CATO RIDGE
DRY PORT

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Presented by: Warwick Lord

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TOPICS TO BE COVERED

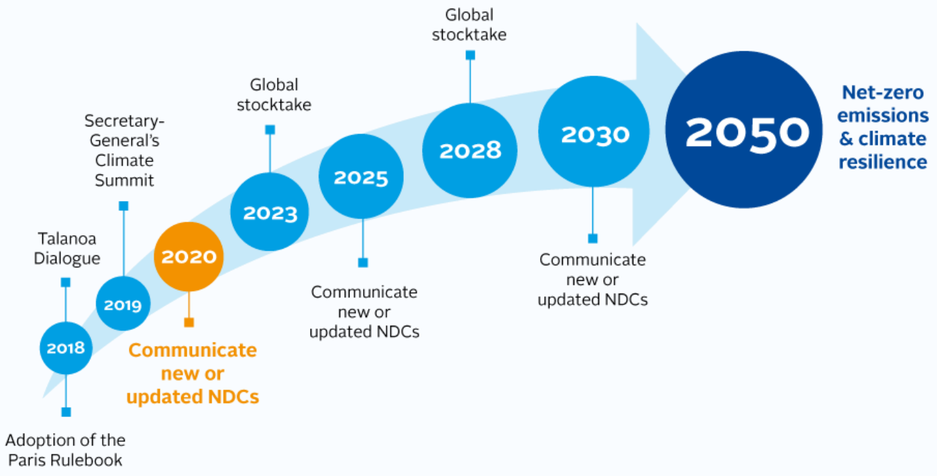
THE GLOBAL TRANSPORT LANDSCAPE

TRANSPORT POLICY CONSIDERATIONS

A 2021 World Bank Blog stated the following:

- In 2015, the approval of the UN Sustainable Development Goals and the Paris Climate Agreement set ambitious targets and created an opportunity to foster more effective global coordination.
- In parallel, the digitalization of the world economy has transformed the way we communicate, learn, connect, and move.
- In addition, recent public health shocks have heightened our awareness of a more connected and vulnerable global future.
- As countries worldwide undergo a fundamental reconfiguration to adapt, **making the right transport policy decisions has become more critical and challenging than ever**.

AMBITION MECHANISM IN THE PARIS AGREEMENT



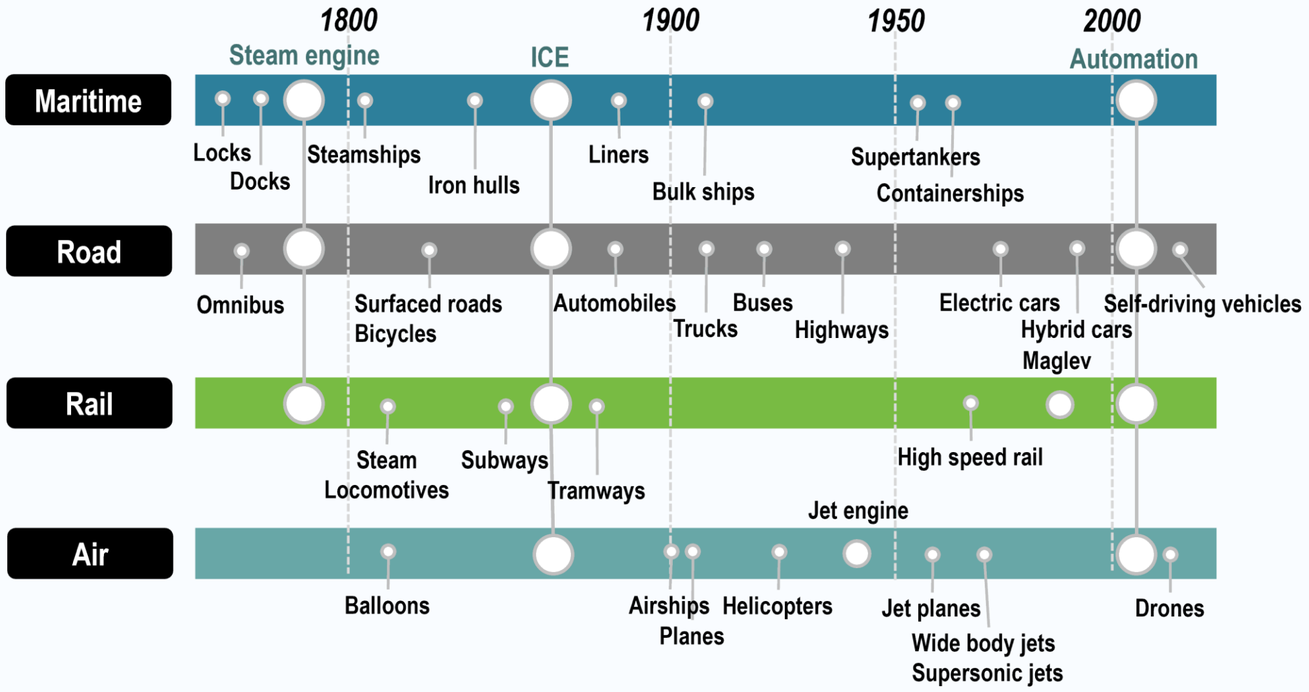
THE GLOBAL TRANSPORT LANDSCAPE

MOTIVATION FOR CHANGE

- The human population of Earth is growing and moving into urban areas exponentially. Travel on roadways designed years ago cannot sustain the demand for modern mobility needs. The result is traffic congestion on our roadways.

- Traffic inefficiencies cost the global economy hundreds of billions of dollars annually. Road, air, rail and marine transportation do not always operate as a seamless integrated network, contributing to further cost and delay.

- Coupled with the current reliance on fossil fuels, transportation is a major contributor to greenhouse gas emissions, that cause of climate change and pose a risk to human health and safety.



THE GLOBAL TRANSPORT LANDSCAPE

THE FUTURE OF TRANSPORTATION

Concepts driving the future of transportation

The future of transportation involves moving into new, smarter sources of energy, modes of transport and physical and technological infrastructure to support these transportation innovations.

Three common themes in transportation innovation are:

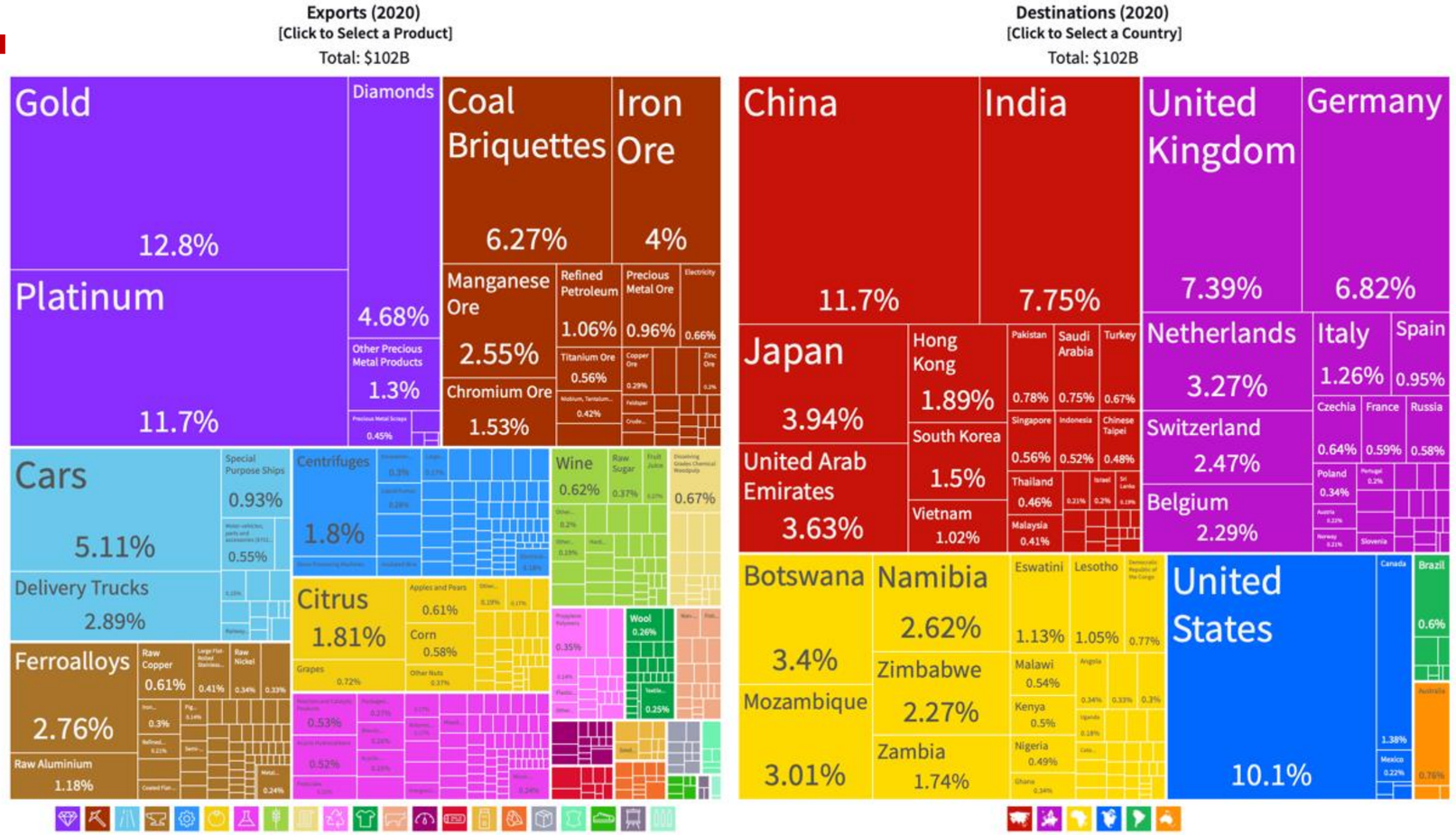
- smart technology,
- Electrification, and
- autonomy

GLOBAL TRADE

SOUTH AFRICA'S GLOBAL TRADE

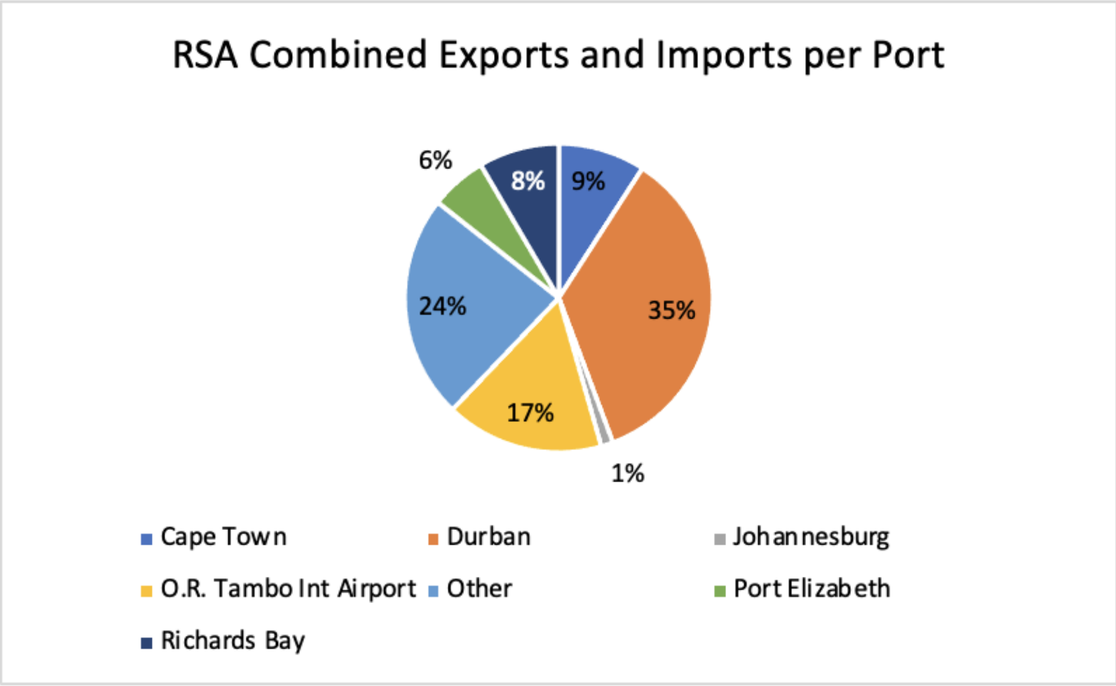
In 2020, South Africa was;

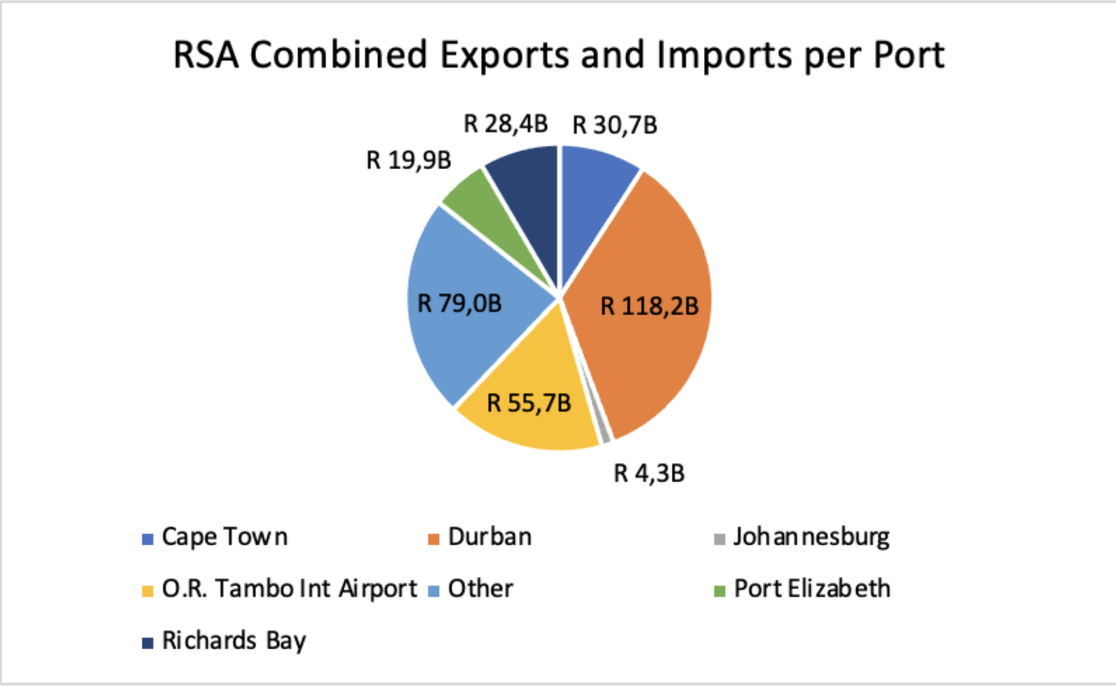
- number 38 economy in the world in terms of GDP (current US$),
- number 36 in total exports,
- number 42 in total imports,
- number 97 economy in terms of GDP per capita (current US$) and
- number 54 most complex economy according to the Economic Complexity Index (ECI).



GLOBAL TRADE

KZN PORTS AND SA'S GLOBAL TRADE



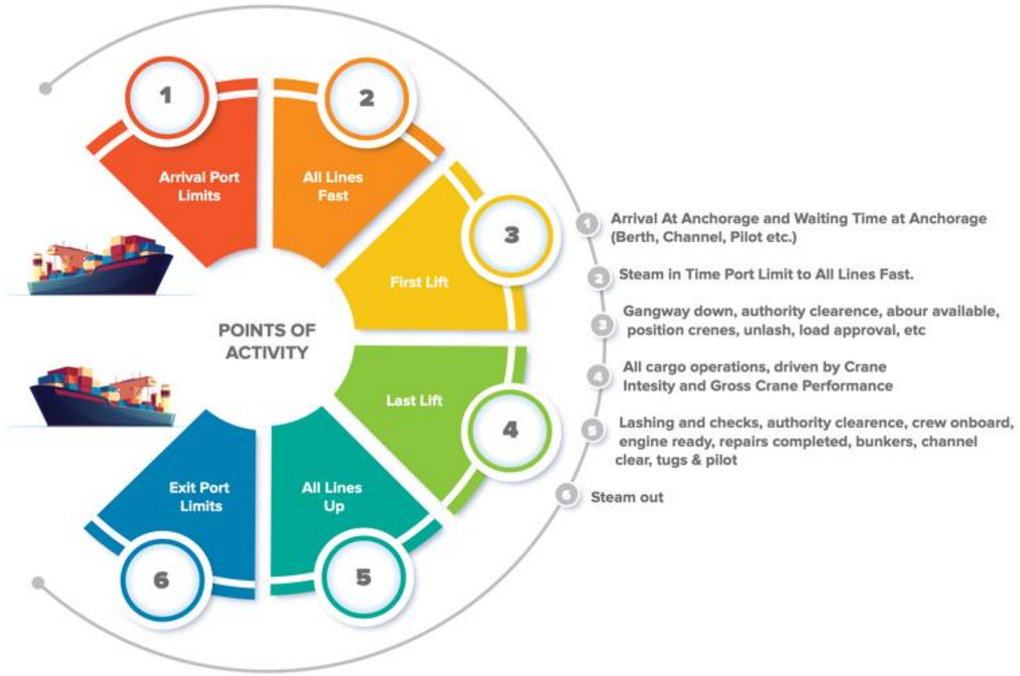


43% / R146,6B of South Africa's import and export cargo (Sep'21 to Aug'22) went through KZN's Durban and Richards Bay Ports.

GLOBAL TRADE

SOUTH AFRICAN PORTS PERFORMANCE

3 of SA's container ports rank amongst the 10 bottom performing ports out of 370 world ports.



The Container Port Performance Index 2021

A Comparable Assessment of Container Port Performance

ADMINISTRATIVE APPROACH			STATISTICAL APPROACH		
Port Name	Rank	Total Points	Port Name	Rank	Index Value
PORT ELIZABETH	312	-46.416	LYTTELTON	312	-19.801
YUZHNY	317	-52.207	PORT ELIZABETH	317	-23.885
ABIDJAN	360	-216.138	OAKLAND	360	-95.795
DAR ES SALAAM	361	-248.798	DAR ES SALAAM	361	-105.753
POINTE-NOIRE	362	-320.281	POINTE-NOIRE	362	-110.337
NGQURA	363	-359.179	DURBAN	363	-155.820
DURBAN	364	-386.098	CAPE TOWN	364	-159.253
CAPE TOWN	365	-410.746	NGQURA	365	-170.593
LUANDA	366	-442.446	LUANDA	366	-174.675
SAVANNAH	367	-464.721	SAVANNAH	367	-217.103
VANCOUVER (CANADA)	368	-573.524	VANCOUVER (CANADA)	368	-245.879
LONG BEACH	369	-952.470	LOS ANGELES	369	-281.841
LOS ANGELES	370	-954.086	LONG BEACH	370	-348.928

Source: Original table produced for this publication, based on CPPI 2021 data.

GLOBAL TRADE

SOUTH AFRICA'S LOGISTIC PERFORMANCE

Country	LPI Rank	LPI Score	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
Italy	21	3.73	3.44	3.82	3.55	3.68	3.84	4.09
New Zealand	22	3.68	3.58	3.79	3.27	3.69	3.73	4.10
Korea, Rep.	23	3.65	3.43	3.75	3.43	3.63	3.75	3.96
Taiwan	24	3.65	3.42	3.67	3.54	3.68	3.67	3.93
Ireland	25	3.63	3.45	3.50	3.53	3.69	3.79	3.85
Czech Republic	26	3.62	3.34	3.38	3.65	3.65	3.68	3.98
China	27	3.60	3.28	3.73	3.57	3.58	3.63	3.86
Portugal	28	3.56	3.24	3.23	3.59	3.54	3.69	4.03
South Africa	29	3.51	3.29	3.39	3.53	3.42	3.56	3.85
Qatar	30	3.50	3.18	3.43	3.62	3.46	3.53	3.78

Note: The Aggregated LPI combines the four most recent LPI editions. Scores of the six components across the 2012, 2014, 2016 and 2018 LPI surveys were used to generate a "big picture" to better indicate countries' logistics performance.

- In 2018, South Africa was rated 33rd out 167 countries in terms of the Logistics Performance Index (LPI) with an LPI score of 3,38.
- South Africa Aggregated LPI rank 30th with an LPI score of 3,51.
- Germany leads the 167 countries with an Aggregated LPI score of 4,19.
- South Africa is amongst the best performers as per the LPI.

THE PORT COMMUNITY

PORT ROLE PLAYERS AND THEIR INTERESTS

	THE AUTHORITY	TERMINAL OPERATOR	SHIPPING LINES	SHIPPER	TRANSPOTER	THE CITY
	❑ Controller Of Port Services And Facilities ❑ Controller Of Ports Navigation	❑ Commercial Handling Services Of Sea-route Freight Across Imports And Exports	❑ A Shipping Line is a company that operates the ships that actually carry the containers (owned or leased) and cargo from load port to discharge port	❑ A shipper (also known as a consignor) is a person or a company responsible for organising and transporting goods from one point to another.	❑ Owner of a Truck or train responsible for the movement of goods between a point of origin and a specified point of destination.	❑ The city is the host of the port and its related activities. ❑ It has the responsibility of integrating the into the broader business community and its residents.
Their Interest	❑ Reduced Ship Dwell the port	❑ Voyage productivity ❑ Cargo dwell time	❑ Vessel Turn Around	❑ Lower inventory ❑ Quick transit	❑ Train or Truck Turn around Times	❑ Investment attraction ❑ Fluid movement of traffic through city roads

PORT CONGESTION

THE MAIN CAUSES

FORELAND

- Port congestion means that **ships arrive at the port and cannot load or unload, as the terminal is already full**. So, they can only queue up and wait for their turn to get a spot at the port.
- The port congestion problem **doesn't** just stem from one specific, easily fixable issue. In fact, several different aspects of the overall supply chain and clearing customs are all happening at once to cause massive port delays.

HINTERLAND

- Port congestion means that trucks or trains arrive at the port cannot load or unload, as the terminal is already full. So, they can only queue up and wait for their turn to get a spot at the port. This often results is in traffic congestion caused by mainly the trucks.

Port Congestion Is A Major Challenge Faced By Many Ports Globally And Can Occur Due To Some Or More Of The Following Reasons:

- Port Or Terminal **Bookings Exceed Capacity**
- Delays Caused By **Bad Weather** Which Results In Vessels Lining Up Outside
- **Industrial Action** Or Strikes
- Lack Of Port Handling Equipment
- **Slow Productivity**
- Lack Of Yard Space
- **Restricted** Port Access
- Location Of Port
- Vessel **Bunching**
- Poor **Hinterland Connec**tivity
- **Slow Evacuation** Modal Choice
- Generous **Free Storage** Policies

PORT CONGESTION

THE IMPACT OF CONGESTION

The result is chronic gridlock at many ports often reverberate throughout the supply chain, becoming a significant trade barrier for both exports and imports with a corresponding negative impact on the economy.

Some of the impact of port congestion include;

- Reduced capacity and blank sailings.
- Ships waiting at anchorage for days.
- Ship operators skip A congested port.
- Supply chain experiences short supplies.
- Perishable products are spoiled.
- Manufacturers are forced to slow down or stop production lines.
- Retail goods are delayed or miss important selling seasons.
- Trucker and Rail turnaround time suffers greatly.
- Avoiding bottlenecks at port may incur additional cost
- Slow evacuation container yard will reach capacity quickly.

THE PORT CONGESTION

THE COST OF CONGESTION

- Port Congestion Adds Other More Direct Costs To The Supply Chain, Such As Exorbitant Demurrage Costs And Higher Inventory Costs.
- Faced With Chronic Delays And Uncertain Deliveries, Many U.S. Companies Increase Their Inventory Levels. For Example, Nike Reported It Spends $200 Million Annually To Carry An Extra 7 To 14 Days Of Inventory Because Of The Unreliable Transportation Caused By Port Congestion. (Source: National Customs Brokers & Forwarders Association of America, Inc.)
- A Port Congestion Surcharge (PSC) Is An Additional Charge That Reflects The Additional Expenses That The Ship Lines, Incur When Calling At Congested Ports.
- Vessel Operators Must Pay For All Terminal Fees, Vessel Costs And Employees During This Waiting Period Adding Significant Costs
- As Of January 2022, The Average Rate To The US East Coast Is About $12,000, Up From $3,000 Two Years Back. The Rate To The US West Coast Is About $8,500, An Increase Of About 467% From January 2020 due to US Ports being congested. (Source: WSJ.com)
- In November 2020 CMA CGM Announced PCS For Shipments to different ports ranging between $150 to $1250 Per unit. The Fees Are Charged To The Consignee Account At Major Ports Including The Ones In China.
- A New Analysis From Project44, The Platform For Shippers And Logistics Service Providers, Estimates That In Addition To The Increased Cost Of Shipping, Retailers Also Incurred Approximately $321 Million In Added Interest Expense On Inventory In 2021 Due To Port Congestion.

THE INLAND/DRY PORT

THE CONCEPT

- A Dry Port (Or Inland Port) Is An Inland Intermodal Terminal Which has A **direct connection to a Seaport**, via A **high-capacity transport mode such as rail or barge** (Roso, 2009). The Dry Port is an established concept, used in many parts of the world, to offer the comparable connectivity to international container trade for inland locations as to locations **situated close to the seaport**. The Dry Port as an effective high-capacity solution where **shuttles frequently perform a simple transport mission** between two points, namely the Dry Port and the Seaport.

- The aim is **to improve hinterland logistics in cost efficiency**, logistical quality through less queues and waiting times at port terminal gates and environmental performance such as less congestion (port, road and city access roads , less co2 pollution, less noise, better road safety.

- The Inland Port Should **Improve The The Throughput Of The Seaport** And Extend Its **Value-Added Service Offerings** Through The Inland Port. This Should Also Ensure Improved Hinterland Connectivity By Driving Modal Shift By Delinking Long Haul Trains From The Port Stack.

INTERMODAL TRANSPORT

CATO RIDGE DRY PORT

Intermodal Transportation Means Moving Large-sized Goods In The Same Steel-based Containers Through Two Or More Modes Of Transport. It's A Typical Way Of Moving Goods In Modern Times. Intermodal Transfer May Involve Truck, Rail, Ship, And Then Truck Again. Basically, Instead Of Shifting Goods From One Vehicle To The Next In Their Journey, Intermodal Transport Handles These Special Standardized Containers Instead. **NB: From a rail perspective, Intermodal Terminal are consolidation and deconsolidation points. There is no room for multiple operators within the proximity because this results in breaking up of trains and a high demand for shunting activities; as a result, economies of scale are lost, efficiency reduced, and cost increased.**

PROS

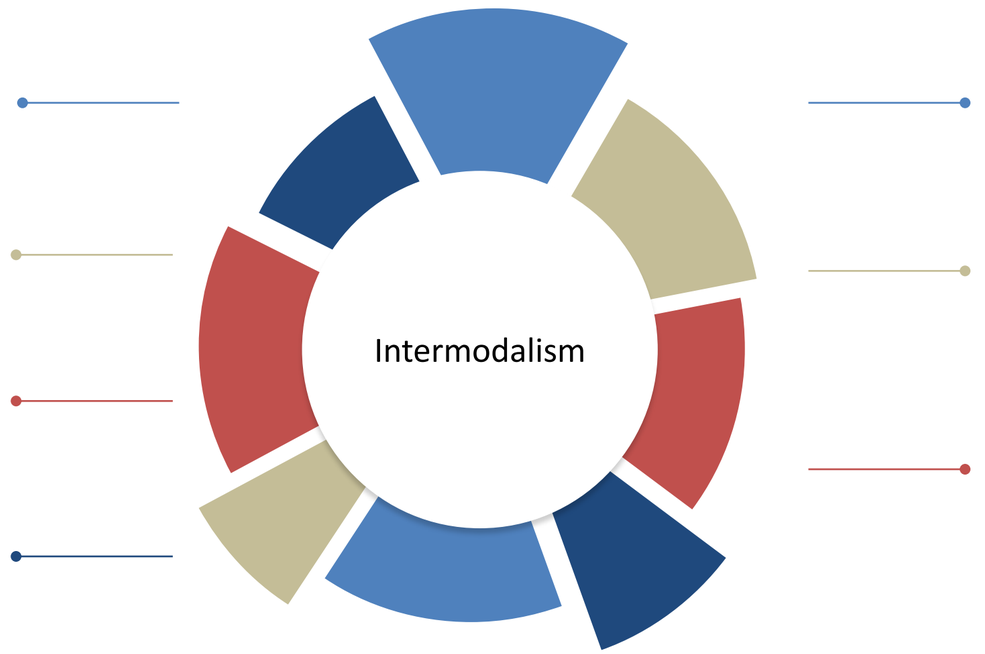
Rapid Service: By Using Intermodal Transport, A Company Can Reduce Delivery Times. The Business Can Use The Fastest Mode Of Transport For Long Distances. Using Containers Also Allows An Efficient Transfer Of Goods From One Mode Of Transport To Another. Reduced Loading And Unloading Times Also Contribute To Faster Delivery

Lower Costs: Shippers Enjoy Lower Prices, Along With Low Handling Costs. These Prices Are Also More Predictable. Thus, The Entire Intermodal Transfer Is Cheaper. Choosing Railway Mode Is Also A Good Way To Reduce Costs, As It Consumes Less Fuel While Traveling A Considerable Distance.

Increased Capacity: Because Most Industries Use Intermodal Transfer, It's Relatively Easy To Achieve Economies Of Scale And Ensure Increased Capacity. Companies Can Also Use Reverse Logistics To Fill Up Large Containers.

Safety: The Containers Don't Need Handling During Shifting Between The Modes Of Transport. They Limit The Risk Of Damage To The Goods. Using Containers Also Reduces The Chances Of Theft. Provides The Highest Security For Goods.

Eco-friendly Service: Reducing A Shipment's Carbon Footprint Minimizes The Environmental Damage It Causes. According To Breakthrough Fuel,



CONS

Structural Costs: If Your Container Is Heavy And Requires A Crane To Move It To Trucks From Rail, Then Shippers Can Manipulate The Costs, Leading To Higher Infrastructure Costs. This Issue Is Common In Some Developing Countries Where There's A Lack Of Standardization.

Delays: Although Many Companies Prefer Intermodal Transport Because Of Its Low Cost, It May Be Slower In Some Situations. For Example, The Railroad May Not Offer Direct Routes To All Destinations, Thus Increasing The Delivery Time. The Time To Unload The Carrier Can Also Be Frustrating If That Facility Is Delayed.

Reliability: Because Intermodal Transport Depends On More Than One Transit Mode, There's A High Chance Of The Chain Breaking At Some Point. Different Businesses May Be In Charge For Each Mode Of Transport. This Requires More Logistical Coordination And Increases Risk. Unexpected Delays Due To Weather Change And Equipment Failure Are Possible.

THE EXTENDED GATE CONCEPT

THE INTERMODAL BACK OF PORT

A To Achieve Improved Transport Efficiency In The Hinterland Through A More Integrated Model, It Is Essentially An Extension Of The Gated Area Of A Port Terminal Into The Hinterland In Order To Achieve Operational Efficiency.

B Vertical Integration Or Through Close Cooperation Between A Port And An Inland Terminal. Collaborations Aim At Creating A Common Goal And Shared Incentives Amongst The Parties.

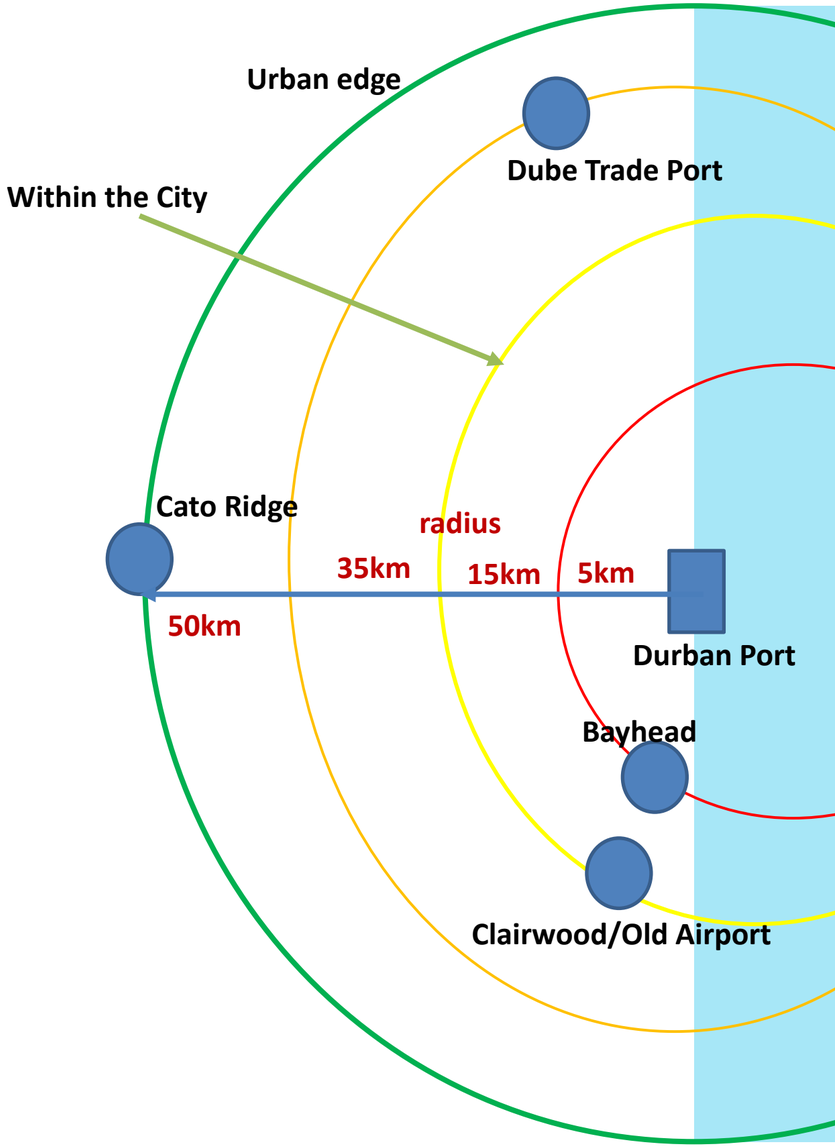
C As Average Container Vessel Size Continues To Increase, More And More Containers Have To Be Shuffled And Often Result In The Exhaustion Of Capacity And Diminishing Of Efficiencies. The Extended Gate Affords The Port An Opportunity To Mass Evacuate Cargo To The Inland Port.

D By Establishing A Sustainable, High-capacity, Transport Corridor, Economies Of Scale Can Be Achieved In The Port Hinterland. The Extended Gate Is Adding Value By Reducing The Complexity Of Intermodal Transport, Lowering Working Capital Needs For Importers, Reducing The Carbon Footprint, Reducing The Overall Lead Times, And Increasing Transport Efficiency.

E Inland Terminals Should Be Located In Rural Settings Where The Cost For Land Is Low, Regulation For Land Use Are Less Restrictive, Close To Main Transport Links Such As Railways Or Highways, And Close To Importers And Exporters (Toh Et Al. 2008).

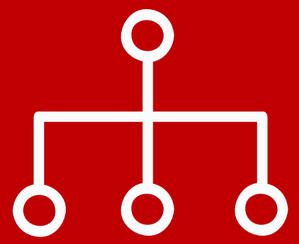
F The Extended Gate Concept Is A Network Solution Provided By The Seaport Terminal. A Key Feature Is That Delivery And Pickup Point For Containers Can Be Moved To An Inland Intermodal Terminal (Veenstra Et Al. 2012). The Extended Gate Should, Like A Dry Port, Be Directly Connected To The Seaport Terminal With High-Capacity Transport Means, But According To The Extended Gate Concept The Port Terminal Operator Should Control The Flow Of Containers To And From The Extended Gate.

H The Extended Gate Is Characterised By More Frequent And More Reliable Connections Between The Terminals Compared To Other Forms Of Inland Intermodal Terminals. To Achieve The Frequency, The Terminal Requires High Volumes Shipped Between The Port Terminal And The Extended Gate.



THE CATO RIDGE INLAND/DRY PORT

CATO RIDGE
DRY PORT



Intermodal

Automotive

Truck Stop

Logistics Park

Tank Farm

THE BUSINESS AND FUNDING MODELS

- The Cato Ridge Logistics Hub Consortium (CRLHC) continues to increase its list of strategic partners in the development of the Cato Ridge Inland Port (CRIP).
- The approach is to have multiple participants in the development of the Logistics and Industrial infrastructure.
- There is also social and other commercial developments within the hub and these require different partners.
- The CRIP is collaborating with different operators (Rail and Terminal), shipping lines, Shippers and Warehouse operators.
- Full integration of the local community into the project.

- Collaboration with the Outer West Land Owners and developers in order to integrate different land parcels into the Master Plan and Secure all necessary approvals to expedite the developments.
- The land does not need to be owned or developed by the CRIP. It just need to be integrated and developed in line with the master plan requirements to reduce conflict.

- Actively seeking equity partners and debt funders of the project.
- The CRIP seeks to attract both domestic and foreign investors.
- The CRIP is developed in Phases which gives opportunity to small and big investors. There is an opportunity to invest in sections of the project or in the total development.

WHY THE CRIP MAKES SENSE

- The site is serviced by both rail and road which makes it suitable for intermodalism.
- It is located perfectly at the junction of the N3 and the Rail between Johannesburg and Durban.
- Management of both Containers and Car stack in relation to the port movement is possible due to it proximity to the port.
- A candidate for mass evacuation by rail due its proximity to the port.
- Consolidation, deconsolidation and container classification and sorting point for both import and export containers.
- It is Located on the Urban Edge, outside of the City's daily traffic congestion.
- It is situated within mainly agricultural land parcels.
- Fits perfectly into the City's Local Area Plan.
- The CATCON Terminal has been in operations for several years now and lessons have been learnt.
- The Master Plan and studies have been initiated and others concluded.
- Established Relationships with Strategic stakeholders have been established
- It has sufficient space for development in response to the current demand for both Containers and Automotive services.
- It can offer long term storage.

THANK YOU

Executive Chairman:	Sibusiso Mazibuko	sbu@crlhc.co.za	073 608 2868
Chief Executive Officer:	Warwick Lord	warwick@crlhc.co.za	082 374 0047
Project Manager:	Richard Madala	richardm@crdpc.co.za	071 612 9672
Project Facilitator:	Frikkie Brooks	frikkie.brooks@gmail.com	082 808 8020

CATO RIDGE
LOGISTICS HUB CONSORTIUM