

**P2P #13: Updates on Off-Hour Delivery Pilots Part 1:  
The Experiences of Sao Paulo, Brazil and Copenhagen, Denmark  
Questions and Answers**

**1. Were there any costs results analyzed in Sao Paulo's pilot?**

R/ No. The companies did not provide their actual costs. We did a theoretical comparison using a standard truck (the VUC) and standard operational procedures with actual average tour lengths, and drop sizes.

**2. When was the pilot undertaken in Sao Paulo? How long for?**

R/ The pilot took place between Oct, 2014 and April, 2015. Companies were separated in groups, and were not all together in the pilot.

For some, a pilot before Christmas was very inconvenient. For others, a pilot in the summer (Jan and Feb) was inconvenient, since it is the peak of the sales. Also, contrary to NY pilot, we had to count on our own resources.

No company or local authority committed funding to support this initiative. Companies committed a fair amount of men-hours and assets, but no money; Sao Paulo prefecture did neither. Sao Paulo prefecture assigned a token team of four senior traffic specialists (all of them part time in the OHD project).

**3. Were there any help to keep safety from the SP state Police?**

R/ Sao Paulo police provided procedural guidance (what to do and not to do, which we transformed in a manual), and during the pilot they included the participant establishment locations in their regular night shift patrols. They also publicized that any truck found inside the pilot area in the afterhours could be stopped for control purposes; this would inhibit robbers as that word spread out.

**4. Did any companies provide cost/benefit analysis of using large vehicles versus small vehicles - when the ban area was increased?**

R/ Companies did provide cost/benefit analysis of using large vehicles. However, the truck ban caused an immediate impact on traffic congestions. So it became very popular and arguments about truck efficiency were deemed less relevant.

Companies reported that using large trucks is more expensive. Previous research has found that large truck delivery bans reduce congestion inside the area of the ban, but increase congestion elsewhere in the city (which could lead to higher congestion overall).

**5. Were residents informed of the pilot beforehand - in case they expected to complain about any noise?**

R/ Sao Paulo Pilot Project: No, residents were neither part of the pilot design team nor were consulted. The traffic authority made an announcement a few days before, and the press also had published some notes in newspapers and online. In Brazil, contrarily to NYC, authorities are not required to inform or discuss measures with residents in advance. Also, residents can complain

with local authorities about noise, anytime. There is a squad to measure noise and make the necessary changes, including applying fines and even closing the establishments, in case of re-incident. Also the region is deemed reasonably safe.

Denmark Pilot: In Copenhagen, we did not inform residents beforehand as we expected this awareness to increase the risk of noise complaints.

**6. Did the numbers of small vehicles significantly increase on account of restrictions?**

R/ Yes, the number of small vehicles sky rocked. In a large beverage company, small trucks correspond to about one third of their fleet.

The head of logistics of AB Inbev the largest beer manufacturer in the planet, said that in average for each large truck they took out of their fleet, they replaced with 2.8 small trucks (which obviously produce more congestion than the original large truck).

**7. Are these data about Ambev/Inbev trucks are from US? or worldwide?**

R/ From the Sao Paulo case.

**8. Which stakeholders participated in the project? In which way did they participate and cooperate in the Sao Paulo project?**

R/ Five main organizations were part of the project: São Paulo traffic authority (main actor, with the Department of Road Systems DSV and CET transit authority), IDV (Institute of Retail Development, which congregates all largest retailers in Brazil), SETCESP (Sao Paulo motor carriers syndicate), and USP/CISLOG (technical advice, later technical coordination and independent project evaluation).

DSV instituted a task force formed by these five institutions on Feb 2014 to study the OHD project feasibility. On May 2014, the São Paulo City Secretary of Transport made his decision to implement the OHD pilot and presented it in a press conference. The task force was then instated as the project executive group headed by DSV. At this time, IDV and SETCESP had a very important job acting as project champions within their associates to engage participating companies, with CISLOG help.

For a detailed history, which started in July 2013 during a VREF CoE SUFS meeting in São Paulo at CISLOG, please refer to the technical report (in Portuguese), caderno técnico n. 18 at <http://www.antp.org.br/biblioteca-vitrine/cadernos-tecnicos.html>

Other public institutions also helped: Sao Paulo City boroughs office helped in giving some advice on São Paulo noise legislation and procedures in a couple of meetings, and São Paulo State Police helped to develop a guide on how to proceed during night operations, and included the participating establishments in their nighttime patrol routes (we could see a police cruiser passing by participating stores during several of our night delivery shadowing).

Entities involved:

- <http://www.prefeitura.sp.gov.br/cidade/secretarias/transportes/institucional/dsv/index.php?p=3522>

- <http://www.cetsp.com.br/>
- <http://www.setcesp.org.br/>
- <http://www.idv.org.br/>

**9. Can't a big truck cause more traffic than 2.8 smaller ones? I mean in terms of parking, moving, driving in narrow streets?**

R/ No. We have conducted detailed simulations of this.

**10. In a large scale implementation, do you think that risk of theft can be arise as an important factor to be considered in Brazil?**

R/ Large receivers are located in properties with some sort of protection, like walls, fences etc. Contrary to stores at street level. I guess this is a key issue in most major cities in emerging countries, not only in Brazil. Not to mention small stores at street level are not "prepared" for off-hour deliveries. Are not open until late and have no staff available.

**11. Prof. Jose Holguin-Veras: OHD recommend a large trucks to increase productivity and reduce costs?**

R/ The research we have conducted clearly shows that large trucks are--from the social point of view--more beneficial than small trucks. Considering the amount of cargo they transport, they produce less pavement damage, less pollution, less noise, less congestion, etc.

**12. Regarding the Sao Paulo pilot, why would VMT per truck decrease so much between daytime and nighttime deliveries?**

R/ Night routes are significantly shorter than daytime regular routes. It was up to the companies decide that during the pilot.

**13. How were the private partners roped in the project? and are only large format stores potential partners for OHD**

R/ Sao Paulo: Some of them were enthusiastic and acted as very important champions, particularly Grupo Pão de Açúcar, the largest Brazilian retailer. IDV also had a fundamental role as the OHD pilot project was also a formal IDV project. Also some very influential retailers (Shell gas stations, Martin Brower food services and others) already had night operations and generously shared their experience. One of them participated in the project to expand their own OHD ops. SETCESP was in the bandwagon since the beginnings.

Regarding small stores, different supply chains had different experiences. One the largest São Paulo pharmacy chains, with a lot of small format, on the street stores, has adopted night deliveries in their current standard procedures and they are very happy with this, with no issues of noise or safety. On the other hand, one of the pilot participants, a cosmetics franchiser, stopped night deliveries after the pilot, as small street stores (mostly from their franchisees) could not afford night staff or were considered unsafe, or both. One key learning was that detail matters a lot: for instance, one franchisee considered night deliveries excellent, as all merchandise would be ready in the sales stands as soon as the store opens, with no interference between shelf

replenishment and sales; it used a rotation scheme between his night staff, as each store has a weekly delivery frequency, and the staff could be in a different store each night. But it was not considered worthwhile by the franchiser to change then current procedures (daytime deliveries) because of a half dozen stores; they must have a minimum mass/scale to do this profitably.

Denmark: We used our connections in NGO's to contact potential pilot-companies. We initiated the contact ourselves. Companies of all sizes are relevant for OHD.

**14. Did you have any problems in gathering data to demonstrate cost/benefits? Did you have to use standardized data assumptions?**

R/ Sao Paulo: Yes, companies did not share costs and benefits. We have to use commercial GPS data from some of these companies (2,000 trucks, 17 million registers, for some 30 interspaced days during the pilot period) and store delivery data to infer speeds and delivery times, so we could make a educated guess (standard VUC and standard operations) about costs.

Denmark: Not all companies collect data (especially small ones don't). For those who did, it was no problem to collect the data.

**15. How did you persuade companies to get involved?**

R/ Sao Paulo: we have a good interaction with both public and private sectors. We promoted seminars to discuss the problem. We invited Prof. Holguin-Veras and other member prominent members of VREF to come to Brazil and address companies and authorities. Private associations were also very important to engage companies.

Denmark: The companies that participated could see the potential to participate in the pilots. For most, the most predominant reason to participate, was the congestion in peak hours and the "green" effect on the company image.

**16. Did you also consider fuel savings by reduction in idling/waiting time?**

R/ Sao Paulo: No. We are going to revise the estimates of cost saving. The ones presented only consider distance related costs. Considering the time-related costs, the cost savings estimated in NYC are 30% in average. The estimates for Bogota, Colombia, are in average 35%.

Denmark: Yes. We collected data on fuel consumption before and after OHD.

**17. What are your insights on fatalities as higher speeds are usually linked to higher fatalities?**

R/ In the case of Sao Paulo, maximum speed in most roads in 50km/h. Express ways are only 70 km/h. This measure, strictly enforced, dramatically reduced the number of fatalities. Accidents involving trucks in the early hours of the day was also a reason why the truck ban starts at 5am. There is no congestion until 6am or later. But authorities think they need to have some time to clean and unblock the roads in case of accidents

**18. How did you calculate the co2 and socio-economic benefits? Was this used to encourage further uptake - with businesses or local authorities?**

R/ Denmark:

a. CO<sub>2</sub>-emissions were calculated from data on fuel consumption. Socio-economic benefits were calculated using data on time savings, better utilization of truck and changes in driver wages. We applied these data to the official Danish method of calculating socio-economic benefits and costs.

b. Yes, these experiences were used to motivate more companies to participate.

**19. Denmark - What kind of factors are included under the "other" category in cost reduction slide (#39 I guess)? Could you be more specific? I am just wondering how 25% can be reduced from that part.**

R/ Denmark: 'Other' includes taxes, insurance, tires and truck related costs which is not included in the leasing agreement (and therefore not part of the 'Truck' category).

**20. Do you believe in regulations that allow OHD to shops depending on the site layout?**

R/ It depends on the case. Receiver staff also contributes to noise: speaking loud, doing other noisy activities (as rearranging pallets inside the dock etc)

**21. What were the reasons for choosing certain pilot areas - air quality issues, congestion or safety incidents? Other?**

R/ Sao Paulo: locations for the pilots are typically selected with input from the private sector. In the case of São Paulo, the pilot area has mixed use (residential, commerce and services, some industries), were mostly inside ZMRC (big trucks could operate at night but not during daytime, which could be an incentive to participants), and is considered reasonably safe.

Denmark: The locations were chosen by the companies who participated.

**22. Denmark - What is the most significant contribution to noise issues? How effective are the truck interior solutions like different panels?**

R/ The peaks are typically produced by driver behavior (rolling carts with metal wheels, slamming the doors, yelling at customers, loud music, etc.)

Denmark: With the current noise-reducing equipment it was possible for all companies to comply the noise regulations. But for some, it was very expensive. The biggest contribution to noises was loading and unloading.

**23. Is anyone recording or monitoring ongoing uptake of OHD - after the pilots have finished - and the impact on traffic, air quality etc.?**

R/ Sao Paulo: Yes, for some participant companies, in a voluntary basis. For the implementation phase, we are going to do it systematically.

Denmark: Not currently.

**24. Denmark - I missed the companies involved in phase 2 - was IKEA or Aldi listed?**

R/ The companies involved are: Carlsberg, M. Larsen, Alex Andersen, Lantmännen Schulstad, Danske Fragtmænd, Nomeco, Anders Nielsen og Co, Lidl, Dansk Supermarked, ILLUM and HOFOR.