remained constant across survey iterations, ensuring that results can be compared over time.

5. The Department and its entities should provide and present a report on the relationship between the current state of transport and quality of life in the Province.

- The Quality of Life Survey is a partnership between government and academia. It is funded by financial contributions from provincial and local government, and in-kind contributions from the University of the Witwatersrand and the University of Johannesburg. The survey is conducted and analysed independently by the GCRO and to the highest academic standards, to ensure the integrity and accuracy of the data.
- The most recent survey iteration, Quality of Life 6 (2020/21) was conducted in the aftermath of the arrival of COVID-19 in South Africa, during a particularly challenging period in our recent history. A sample of **13 616** respondents were interviewed, across all wards of Gauteng province, offering insight into the impact of the pandemic in the province. Thematic focus areas included COVID-19, experiences of violence, and hunger and food security. Planning and implementation of this sixth survey iteration was strongly informed by the recommendations emerging from the ten-year review of the Quality of Life Survey.

6. The Department and its entities should provide and present a report on the efficiency and effectiveness of transport system in the Province, focusing on the success, challenges and benefits derived from the province's transport sector/system (including infrastructure) in all modes of transport.

- Very extensive and time consuming task;
- Please refer to the Slides on "'Function' of the Transport Section" that have a positive or negative effect on the movement of People, Goods and Services.

7. The Department and its entities should provide and present a report on how they are responding to the 4th Industrial Revolution and transport technology, focusing on the public transport, road and rail infrastructure.

- The development of the Transport Management Centre (TMC) at 45 Commissioner St. Johannesburg;
- Project on an Integrated Fare Management (IFM);
- Travel Demand Model (TDM):
  - Currently utilising the EMME4-TDM, based on sampling and statistical projections of future trips (Origin – destination links);
  - With the review of the ITMP25, a Big-Data TDM will be developed and kept up to date by the TAG
- Introduction of e-hailing services;
- De-carbonising of the internal combustion PT vehicles
- •

#### **CONTEXTUALISING URBAN DYNAMICS**



Diepsloot: 2000


## **CONTEXTUALISING URBAN DYNAMICS**



Diepsloot: 2009



## • RESIDENTIAL BUILDINGS IN GAUTENG



	2001	2016	% Change
Free hold formal houses	1 190 167	1 647 686	38
Informal housing structures	395 449	598 406	51
Backyard structures	266 929	813 224	205
Difficult to classify as formal or informal	161 963	148 753	-8
Estate and security village housing	26 573	92 696	249
Flats, hostels, townhouses, semi-detached	19 848	27 245	37
Smallholdings / agriculture	42 872	47 223	10
Rural workers housing	13 920	16 945	22
Total	2 117 721	3 392 178	60







# FREIGHT MOBILITY



**TENG** E MOVE

# **DISCUSSION / INPUTS / COMMENTS**

## PART D TRANSPORT AND THE POLITICAL ECONOMY OF GAUTENG, A GAUTRAIN PERSPECTIVE

# PURPOSE

The purpose of this document is to highlight the impact of the current Gautrain Project, how contributes to the transformation agenda of the Gauteng Government and the Road and Transport Portfolio Committee and, ultimately the economic growth and quality of life in the Gauteng province





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#### Background and context

Transport and the Political Economy of Gauteng, a Gautrain Perspective

3 Conclusion





#### Background and context

Transport and the Political Economy of Gauteng, a Gautrain Perspective

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## INTRODUCTION

### THE GAUTENG ROADS AND TRANSPORT PORTFOLIO COMMITTEE SEEKS TO UNDERSTAND THE IMPACT OF TRANSPORT ON THE GAUTENG PROVINCE FROM A TRANSFORMATION PERSPECTIVE

- The Gauteng Roads and Transport Portfolio Committee is responsible for conducting oversight on the Gauteng Department of Roads and Transport as well as its entities, namely, Gautrain Management Agency (GMA), Transport Authority for Gauteng (TAG) and g-Fleet Management in the Gauteng Provincial Government (GPG)
- The Roads and Transport Portfolio Committee in the Gauteng Provincial Legislature has decided to undertake a research study on the political economy of the transport systems in the province
- The research study will assist Portfolio Committee to effectively execute its oversight function over the executive/department in terms of transformation to benefit the vulnerable and the historically marginalized groups



## **PROBLEM STATEMENT**

### THE PORTFOLIO COMMITTEE REQUIRES A DETAILED UNDERSTANDING OF THE ECONOMIC GROWTH AND TRANSFORMATION OF TRANSPORT IN GAUTENG

#### Research problem of the report...

- The Portfolio Committee does not have a detailed understanding of the transformation and development of the transport sector with reference to the following:
  - 1
- Ownership of the various modes of transport and companies participating in the transport sector value chain (incl. construction)



Impact of implementing the transformation agenda by the Department and its entities (GMA, g-Fleet, TAG) on the Gauteng Province

#### ... and related problem statement



**PROBLEM STATEMENT**: How does the current transport system contribute to the transformation agenda and ultimately economic growth and quality of life in the province?



## **SCOPE OF THE REPORT**

#### THE REPORT THEREFORE FOCUSES ON DEMONSTRATING THE CONTRIBUTION OF THE GAUTRAIN PROJECT TO THE TRANSFORMATION AND ECONOMIC GROWTH AGENDA OF THE PORTFOLIO COMMITTEE

#### Key focus areas of the report



#### Background and co

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Transport and the Political Economy of Gauteng, a Gautrain Perspective

- a Gautrain Project Performance: Operational and Customer
- b Gar Tra
  - Gautrain Project's impact on Transformation
- c Economic impact of the Gautrain Project



IR: A Gautrain Project perspective





## **OVERVIEW OF THE GAUTRAIN PROJECT**

### THE GAUTRAIN PROJECT IS SOUTH AFRICA'S FIRST AND ONLY, HIGH SPEED RAIL SYSTEM



## **RIDERSHIP PERFORMANCE**

### THE GAUTRAIN PROJECT HAS SUCCESSFULLY MOVED OVER ~175M PASSENGERS OVER THE LAST 13 YEARS

#### RAIL SERVICE: 131 873 308 PASSENGER TRIPS





#### BUS: 40 644 698 PASSENGER TRIPS





# The Gautrain Project has moved the province...

The Gautrain Project has contributed significantly to the public transport system over the last 13 years resulting in:

- Greater connectivity of people with place and spaces in the Gauteng
- Increased usage of public transport infrastructure
- Positive perceptions of public transport infrastructure
- Reduction in CO2 emissions road fatalities



## **OPERATIONAL PERFORMANCE**

### THE GAUTRAIN PROJECT HAS DEMONSTRATED CONSISTENT OPERATIONAL EXCELLENCE, >90% AVAILABILITY AND PUNCTUALITY ACROSS ALL SERVICES



Train Operational Service Availability & Punctuality FY 2021/2022





Feeder and Distribution Availability & Punctuality FY 2021/2022





Source: Gautrain Management Agency 2022, AFS 2021

## **CUSTOMER FEEDBACK AND PERCEPTIONS**

### IN ADDITION, THE GAUTRAIN PROJECT HAS DELIVERED VALUE TO RIDERS, LEADING TO POSITIVE FEEDBACK AND PERCEPTIONS OF ITS SERVICE



- Commuters perceive the Gautrain to be value for money
- **()**
- Safety, security, punctuality, cleanliness and accessibility remain the key value drivers for the Gautrain project



- Passengers primarily use Gautrain to go to work and tertiary institutions
- The second highest travel reason is for airport commutes
- Gautrain promotes leisure commute through partnership initiatives and service promotions, i.e. 'Free to Move' days



Source: Gautrain Management Agency 2022, NPS data 2022, Consumer Council Commuter Behaviours Insights Report, March 2022

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## **GMA'S TRANSFORMATION IMPERATIVE**

### THE GMA HAS IMPLEMENTED A MEASURED AND SYSTEMATIC APPROACH TO TRANSFORMING THE LOCAL ROLLING STOCK INDUSTRY

#### **GMA's Transformation Philosophy**

- The GMA places a strong emphasiss on ensuring the transformation of supply chains and broader value chains with the South African rolling stock sector
- The Gautrain Project therefore becomes a critical tool to implement the transformational agenda of both the GMA and the Portfolio Committee
- The GMA has therefore taken bold steps to ensure the inclusion of previously disadvantaged groups and communities in the Gautrain Project to effect meaningful change in a sustainable manner
- The GMA therefore seeks to build local capability in the Rolling Stock and adjacent sectors that will transform the face outlook of the industry and the economy in the longterm





## **SED FRAMEWORK**

#### THE GMA HAS LEVERAGED A FAR REACHING SED FRAMEWORK TO ENSURE THE TRANSFORMATION OF THE LOCAL ROLLING STOCK SECTOR



## OWNERSHIP IN THE ROLLING STOCK SECTOR THE GAUTRAIN PROJECT HAS ALSO FACILITATED THE TRANSFORMATION OF OWNERSHIP WITHIN LOCAL ROLLING STOCK INDUSTRY



89% Black Ownership\* Roberts 32% Black Women Ownership – Bombela Concession Company (BCC)

\* Includes assessment of Black Ownership of Listed Company (Murray and Roberts)





36% Black Ownership 11% Black Women Ownership – Bombela Operating Company (BOC)



- Procurement from 48 companies with an average of ~58% Black Ownership
  - BCC Suppliers

Bombela Concession Company (BCC) is 100% locally owned with one listed and two unlisted SA companies



## **TRANSFORMATION OF THE ROLLING STOCK SECTOR**

### THE GAUTRAIN PROJECT HAS DELIVERED SIGNIFICANT SOCIO-ECONOMIC DEVELOPMENT VALUE LEVERAGING ITS SED FRAMEWORK

SED PERFORM	IANCE:		Operating Period up to DECEMBER 2021			
No. Black Equity pa	SED ELEMENT	UNIT	Obligation	Verified Achievement	Excludes Black Ownership of Listed Company (Murray and Roberts)	
SED01 SED02	Shares held by BEs/Black Persons in BCC Shares held by BEs/Black Persons in BOC Shares held by Black Women in BCC Shares held by Black Women in BOC	% % %	25.00% 25.10% 3.75% 3.75%	47.91% 30.24% 12.90% 7.07%		
SED03 SED04 SED05 SED06	Ind sub-contracting Procurement from BEs/Black Persons Sub-contracting to BE Procurement and sub-contracting to New BE Procurement and sub-contracting expenditure to SMMEs	R'000 R'000 R'000 R'000 R'000	539,528.202 1,803,079.254 1,874,107.745 359,635.751	1,137,313.844 4,667,601.760 4,275,341.329 576,847.607	The Gautrain	
Local content SED08 SED09 SED10	Employment of Local People Procurement of South African Materials Procurement of South African Plant & Equipment	pers mths R'000 R'000	150,607 859,168.246 299,468.470	191,383 5,088,018.223 327,229.618	Project has realised 2x the	
Participation b SED11 SED12 SED13	HDI staff seconded by SPG Expenditure by SPG on Plant & Equipment Procurement from, or Sub-contracting to SPG	pers mths R'000 R'000	0 0 0	0 0 0	economic value targeted at the initiation stage of	
Participation in EEP01 EEP02 EEP07	HDIs in Management Positions Women in Management Positions HDIs in Occupational Level C	pers mths pers mths pers mths	3,198 1,513 5,523	6,547 3,638 31,165	the project	
Direct employn EEP03 EEP04 EEP05	nent HDIs employed Women employed People with Disabilities employed	pers mths pers mths pers mths	107,745 38,882 2,274	178,686 54,518 2,592		
Training EEP06 EEP08a EEP08b	Expenditure on Human Resource Development Women participating in the Learnership & Mentorship Programme Employment & Mentorship of Women Learners	R'000 pers mths pers mths	37,121.605 0 0	50,370.635 0 0	GAUTRAIN FOR PEOPLE ON THE MOVE	

PROVINCIAL GOVERNMENT REPUBLIC OF SOUTH AFRICA



#### **Transport and the Political** Economy of Gauteng, a Gautrain Perspective

- а
- h
- Economic impact of the Gautrain С Project







## **STRATEGIC IMPORTANCE OF TRANSPORT**

### TRANSPORT AND MOBILITY PLAYS AS AN ENABLING ROLE WITHIN THE SOUTH AFRICAN ECONOMY FACILITATING GROWTH AND DEVELOPMENT



## **ECONOMIC IMPACT OF TRANSPORT**

### INVESTMENT INTO TRANSPORT INFRASTRUCTURE CATALYSES GROWTH AND DEVELOPMENT, RESULTING IN TRANSFORMATIVE ECONOMIC AND SOCIAL BENEFITS



## **ECONOMIC IMPACT OF THE GAUTRAIN PROJECT**

#### **INVESTMENT IN THE GAUTRAIN PROJECT HAS RESULTED** SIGNIFICANT BENEFITS FOR GAUTENG PROVINCE AND SOUTH **AFRICAN ECONOMY**



**Job Creation &** 

Social Investment

Gautrain Project created sustainable jobs

- 35,000 direct construction jobs and 10,900 direct operational jobs (380 000 indirect jobs)
- >R150m spend on training
- >25,000 youths employed



**GDP** Impact

- Gautrain Project has contributed significantly to the economy
  - >R100bn in GDP added via construction and operations over ten years
  - Public sector cost: R26.5bn to construct and R12.5Bn to operations over ten years
  - Gautrain = R1 : R2.6 (ROI) over tens years



**Change perceptions** 

and attract

investment

The Gautrain Project catalysed investment

- FDI investment into Gauteng- R44bn, in 2016
- 4.3m visitors came to Gauteng in 2016

· Supported the Tourism revenue generation in GP



Reinforcing

**Development Nodes** 

- Gautrain Project reinforced development of nodes
  - New commercial space around stations = 66,000 jobs
  - 59% of office development activity in SA nodes in 2018 was located around stations
    - 1,656,000 sqm more commercial space around stations since 2010



- Influencing **Transport Choices**
- The Gautrain Project generated positive externalities
- 87% of residents believe have positive perceptions about the Gautrain Project
- R74 of economic benefit per trip,
  - Reduced costs from road fatalities.
  - CO2 emission savings
  - Average 22 minute saved in travel time



Integrating the **Region and its** Communities

- Gautrain Project supported the integration of regions and communities
  - 70% of all trips on Gautrain cross a city boundary
  - Upliftment of townships, ~14,000 jobs



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## FOURTH INDUSTRIAL REVOLUTION

#### 4IR IS LARGELY DRIVEN BY FOUR SPECIFIC TECHNOLOGICAL DEVELOPMENTS: HIGH-SPEED MOBILE INTERNET, AI AND AUTOMATION, THE USE OF BIG DATA ANALYTICS, AND CLOUD TECHNOLOGY



REPUBLIC OF SOUTH AFRICA

## **4IR IN THE ROLLING STOCK SECTOR**

Autonomous

vehicles

**Robotics** 

### 4IR TECHNOLOGIES CAN BE LEVERAGED TO IMPROVE PERFORMANCE, EFFICIENCY AND THE CUSTOMER EXPERIENCE ACROSS THE ROLLING STOCK VALUE CHAIN

Sensors

**APIs** 

Journey

planers

Rolling stock value chain and 4IR technology potential

<b>ä</b> Track	Overheads	Depots	Stations & Rolling Stock	Feeder services	Services
<ul> <li>Manufacturing of main and sub-components</li> <li>Assembling track asset components</li> <li>Network infrastructure maintenance and renewal</li> </ul>	<ul> <li>Manufacturing of main and sub- overhead components</li> <li>Assembling of overhead components</li> <li>Ensuring overhead asset maintenance</li> <li>Overhead line renewal</li> </ul>	<ul> <li>Executing deport renewal operations</li> <li>Managing depot facilities</li> <li>Maintaining depot</li> </ul>	<ul> <li>Manufacturing and operation of stations</li> <li>Manufacturing of main and sub-components</li> <li>Assembly of rolling stock components</li> <li>Rolling stock operations management</li> </ul>	<ul> <li>Manufacturing of main and sub- components</li> <li>Assemble components</li> <li>Bus operations</li> <li>Bus fleet management</li> <li>Maintenance of assets</li> </ul>	<ul> <li>Marketing and sales</li> <li>Customer relationship management</li> </ul>

**AFCs** 

Internet of

Things (IoT)



Source: Gautrain Management Agency 2022

**Big Data** 

Nano-

technology

Potential 4IR te

## **4IR AND THE GAUTRAIN PROJECT**

# THE GAUTRAIN HAS RESPONDED TO THE 4IR THROUGH THE INCORPORATING NEXT GEN TECHNOLOGIES INTO ITS SYSTEM

#### Single ticketing solution



The EMV project was initiated to enhance the fare collection system of the Gautrain through the acceptance of bank issued and account linked contactless cards.

This project enables Gautrain passengers to utilise the System using their bank issued contactless cards

#### Sensors in the MFDS



- The Gautrain MFDS leverage IOT devices and sensors which collecting data and information.
- Provides a real-time view of the Midibuses for commuters

#### Journey planning application



Gau-Trip is an integrated journey planner that achieves deeper integration between transport modes and infrastructure across the Gauteng region.

It provides the commuter with a greater level of information, and **enables a** seamless journey planning experience

## API for the IFMS



- The Gautrain is developing the API software which will enable information to be drawn across operators and is critical to system integration.
- The API is key to enabling the functionality of the Journey Planning tool and the Traffic Management Centre



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## **STRATEGIC VALUE OF THE GAUTRAIN PROJECT**

## THE GAUTRAIN PROJECT HAS DELIVERED ON THE TRANSFORMATION AND ECONOMIC GROWTH AGENDA OF THE PORTFOLIO COMMITTEE

Gautrain has already delivered significant economic and social benefits

- Jobs and Addressing Poverty
- Perceptions of Public Transport
- Connecting Communities
- Image of the Province

#### Gautrain represents value for money

- For every rand invested, R2.6 of economic benefit has been delivered to the Gauteng Region

Going forward the Gautrain will have a transformative impact on the South African economy

- A Full and Integrated Network of Stations and trains leveraging technology to deliver value
- Accelerating the Move to Public Transport
- Linking Many More Communities into Growth
- New Instruments to Maximise Economic Impacts



# **DISCUSSION / INPUTS / COMMENTS**

## PART E THE CURRENT STATE OF THE TRANSPORT SECTOR AND TRANSFORMATION OF THE SECTOR




- Bus Subsidies:
  - Draft Negotiation framework has been finalised.
  - List of all licensed bus operators as extracted from OLAS supplied.
  - Summary of operators in the respective regions completed.
  - Details of all the interim and tendered contracts for each region has been finalised.



# PROFILE OF SUBSIDIZED BUS CONTRACTS IN GAUTENG

- 1. There a number of subsidised bus operators who have been contracted to the department to provide public transport to commuters;
- 2. The current operators are Putco, Atteridgeville Bus Services, Northwest Star, City of Tshwane Rapid Transit, Metro Bus, Ipelegeng Transport Trust, Gauteng Coaches, Eldo Coaches/Moolas, Lekoa Transport Trust t/a Mgibelo, Asibemunye Transport Trust, Amogelang Bus Services, JR Choeu, Triponza & Gauteng Coaches JV;
- 3. Triponza & Gauteng Coaches JV is the only contract that has incorporated 30% subcontracting component to PDIs since it went out on tender. This contract came into effect from May 2022 and will run for a period of 7 years;
- 4. The rest of the subsidised bus contracts that are currently operational are old order contracts which whose operators were not compelled to subcontract the 30% of the value of the contracts;
- 5. Through the envisaged negotiated contracts the department intends to incorporate the subcontracting component in an effort to transform the subsidised public transport sector;
- 6. The department has requested the current bus operators that are contracted to the department to submit more detailed quantified information pertaining to how each operator is contributing to the previously disadvantaged individuals;
- 7. The information requested also include the shareholding/ownership structure of the company, governance structure, company profile, company transformation objectives and targets thereof, rand value of subcontracted routes, etc.



#### **NEGOTIATED CONTRACTS: A GOOD START FOR TRANSFORMING FORMAL PUBLIC TRANSPORT**

- The Department will be embarking on the negotiated contracts (in terms of Section 41 of the NLTA) with bus operators, as a result of the court order of 11 April 2022 which interdicted the DRT from proceeding with the tender for the supply of road-based subsidised public commuter services for Gauteng.
- The following mandatory requirements, which include transformation imperatives, have been set for operators to comply with in order for negotiations to take place:
  Registration on the central supplier database (CSD);
  - Subcontracting at least 30% of the value of the contract to designated persons in order for negotiations to take place;
  - Pre-qualification criteria for preferential treatment, i.e. B-BBEE status level 1 or 2;
  - >Universal access of 5% of the operators' fleet for people with disabilities.





- International Civil Aviation Day (ICAD) Celebrations
  - The first planning meeting of the Project Steering Committee took place on the 26<sup>th</sup> August and various Task Teams identified.
  - The departments of Health and Education have not as yet submitted the names of their representatives to the Steering Committee. Follow up e-mails have been sent to those departments.

#### Interprovincial Conflict: GP/MP

- Legal Opinion received
- Preparations for the visit to MP underway

#### • Interprovincial Conflict: GP/FS

- Sikali Express Services, A GP bus Operators is involved in an interprovincial conflict with a FS based Ficksburg Taxi Association regarding Cross Boarder operations from GP to Lesotho, via Free State.
- The GPRE is currently in consultations with FS PRE to attempt resolving the conflict.
- Due to the nature of a conflict and the involvement of a number of parties, it is prudent for a physical meeting to be convened between the two PREs for a sustainable solution of a conflict.
- A meeting has been proposed and FS PRE is yet to confirm acceptance.





- Operations in Sedibeng are being monitored and there is close interaction with these Association with the assistance of the Sedibeng District Municipality and the Structures play a pivotal in dealing with issues.
- The report around some of the conflicts has been tabled before the ProvJoint on 10 June 2022 and progress report will be furnished in the next meeting. The Taxi Intervention Task Team from Law Enforcement have been deployed to monitor the situation at affected Ranks
- Masoheng Taxi Association is not a registered Taxi Association, they have long been informed of their status and advisable actions by the Department and the Sedibeng District Municipality
- Internal Taxi Association and Evaton West Taxi Associations: The two Associations are still in conflict and the two Structures SANTACO and the GNTA made a commitment to the MEC that they will monitor the situation.
- The Public Transport Arbitration office, has been established to deal with the disputes emanating from public transport operators.





- The table indicates that the from the last progress report dated 06 June 2022, the backlog has been reduced by 0.3 % as at 13 June 2022. The total impact is 6.4% of applicants that renewed their licences from 03 March 2022 to 13 June 2022 (3 months).
- The backlog has changed from 989 058 to 973 635 because RTMC removed the deceased persons (deceased holders of Driving Licence cards).
- In total 55.9%, 543 792 driver's licenses has been renewed.





- Digitalisation of the mini-bus taxi industry:
  - Cumulatively 61 792 data of minibus taxi operators has been uploaded from the operating license system as provided for by the Directorate: Operating Licenses.
  - Meeting with the Taxi Industry Provincial Secretaries to roll out the project in the West Rand





## DIGITISATION INFORMATION SOURCE

Name Number of Regi	ons	Data sourc	Total		
	Number of Associations	RAS 🔺	OLAS 🔺	New 🔺	Members
🖻 Gauteng (5)	No. of Operators	43797	17993	2	61792
└ 🕀 Ekurhuleni (137)		14912	4395	0	19307
└ ⊞ Johannesburg (591)		21994	7151	1	29146
└ ⊞ Sedibeng (129)		3836	363	0	4199
└ ⊞ Tshwane (75)		0	4434	1	4435
└ ⊞ West Rand (166)		3055	1650	0	4705

# TRANSPORT OPERATIONS – The proposed Driver permit card



#### DRIVER PERMIT CARD

transport Department

Transport REPUBLIC OF SOUTH AFRICA

PERMIT NUMBER:PM54EA OWNER:JABULANI DRIVER ID NO:5401178826082 DRIVER NAME:PRINCE DRIVER SURNAME:MOKOENA



# QR code will have but not limited to this information

- a. Driver information
- b. Driver's licence and renewal
- c. Qualifications To be pursued with TETA and the Smart Mobility Training Academy
- d. Vehicle details referencing the Owner / operator
- e. Road worthiness of the vehicle as per the last certificate issued
- f. Disc Renewal
- g. Operating Licence and therefore the route/s the vehicle is allowed to operate
- h. Offences/ Road infringements to come at a later stage
  - i. Other links to be established will be with Home Affairs for verification of citizenship
  - Department of labour verification of employment status whether COIDA, UIF and other statutory requirements





#### **IMPACT OF COVID-19 VIRUS ON LICENCING**

- The lockdown affected the ability of vehicle owners and driving licence holders to renew their driving licences cards,
- The driving licence cards which expired between March 2020 up to and including 31 August 2021 are deemed to be valid and their validity period extended for a grace period ending on 31 March 2022.
- This group (March 2020 August 2021) needed to renew their DL cards before 31 March 2022.
- On the 01 April 2022 the Minister through government gazette 46168 has further extended the grace period to 15 April 2022.
- This group is being serviced together with those whose DL cards are expiring on a month to month basis (September 2021 – 15 April 2022)
- The end of the state of disaster means the Minister can no longer issue direction to extend the grace period. The final opportunity is provided which extends the grace period by 30 days from date of end of the state of disaster until 05 May 2022.





#### BACKLOG STATS "AS AT" 22 AUGUST 2022

Stats "as at"	Initial Backlog	Not renewed	Renewed	%Renewed	Impact
03 March 2022	989 058	499 257	489 801	49.5%	
09 May 2022		445 713	527 922	54,2%	
16 May 2022		441 726	531 909	54.6%	
23 May 2022		438 288	535 347	55,0%	0.4%
30 May 2022		435 129	538 506	<mark>55,3%</mark>	
06 June 2022		432 273	541 362	<mark>55.6%</mark>	
13 June 2022		429 843	543 792	<mark>55,9%</mark>	<mark>0.3%</mark>
20 June 2022		427 501	546 134	<mark>56,1%</mark>	
27 June 2022		425 783	547 852	<mark>56,3%</mark>	
04 July 2022		423 244	550 391	<mark>56,5%</mark>	
11 July 2022		421 519	552 116	<mark>56,7%</mark>	
18 July 2022		419 733	553 902	<mark>56,9%</mark>	
25 July 2022		417 938	555 697	<mark>57,1%</mark>	
01 August 2022		415 878	557 757	<mark>57,3%</mark>	
08 August 2022		413 614	560 021	<mark>57.5%</mark>	
16 August 2022		411 769	561 866	<mark>57,7%</mark>	
22 August 2022		410 341	563 294	<mark>57,9%</mark>	<mark>0.2%</mark>
Impact	*973 635		73 493 renewed between 03 March and 22 August 22		8.4%

'(The backlog number has changed from 989 058 to 973 635 as RTMC has removed the deceased persons (deceased holders of Driving Licence cards





#### BACKLOG STATS "AS AT" 22 AUGUST 2022

Weekly analysis / renewal %

1. From 09 May 2022 – 23 May 2022, % renewal output on a weekly basis is 0.4%

2. From 30 May 2022 – 13 June 2022, % renewal output on a weekly basis is 0.3%

3. From 20 June – 22 August 2022 %, renewal output on a weekly bases is 0.2%.

The weekly % renewal output dropped to 0.2% :-

Maybe as a result of applicants within the extended grace period not taking up slots (not presenting themselves for renewal) and/or on-going loadshedding affecting service delivery at the front line service centres.

Backlog reduced by 8.4% since 03 March 2022.





#### MONTH TO MONTH DETAILED STATS AS AT 22 AUGUST 2022

Mar 2020 - Aug 2021: Backlog												
Expiry Month	Grand Total	Not Renewed	F	Renewed	% Renewed							
2020-03		13 859	8 483	5 376	38,8%							
2020-04		59 758	32 000	27 758	46,5%							
2020-05		71 287	31987	39 300	55,1%							
2020-06		63 667	27 110	36 557	57,4%							
2020-07		67 287	27 513	39774	59,1%							
2020-08		69 015	28 589	40 426	58,6%							
2020-09		23 242	9 534	13 708	59,0%							
2020-10		25 162	10 200	14962	59,5%							
2020-11		26 594	9 832	16762	63,0%							
2020-12		30 222	8 491	21731	71,9%							
2021-01		65 361	24076	41 285	63,2%							
2021-02		62 230	25 679	36 551	58,7%							
2021-03		63 143	24 803	38 340	60,7%							
2021-04		59 743	22 686	37 057	62,0%							
2021-05		64913	26946	37 967	58,5%							
2021-06		66 801	29 182	37 619	56,3%							
2021-07		70 808	31470	39 338	55,6%							
2021-08		70 543	31760	38 783	55,0%							
Grand Total		973 635	410 341	563 294	57,9%							





#### SMART ENROLMENT UNITS

Project Name	Responsible	Comments
Development of smart enrollment technology	DLCA – Client RTMC – Developer	RTMC is currently testing the proof of concept at the two RTMC DLTCs. When the testing is successful and able to produce a card, approval will be obtained from the steering committee for a pilot.
		A project plan will be requested from DLCA in order to track progress and for reporting purpose.
		DLCA reported that they currently don't have a project plan from RTMC and will forward information once they receive it and were unable to provide project progress. DLCA will follow-up with RTMC on this and revert.
		DLCA is currently sitting a meeting with RTMC to discuss the above and will communicate once the details have been finalised





## **OPERATING LICENSES**

As at April 2022 when the last phase of the overtime process commenced, backlog applications baseline was **20504.** 

#### The updated backlog figure as at 23 August 2022:

- The baseline of 20504 backlog applications has been significantly reduced with 15 552 applications, leaving a remaining balance to 4952
- backlog applications.
- As a prerequisite to suspension upliftment, the GPRE is currently addressing factors that contributed towards backlog in order to overcome a vicious circle of backlog accumulation. The GPRE is in a process of addressing such factors as Capacity deficiency, external dependency on Planning Authorities, System challenges with NDOT, Operators and Applicant's non-compliance with granting requirements.

# **DISCUSSION / INPUTS / COMMENTS**

# **POSSIBLE WAY FORWARD**

# **POSSIBLE WAY FORWARD**

- The Portfolio Committee request to GDRT & its Entities entails:
  - Statistical information on various aspects of transport within the Province; and
  - 'Perceptual"information on the Gauteng transport system.
- The requested Statistical information can be gathered from:
  - The information contained in the NHTS & the GPHTS of 2020; and
  - Standard reporting documents (usually on a quarterly basis) from the GDRT & its Entities; and
  - Gathering of information that is not currently available. (This could be a time consuming exercise lasting between 3 to 12 months)
- The requested perceptual information:
  - The most dependable source is the bi-annual Gauteng Quality of Life survey, undertaken by the GCRO. This should be accepted as the sole source of information.

## PART F PRESENTATION OF THE TRANSPORT MANAGEMENT CENTRE, INCLUDING THE VISIT TO THE TRANSPORT MANAGEMENT CENTRE

#### INTEGRATED FARE MANAGEMENT PROJECT

- Project Overview
- Project Approach
- Progress Report
- Data Platform and API Development Process
- ICT Infrastructure Procurement
- Project Schedule

#### PROJECT OVERVIEW

• The Integrated Fare Management Project has two main deliverables:

#### 1. Account Based Ticketing (ABT)

 Implementation of an electronic and integrated single ticket system for the Gauteng Province (This includes a central transaction clearing house and electronic ticketing infrastructure)

#### 2. Transport Management Centre TMC)

 Implementation of a central Transport Management Centre for monitoring and management of an integrated public transport system in the Gauteng Province (This includes, Public Transport Information Systems, central Applications Programming Interface (data concentrator) and journey planning). The TMC will also house the back office and staff for the Gauteng ABT system.

#### **PROJECT OVERVIEW**







## **PROJECT APPROACH**

- The high-level approach of the project is to implement the Transport management Centre first, as this will be the home of the single ticket system for the Gauteng Province.
- The Transport management Centre is located on the 16<sup>th</sup> floor of the Gauteng Department of Roads and Transport (GDRT)'s offices at at 45 Commissioner Street, Johannesburg.





## TRANSPORT MANGEMENT CENTRE EXAMPLE











## TRANSPORT MANGEMENT CENTRE FLOOR PLAN







#### **PROGRESS REPORT**

#### TMC Facility

- The 16<sup>th</sup> floor of the GDRT's offices at at 45 Commissioner Street, Johannesburg was renovated and converted into a TMC. The construction works were completed, and the facility was handed over on 30 March 2022
- Quote received for additional construction works (i.e., frosting of glass doors, installation of signage etc.) GDRT to process the PO
- o Electrical works to be completed once equipment is delivered

#### TMC office furniture

- TMC furniture was delivered and installed by mid-May 2022
- Remainder of TMC furniture to be ordered quotes received, PO process underway –PR signed yesterday, PO should be out by next week ((Week 37)

#### TMC ICT Infrastructure procurement

- Tender advertised on 22 July 2022
- Briefing session held on 28 July 2022
- Site survey held from 1 August 2022 to 3 August 2022
- The tender is closed on 18 August 2022 at 11:00, 6 bids received, evaluation will start 23 August 2022. The BEC consists of GMA staff and a representative from the GDRT ICT unit
- o BEC process underway

#### Human Capital for TMC

- Proposed structure completed
- Job descriptions developed
- Approved TMC organogram to be presented by the GDRT
- o GDRT to employ TMC staff GDRT to consider re-purposing "Request a Slot" call center agents for TMC





#### **PROGRESS REPORT**

- TMC Data platform & API
  - Software development works started on 4 July
  - Review of deliverables and impact assessment to be done by IFM Technical Committee (GMA, e-Gov, GDRT ICT)
  - First user requirements workshop held on 4 August 2022
  - Second user requirements workshop held on 17 August 2022
  - API Development underway

#### Data sources

- COE, COJ, COT engaged and onboard
- o GMA drafted the data sharing agreement and data sharing letter and sent to the GDRT
- Letter to be sent by the GDRT to COE, COJ, COT to formalize the cooperation and request data waiting for GDRT to send letter to stakeholders
- o SANRAL not onboard yet, several attempts to contact SANRAL has been unsuccessful
- Single Ticket System policy for Gauteng
  - o GMA appointed Ledwaba Mazwai Attorneys to assist with the drafting of the policy, the process is underway
- Account Based Ticketing (ABT) Proof of Concept on Gautrain Midibuses
  - POC process halted, pending first draft of the Provincial AFC policy





## **PROGRESS REPORT**

- Call center operational readiness
  - Working with OOP to design and implement the call center
  - Process to obtain a toll-free number underway GDRT ICT submitted the application to Telkom, now waiting for a response from Telkom
  - Call center ICT infrastructure part of the ICT infrastructure procurement
  - o Call center software and support to be obtained from the Gauteng OOP
  - o Call center human capital to be recruited by the GDRT

#### To be discussed with Chief Director: Public Transport Services

- o TMC Facilities management (security, cleaning, plants, sanitization etc.) to be discussed with GDRT
- G-fleet space to be discussed GDRT to setup a meeting with G-Fleet
- Budget for OPEX (GMA has not received 2022/23 allocation of IFM funds)

#### Launch date

- o 3 October target date is at risk, due to delays in ICT infrastructure procurement process
- The severity and impact of the risk assessed New indicative launch date: 1 December 2022





## DATA PLATFORM AND DEVELOPMENT PROCESS

Major Deliverables/Project Phase	Baseline	Target	Aug	Sep	Trend		
<b>Mobilization &amp; Planning:</b> Task order plan and schedule with internal stakeholder engagement plan.	Jul 15 <sup>th</sup>	Jul 15 <sup>th</sup>	Comple	ted			
Define & Design: User requirements workshop	Aug 4 <sup>th</sup>	Aug 4 <sup>th</sup>	Comple	Completed			
Define & Design: Detailed RFI for data needed from 3 <sup>rd</sup> party sources	Aug 5 <sup>th</sup>	Aug 8 <sup>th</sup>	Comple				
Define & Design: User requirements specification	Aug 12 <sup>th</sup>	Aug 12 <sup>th</sup>	Aug 19 <sup>th</sup>				
System Integration: Data platform provisioned	Sep 16 <sup>th</sup>	Sep 16 <sup>th</sup>	On track				
HIP: Hatch intelligence platform provisioned	Oct 7 <sup>th</sup>	Oct 7 <sup>th</sup>	On track				
Support: Solution support (1yr)	Oct 7 <sup>th</sup> 2023	Oct 7 <sup>th</sup> 2023					





## ICT INFRASTRUCTURE PROCUREMENT STATUS







## PROJECT SCHEDULE

		FY 2020/2021		FY 202	1/2022			FY 2	022/2023		FY 2023/2024				FY 2024/2025			
Milestone nu Milestone		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
MS01	Secure TMC venue																	
MS02	Finalize the TMC layout.																	
MS03	Obtain quote from the landlord for 16th floor refurbishment.																	
MS04	Obtain quote from the landlord for refurbishment of 5 floors.																	
MS05	Commence refurbishment of 5 floors.																	
MS06	Complete refurbishment of 5 floors.																	
MS07	Relocate staff members to the 5 floors.																	
MS08	Refurbishment of the 16th floor																	
MS09	Procure TMC furniture																	
MS10	Install TMC furniture																	
MS11	Procure TMC ICT infrastructure																	
MS12	Install TMC ICT infrastructure																	
MS13	Develop API Software (Public Transport Data Platform)																	
MS14	Technology integration and testing																	
MS15	Finalize Operational readiness plan (org structure, OPEX budget, ownership etc.)																	
MS16	Hire 1st phase staff																	
MS17	Training																	
MS18	Launch the TMC and start operations																	
MS19	Run ABT POC																	
MS20	Provincial Fare policies																	
MS21	Procure ABT products and services																	
MS22	Installation and pilot of the ABT system																	
MS23	Launch the ABT system and start operations																	
	Completed																	

Not started

In progress

In progress but delayed

Not started and delayed

Current quarter

# **DISCUSSION / INPUTS / COMMENTS**





#### THANK YOU

