Operational Legacy of the Rio Olympic and Paralympic Games 2016

Executive Summary for Policymakers

December 2016

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Introduction

This project aims to identify and analyze the operational and logistic legacy of the Olympic and Paralympic Games of 2016, comprising the knowledge acquired through trainings, simulations and real operations of the Rio Operations Center during Rio 2016.

The Olympic and Paralympic Games of 2016 constituted a unique opportunity to test the operational capacity of Rio de Janeiro in relation to speed and quality of response, flexibility, protocols and integration, considering the actions of more than 30 public and private partners inside the Rio Operations Center of the City of Rio de Janeiro (http://cor.rio).

In the Resilience Strategy of the City of Rio de Janeiro, developed by Rio Resiliente - since late 2016 the Office of Sustainability and Resilience -, Strategic Goal #2B is: *Mobilize Rio to be ready to respond to extreme climate events and other shocks,* more specifically initiative #2B: *Develop Operational Legacy of the Olympic Games.*

This report describes the lessons learned during Rio 2016 and makes recommendations, in order to support the improvement of the capacity of mobilization and response of the city to crises and disasters. Its findings can also be potentially useful for the planning of future megaevents in Rio and other cities worldwide.

The Rio Operations Center is responsible for monitoring the city and integrating actions for first response; crisis management; planning of major events; and more recently urban resilience. Since 2010 it integrates 30 departments, both public (city and state) and private partners (concessionaires of public services). It is the main crisis center of the city, open 24/7, with the permanent presence of the press, which is allowed unrestrained view to the Situation Room, where the 70+ operators are located, and nearly 1,000 cameras spread around the city. Since 2014 it incorporates Rio Resiliente (http://resiliente.rio), responsible for the development of the Resilience Strategy of the City of Rio de Janeiro, an initiative supported by 100 Resilient Cities, pioneered by the Rockefeller Foundation. As of late 2016, Rio Resiliente became the Office of Sustainability and Resilience.

The analysis was carried out by a team of researchers from PUC-Rio, from the Humanitarian Assistance and Needs for Disasters (HANDs)[1] Lab. The project was developed with the support and authorization of the Chief Resilience and Operations Officer Pedro Junqueira, and the head of the Office of Sustainability and Resilience Luciana Nery, City of Rio de Janeiro.

The Olympic Operations

The logistics of the Rio Games 2016 was particularly complex because the competitions were held in four major clusters spread around the city - Deodoro, Maracanã, Copacabana and Barra - generating challenges regarding the mobility and security of the public, workers and athletes. Many competitions were held simultaneously around the four clusters, in many days starting before dawn and ending after 1am. Furthermore, the 16 consecutive days of the Olympic Games, and 12 of the Paralympic Games, also exerted pressure on the traditional services of the city, more than ever under the watching eyes of the world press. Therefore, the quality of the routine services of the city became critical.

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[1] HANDs laboratoty is part of the Industrial Engineering Department of the Pontifical Catholic University of Rio de Janeiro (PUC-Rio).

LARGE NUMBERS

11,303 athletes

25,721 credentialed media professionals

9,3 million tickets sold

45,000 volunteers in the Olympic Games **25,000** volunteers in the Paralympic Games

3,5 billion watched coverage of the Olympic Games Rio 2016[2]

Methodology

The team of researchers worked for a total of 640 hours inside the Rio Operations Center, with unrestricted access, between August 05-21 (Olympics) and September 07-18 (Paralympics).

The research entailed a qualitative analysis of requests - here defined as situations that stem from the live operation of the event and demand monitoring and decision-making from COR - received during the thrice-daily operational briefings (for normal operations of the city); the twice-daily Olympic briefing (overview of competitions and requests that could directly impact the Games), and also requests that came through the main hub, a software built in-house that gathered requests from various internal sources, called PRIMUS. The analysis of those requests was developed in relation to the main shocks and stresses of the city, as identified in the Resilience Strategy of Rio de Janeiro, being categorized in terms of natural & meteorological risks; urban mobility; security and infrastructure during Rio 2016. Furthermore, the full report also provides a quantitative analysis of the street demonstrations that happened in the period and the tackling of suspicious objects.

Many systems and apps were developed exclusively for Rio 2016, and their functionality and overall utility were also analysed in this research.

This research analyzes exclusively the planning and actual performance of city operations within the Rio Center of Operations, with a focus on mobility and integrated actions of departments in the urban

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[2] https://www.olympic.org/news/how-do-we-know-that-rio-2016-was-a-success

space. It is important to note that the planning for Rio 2016 was carried out by a multitude of federal, state and city departments, and that within the municipality the planning came under the leadership of the Empresa Olímpica Municipal. Furthermore, public safety does not fall within the competency of city governments in Brazil, and therefore all the monitoring and response to threats were led by the joint force that involved the State Military Police and representatives of the Armed Forces. For this reason, public safety is not a subject of investigation in this research.

The summary of the results of the research developed by the team of HANDs/Puc-Rio is thereby presented:

Key innovations and recommendations

URBAN MOBILITY

Innovation for Rio 2016

- Development of integrated contingency plans for the main transportation modes for the Games.
- Real time monitoring of transportation modes: subway, trains, buses, by means of Integrated Committee for Urban Mobility (CIMU). CIMU had three main objectives: monitor the flow of the public; respond with integrated actions to incidents or operational problems in the transportation modals and implement contingency plans if needed; manage information in the groups of instantaneous messages for city managers.

Recommendations for operational legacy

- Make permanent the real-time monitoring of transportation modes, with regular presence of representatives inside the Rio Centers of Operations

- Improve contingency plans, considering interdependencies, with enhanced detailing and simulations
- Support the development of new or renewed contracts with public concessionaires of transportation that incorporate means for permanent real-time monitoring by the city and population
- Flexibilize the end of the work shift, in order to better tend to exceptional events
- Develop new ways to communicate directly with commuters
- Keep logs of incidents in the city, as a way of identifying opportunities for improvement in operations of transportation modes

MEDIA AND SOCIAL NETWORKS

Innovation for Rio 2016

ROL2016 - an initiative developed by COR, with the support of the Secretariat of Science and Technology, for intense monitoring and analysis, with decision-making capability, of publically-available social media, as a means of tackling situations that impact the urban space. The innovation of ROL2016 was mainly the intensity of the monitoring, aimed at identifying the perceptions and requests from the public in competition venues and live sites. The Social Media Assistants working for ROL2016 were assigned and targeted specific clusters of the city, of the four Olympic clusters, and they generated a daily report. This initiative expanded a preexisting service provided by the in-house communication department, for many years already involved with monitoring social media through search of keywords.

Analysis of the posts in social media by ROL2016 registered approximately 220,000 posts, and 387 requests were either first identified or confirmed during the Olympic Games, and 145 requests identified/confirmed during the Paralympics, of which 50% related to urban mobility. The identification of these requests in near real-time was important to prompt decision-making, avoiding escalation and further disturbances to the public.

Recommendations for operational legacy

- Keep the intense monitoring of publically-available social media in the operational routine of the city, stepping up on the curent monitoring from the communications department.
- Establish specific analytical tool for social media, aimed at highlighting situations that can potentially impact the urban space and the normal routine of the city.

MONITORING OF THE CITY

Innovation for Rio 2016

Recommendations for operational legacy

- Build upon the concept of monitoring the city by clusters, and resolution of requests from those clusters, covering the whole city.
- Register all the requests regularly, so as to allow for analysis of Big Data and proposals for improvement.

INTEGRATION OF INTERNAL AND EXTERNAL STAKEHOLDERS

Innovation for Rio 2016

- Development of PLACOM, or Communication Plan, a comprehensive and updated list of all the public departments and private partners involved with Rio 2016, with the names and detailed hierarchies and competencies. A smaller version of this document has always existed as routine, but PLACOM's reach and scope was unprecedented, allowing immediate and direct access to most decision-makers for the Olympic operations

- Use of instant messaging apps integrating managers of different governmental agencies, in accordance to careful analysis of PLACOM for the creation of groups that led to quick and effective decision-making.

Recommendations for operational legacy

- Keep PLACOM updated and with widespread use
- Rationalize groups of instant messaging, to avoid overlapping and confusion
- Reinforce the integration between departments of different government spheres and private partners built for Rio2016.
- Clarify and keep updated the knowledge about the capabilities of COR among city stakeholders

ICT INFRASTRUCTURE FOR MONITORING

Innovation for Rio 2016

- Development by the team of COR of PRIMUS, a system for the aggregation of requests from various different input systems, integrating requests that arrived from all means of monitoring. It consisted of the main support system for the Olympic Coordination, a subset of coordinators within the Situation Room of COR. During the Olympics, PRIMUS registered 706 requests, 6,659 activities and 370 pieces of information. It was made available to all operators inside COR, as a means of aligning real-time knowledge of what was going on in the city to all those inside the Situation Room.

Recommendations for operational legacy

- Invest in the improvement of PRIMUS in its capacity of analysis of data, registering of key performance indicators, generation of statistics and reports, and information security
- Keep the effort for the integration of databases from different city departments.

INTERNAL MANAGEMENT FOR RIO OPERATIONS CENTER

Innovation for Rio 2016

- Establishment of a Planning Team responsible for: a) organize and identify the main highlights of events during the Olympic operations, inputing the planned activities into the agreggator software PRIMUS, developed by COR exclusively to integrate all requests from all departments; b) develop PLACOM - the Communication Framework; c) create and maintain groups of instant messaging divided by clusters, with an average of 125 city managers in each groups, including the Mayor.
- COR with constant and direct access to the Mayor with unprecedent regularity

Recommendations for operational legacy

- Formalize the existence of the Planning Team, in order to guarantee continuity
- Institutionalize COR within the city's structure reflecting its effective role
- Support development of future contracts for transportation service providers, establishment permanent presence of representative and monitoring capabilities, in order to keep operational the Integrated Committee for Urban Mobility.

Other Recommendations

Further the technological and data integration with internal and external stakeholders, and also inside the Situation Room of COR.

COR should promote and reinforce its presence with the public by providing feedback each time a citizen provides a valuable piece of information that proved relevant to the operations of the city

The Office of Sustainability and Resilience (former Rio Resiliente), located inside COR, should have a more active role in operations, in order to fully participate in the five dimensions for dealing with shocks in the city: prevention, monitoring and, after the shock, mobilization, communication and constant learning.

Credits
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All pictures: Prefeitura do Rio de Janeiro - Cidade Olímpica

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Secretary of Conservation Marcus Belchior

Management team of the Rio Operations Center: Alexandre Cardeman, Marcio Almeida, Marcus Gentil, Pedro Martins

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