



Last Mile Distribution in São Paulo, Brazil

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CISLOG — Center of Innovation in Logistics Systems

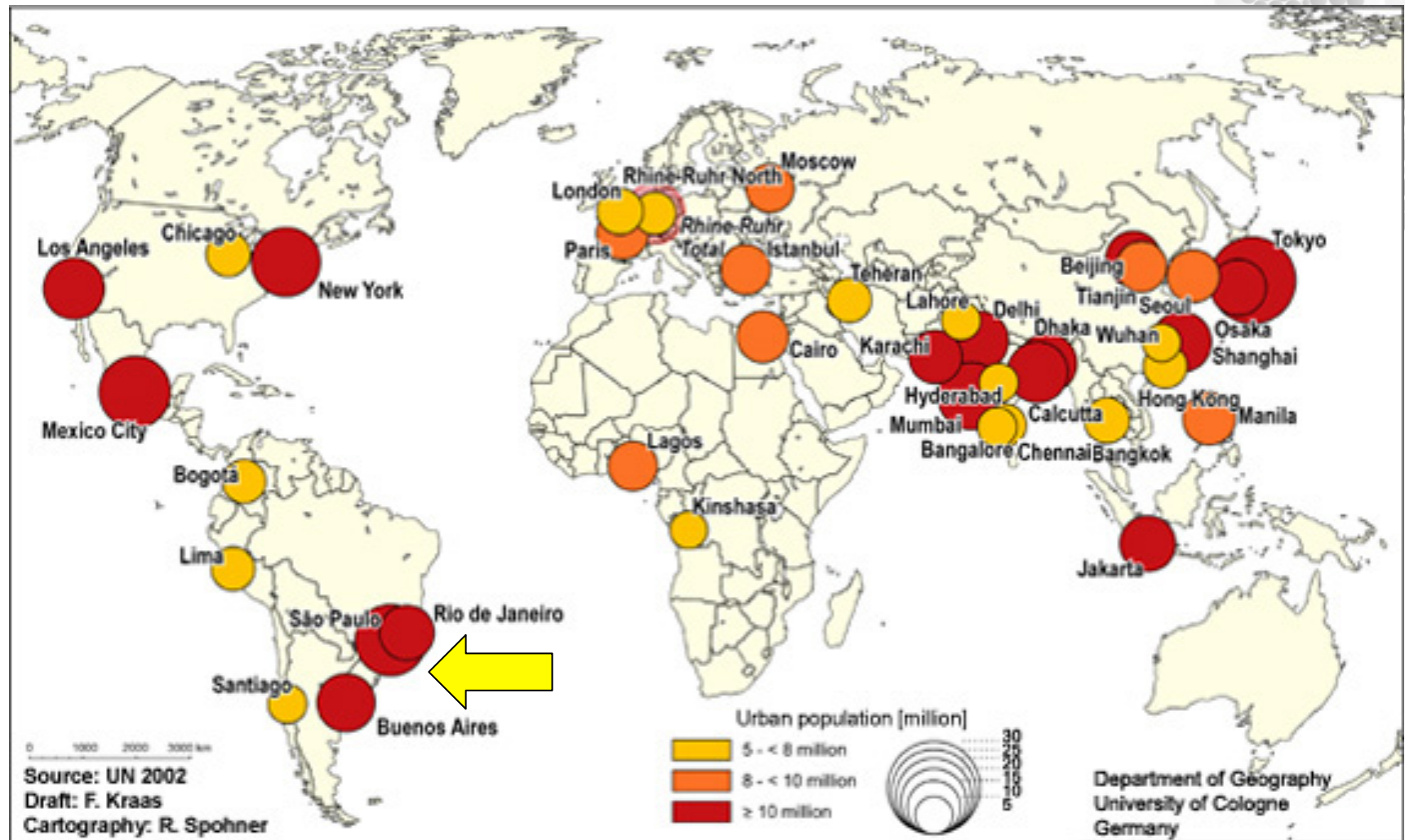


Universidade de São Paulo
Brasil

São Paulo, Brazil



São Paulo

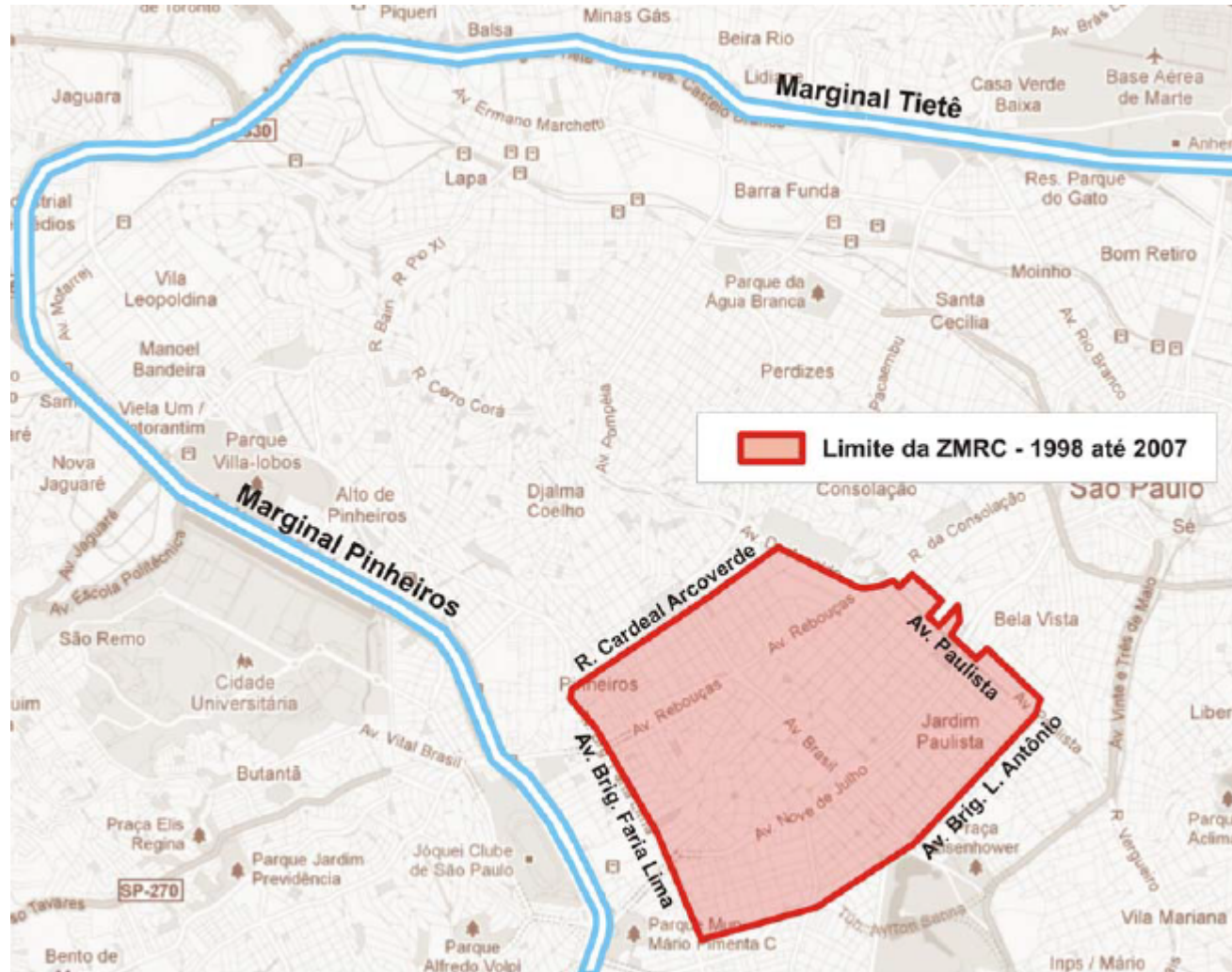


In order to reduce congestion

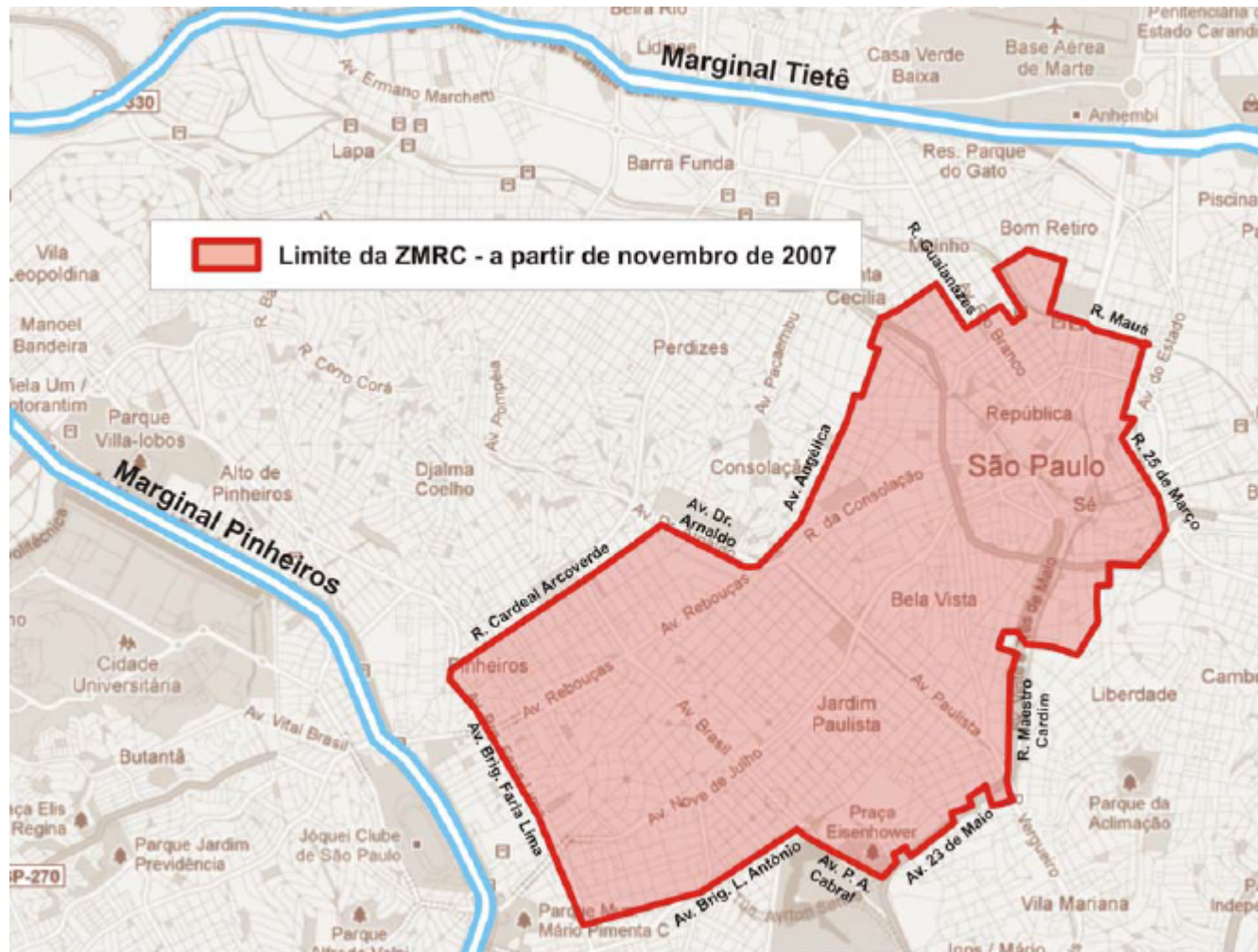
- ▶ Local authorities have decided to:
- ▶ Ban trucks from major roads and central areas
- ▶ Restrict parking for loading/unloading



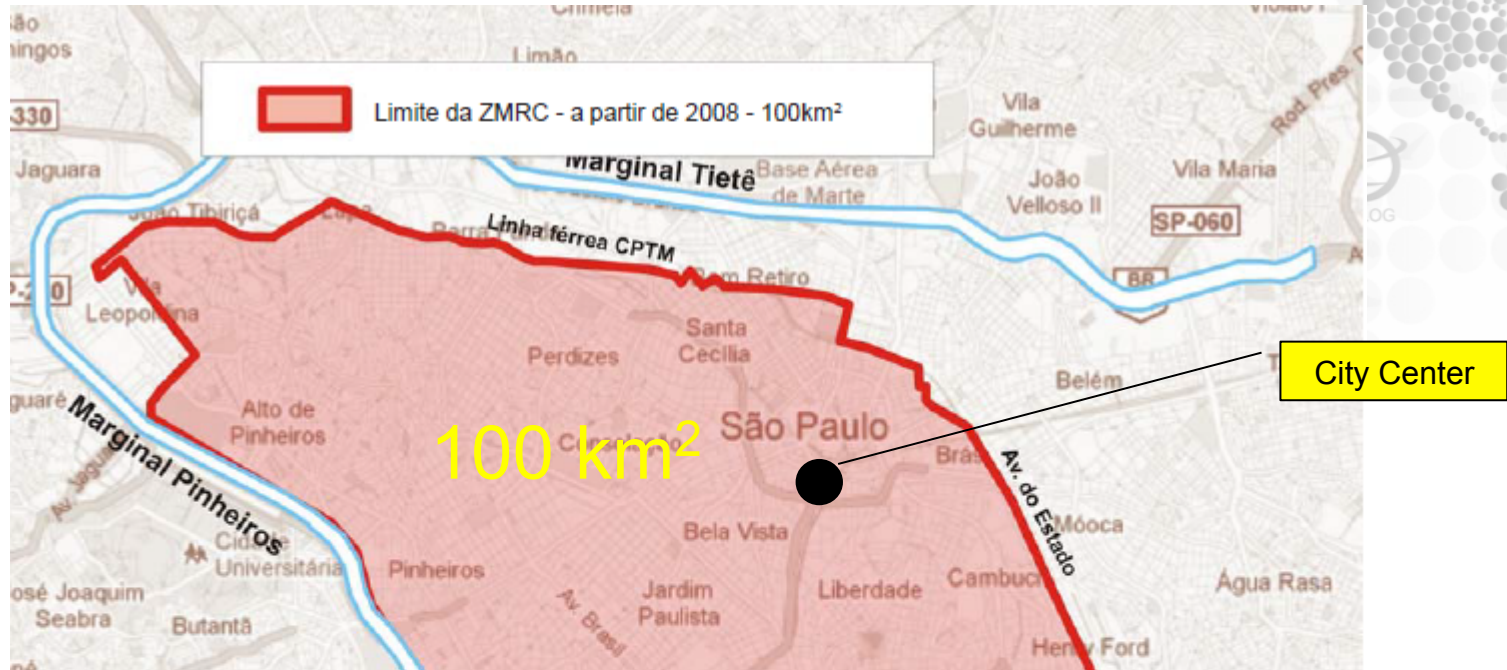
Truck restriction / ban (1998-2007)



Truck restriction (2007-2008)

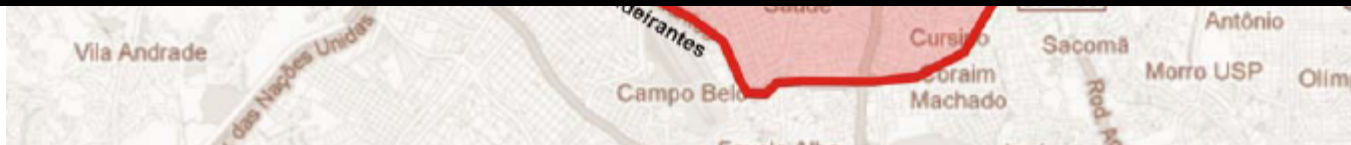


Truck restriction (2008)

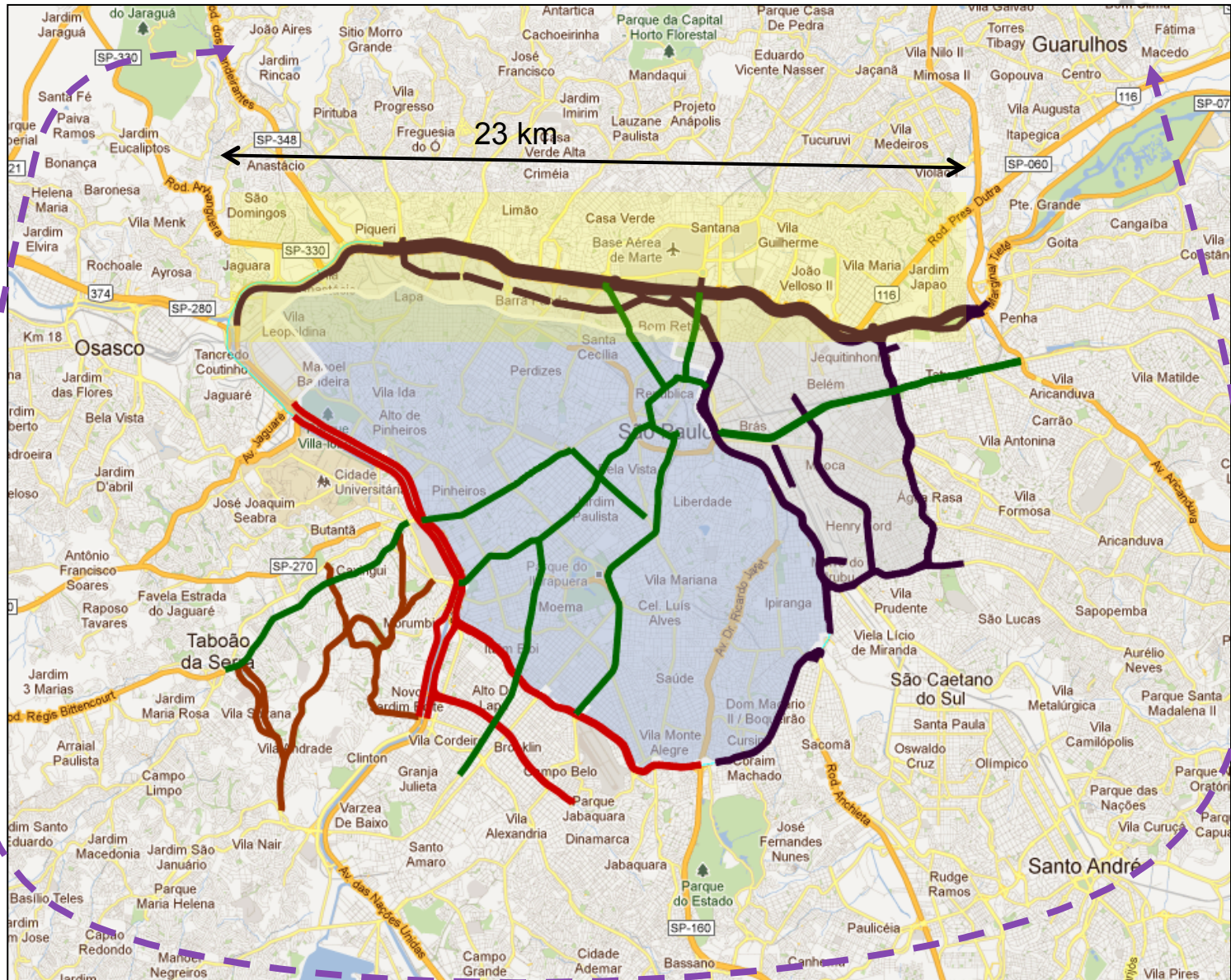


Larger than the entire Manhattan Island (87.5 km²)

5x greater than Central London congestion charge area (21 km²)



Current constrained area



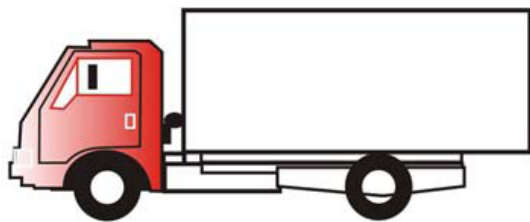
Several exceptions

- ▶ emergency
- ▶ roadside assistance technicians
- ▶ garbage collection
- ▶ perishable food transportation
- ▶ hazardous materials
- ▶ trash removal and dumpster transportation
- ▶ earth removal from civil constructions
- ▶ urban infrastructure operations and services
- ▶ open market fairs
- ▶ news coverage
- ▶ moving furniture
- ▶ essential public services,
- ▶ armored trucks
- ▶ postal services
- ▶ traffic emergency signaling services



Only small delivery vehicles are allowed

- Narrower traffic lanes



5,50 m

VUC

Veículo Urbano de Carga

Length $\leq 5.50\text{m} \approx 18\text{ ft}$

Width $\leq 2.20\text{m} \approx 7.2\text{ ft}$



Cities in Brazil are restricting large trucks



Cities with traffic restrictions for freight vehicles

107 cities were
considered

32 restricting trucks

ZRC = area constraint
18 cities

VER = restricted
arterial roads
10 cities

Both: 5 cities

State	City	VER	ZRC	State	City	VER	ZRC
SP	Barueri	X	-	SP	Osasco	X	X
PA	Belém	-	X	RS	Porto Alegre	-	X
MG	Belo Horizonte	X	X	PE	Recife	-	X
DF	Brasília	X	-	SP	Ribeirão Preto	-	X
PB	Campina Grande	-	X	RJ	Rio de Janeiro	-	X
SP	Campinas	-	X	BA	Salvador	-	X
MT	Cuiabá	-	X	SP	Santos	X	X
PR	Curitiba	X	-	MA	São Luís	-	X
BA	Feira de Santana	-	X	SP	São Paulo	X	X
SC	Florianopolis	-	X	ES	Serra	X	-
CE	Fortaleza	X	-	SP	Sorocaba	-	X
GO	Goiânia	-	X	SP	Tabuão da Serra	X	-
SP	Guarulhos	X	-	PI	Teresina	X	X
SP	Limeira	X	-	MG	Uberlândia	-	X
RN	Natal	-	X	ES	Vila Velha	X	
RJ	Niterói	-	X	ES	Vitória	X	
RS	Novo Hamburgo	-	X				

For more details.....



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Evaluating Restrictions on the Circulation of Freight Vehicles in Brazilian Cities

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Abstract

Restrictions on the circulation of trucks are becoming increasingly frequent in Brazilian cities. Population growth, lack of appropriate urban infrastructure, and concern for the environment compel governments to adopt attitudes to reduce the problems of externalities in large urban centres. Traffic restrictions affect the full logistic chain, from the providers of consumer goods and services to the final consumers. Such restrictions usually apply to city centres, particularly during the peak hours, and for larger vehicles. This paper aims to identify Brazilian cities that have traffic restrictions and to estimate the odds of implementing certain types of traffic restrictions.

How to properly deal with particularities?



Slums side by side with
upscale neighborhoods



Different delivery requirements



Difficult to circulate and park



Home deliveries in slums (favelas)



Part of “last mile”
on foot

Unassisted deliveries

- ▶ Are still unusual
- ▶ Staffed is oftentimes required when taking deliveries due to:
 - Security reasons
 - Need to check for wrong items or incorrect quantities
 - Even between facilities owned to a single company



Some points of attention (1)

- ▶ Regulations may change very suddenly, not followed by enough discussion and only after a consensus is reached
- ▶ Local authorities may not have the proper knowledge/ understanding to make the best decisions
 - Engage with authorities in educate them in "last mile" logistics
 - Share data
- ▶ Understand the city in more depth
 - Field observation is essential!
 - Small details matter!!
 - *Parking*
 - *How to expedite delivery procedures*
 - *.....*



Some points of attention (2)

- ▶ Small stores gradually replacing larger stores in CPG market growth
 - Limited storage requires frequent deliveries
- ▶ Geocoding and street network may be issues
- ▶ Security issues should not be disregarded
 - in all major cities
 - not only in off-hours
 - *decrease in 24x7 stores*
 - low cost items are also targeted
 - *include consumer goods*
 - *easy to sell in informal markets*
 - *armed escort following the vehicle may be required*





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