V CONGRESO INTERNACIONAL INDUSTRIA Y ORGANIZACIONES

Industria y logística para el desarrollo

The São Paulo Off-Hour Deliveries Project Lessons learned

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Background: São Paulo City

12 million population
1,523 km²
7.5 MM 4-wheel
1.5 MM 2-wheel

Source: GoogleMaps, IBGE
Solution: truck bans!

- 1986: 4 km²
- 1988: 11 km²
- 1993: 11 km²
- 1998: 12 km²
- 2007: 25 km²
- 2008: 100 km²

- Nos dias úteis das 6 às 21h
- Nos sábados das 8 às 14h

- Nos dias úteis das 6 às 21h
- Nos sábados das 10 às 14h

- De 2ª a 6ª das 9h às 19h
- Aos sábados das 9h às 13h

- De 2ª a 6ª das 5 às 21h
- Aos sábados das 10 às 14h

LOSADA, CET 2013
ZMRC (truck ban zone)

- Zona Máxima de Restrição de Carga
  - Mon – Fri: 5am. to 09pm.
  - Sat: from 10am. to 02.pm

- Bigger than:
  - Manhattan – 88 km2
  - London congestion zone – 21 km2

- Exception: VUCs can circulate anytime!
  - VUC: 4 ton (6,30 x 2,20 m)

- Authorities expected deliveries moving to the night

Source: CET, 2011.
Intention was good, but....
...don’t let me be misunderstood!

- Congestion still at high levels
- Small truck and van fleet skyrocketed
- Deliveries remained during daytime regular hours

- Inspired in the New York’s Off-Hour Delivery (OHD) pilot
- Complete report at:
  http://www.antp.org.br/biblioteca-vitrine/cadernos-tecnicos.html
- Webinar 13 at the VREF SUFS website:
  //coe-sufs.org/wordpress/peer-to-peer-exchange-program/
Pilot timeline

2013

- January: new Mayor
- July: Workshop CISLOG/USP VREF/SUFS
- October: Event SETCESP, 200 carriers

2014

- February: study group SMT, SETCESP, IDV, CISLOG/USP
- May: go decision by the Secretary of Transport
- August: project presentation to prospect companies
  - 100+ attendees
  - 15 volunteer companies in 3 waves
  - October: first wave (street stores)
  - December: second wave (shopping malls)

2015

- March: third wave (big street stores, etc)
- May: results seminar with Mayor
- August: Urban Freight Division created
The pilot project in São Paulo

- Evaluate **night deliveries** as a freight policy

- Main concerns
  - Safety (people, cargo, property)
  - Noise
  - Productivity and costs

- Pilot test area: mixed land use

- 11 volunteer companies (mostly big retailers)
  - No cash incentives
  - 45 establishments (stores)
  - Extensive use of GPS data for evaluation
  - 60+ route shadowings

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11 km²
Pilot area and partner companies
People and operation safety were top priority for all participants

- Facts: *no occurrences during the pilot* (official data from SP Police)
  - Night patrol routes included participant stores.
  - Two companies used armed escorts.

- Differences between different receivers and supply chains
  - **Big stores, shopping malls** × **Small street stores**
  - **High risk** × **lower risk cargoes**
NOISE: There is at least one solution for every source of noise

Measuring and evaluating noise was fundamental

- Fact: **no complaints** during the pilot (official data SP Prefecture Noise Task Force)
  - No complaints does not mean no problems.
- Differences between operations and supply chains
  - **Covered delivery points** × **Street stores**
  - **Light** × **Heavy freight**

Noise should be treated individually
Noise (dBA)

Example of noise profile

- Bus
- Other truck passing in the street
- SUV acellerating

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<th>75</th>
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Ruído (dBA)

- Media: 55.1 dB
- Máximo: 81.2 dB
- Mínimo: 45.2 dB

Example of noise profile:

- Bus
- Other truck passing in the street
- SUV acellerating
Productivity and costs

Speeds by hour of day - October/2014

Velocidades Vetoriais Marginais Km/h

Fonte: CISLOG 2015
Speed (calculated) – Day vs. Night

DAY: from 05 am. To 09h59 pm.
Speed (calculated) – Day vs. Night

NIGHT: 10 pm. to 04h59 am.
• Store staff.
  • Availability of public transportation at night.
  • 69% prefer to receive merchandise at night.
  • 65% stated that trucks are more punctual at night.
  • 73% stated that it is easier to confer and organize merchandise at night.

• Drivers.
  • 70% prefer driving at night.
    • Safety is an issue.
  • Less stressed at night: scale from 1 (less) to 5 (very much):
    • 1,27 (night) vs 3,17 (day).
Results and aftermath

• Pilot was a huge success:
  • Safety and noise: no occurrences
  • Productivity: higher speeds and smaller delivery times at night.
  • Cost trade offs: better for integrated supply chains.

• Mayor:
  • “Freight should be treated as public transportation, both deal with the city economic lifeblood.”

• Implementation phase:
  • Starting in 2016: 19 companies, steady growth (all volunteers, no cash incentives).
Important lessons

• Public sector has a central role:
  • Regulation
  • Incentives

• Academia as mediator/technical support
  • Specially in Latin America

• Necessity to consider all major stakeholders: collaboration
  • Shippers/Manufacturers
  • Carriers/Logistics service providers
  • Receivers (consumers and companies)
  • Government

• There is no one size fits all
  • Each supply chain is different, there is no single, general action

• There is a limit for volunteer participation
Muchas gracias!