


# SPATIAL ANALYSIS OF LOGISTICS FIRMS RELATIVE TO CAPE TOWN INTERNATIONAL AIRPORT

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# Structure of the Presentation

1. Introduction
  2. Research Methods
  3. Findings
  4. Conclusion
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# Introduction

- Analysis of the location of logistics activities relative to airports is a topical aspect of the interconnection between transport infrastructure and the geographical patterns of economic activities.
- A significant number of the studies focus on the location of logistics activities in the immediate vicinity of airports.
- Notwithstanding a wide range of literature that exists on the topic, relatively little is known about the airfreight catchment of airports.

# Introduction Cont...


- This dominant focus calls for extension to the analysis of logistics activities beyond the environs of airports.
  - As a step towards addressing this research gap, the aim of the study is to analyse the spatial patterns of logistics firms relative to Cape Town International Airport.
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# Study Area

- Cape metropolitan area



## Legend

 City of Cape Town metropolitan municipality

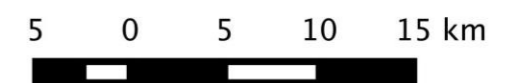
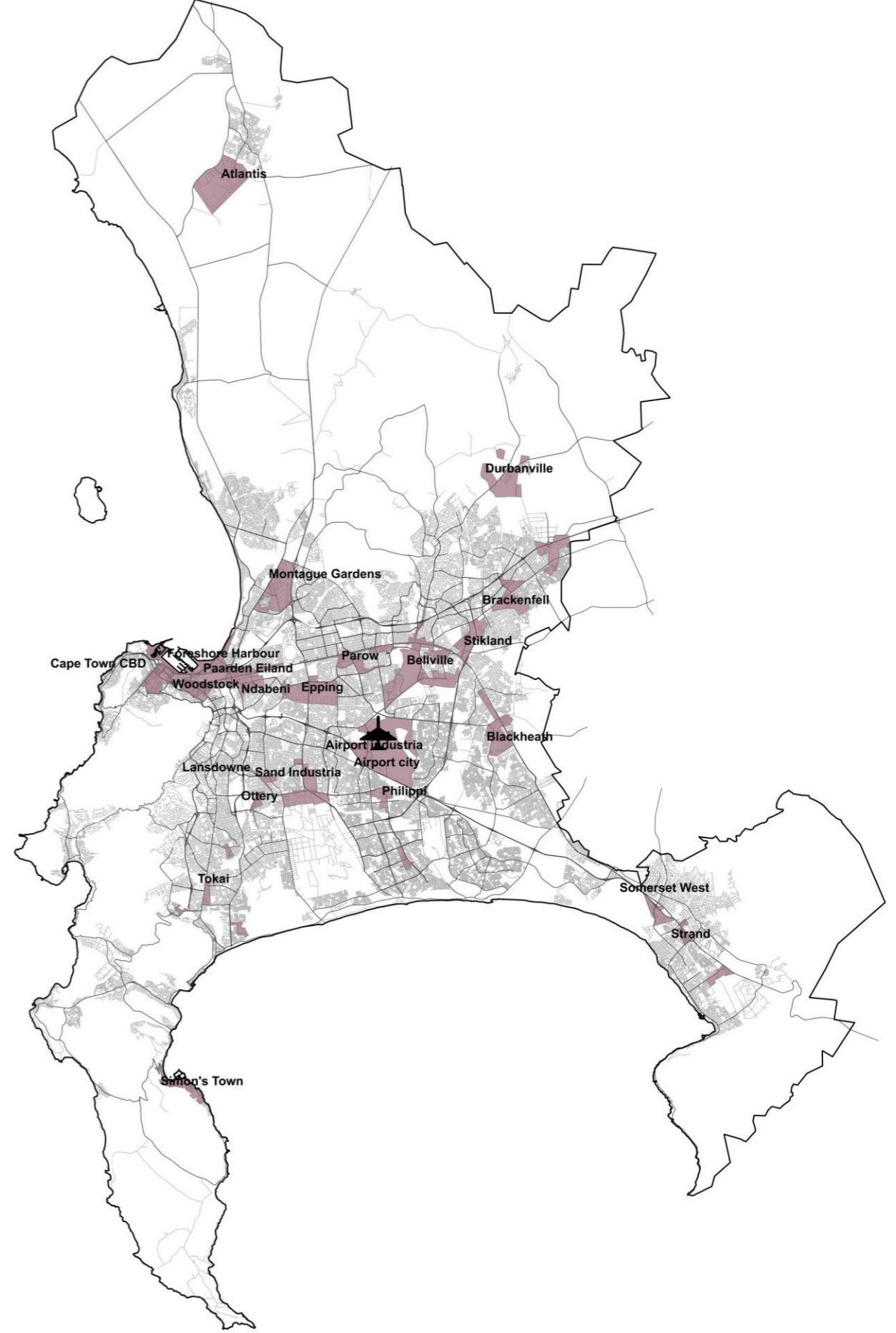
 Cape Town International Airport

5 0 5 10 15 km



# Delimitation

- The study focuses on the main industrial and economic nodes
- Data on main industrial and economic nodes was obtained from the City of Cape Town in GIS shapefile and geodatabase formats.
  - o This data was used to ascertain the location and size/ extent of industrial areas across the metropolitan area.



# Categories of Firms

- Shapefile of the industrial and economic nodes collated from the City of Cape Town were used to obtain data on logistics firms from AfriGIS.

	Category	Number of Firms	Number of Firms 1	Number of Firms 2
1	Distribution	470	470	450
2	Suppliers	190	207	194
3	Logistics	172	172	169
4	Packaging	92	95	94
5	Freight	44	44	38
6	Transportation	32	31	30
7	Warehousing	20	22	22
8	Courier	22	21	20
9	Removers	28	28	18
10	Trucking	17	17	17
11	Movers	13	13	12
12	Delivery	10	11	9
13	Haulage	8	8	8
14	Parcel	2	2	2

Number of firms	AfriGIS count
Number of firms 1	Count before cleaning data
Number of firms 2	Count after cleaning data

# Analysis

- ArcGIS 10 and QGIS 3.16 were used for spatial analysis.
- Route analysis was conducted to establish the fastest and shortest routes.



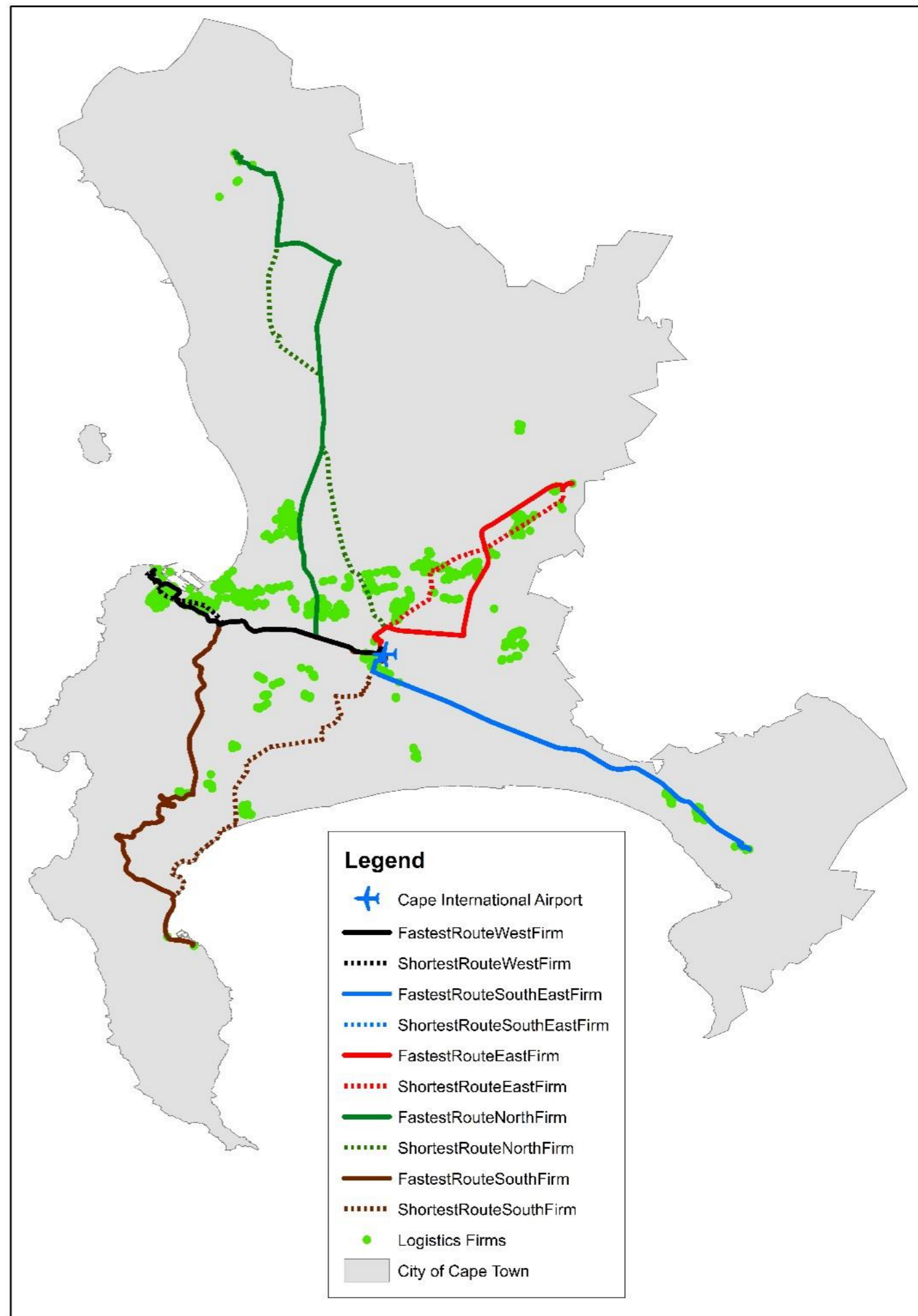
# Preliminary Findings

- Of the 985 logistics firms, 937 were within 20km of the airport.
- Network analysis showed that the furthest firm, located on the north, was
  - 50km with 64 minutes on the shortest route
  - 55km with 49 minutes on the fastest route to the airport.

# Fastest and Shortest Routes to Airport

Fastest Route	Mode	Route	Distance (KM)	Minutes	Route	Distance (KM)	Minutes
North	driving-car	fastest	55	49	shortest	50	64
South	driving-car	fastest	36	33	shortest	39	62
East	driving-car	fastest	27	25	shortest	24	39
West	driving-car	fastest	22	26	shortest	22	34

# Routes



# Conclusion

- Towards shedding more light on the airfreight catchment of airports, it is proposed that research be conducted on identifying airfreight-related logistics firms and analysing factors that influence their location at different areas of the metropolitan area.



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**THANK YOU**

