



**Research on Crisis Management and
Risks Associated with COVID-19
Pandemic**

Multimodal investigation Project



Transport Safety Board

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Published by the JST. In case this material is partially or totally used, the following format is suggested: Transport Safety Board.



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Introduction

This project proposes carrying out a descriptive research with evidence about the strategies and practices developed by key actors of the transport system to manage safety and health risks associated with SARS-CoV-2 (COVID-19) pandemic, thus to manage the current crisis¹. This project encompasses the four modes of transport (aviation, rail, road traffic, and marine and inland waters) and is carried out according to the mission of the Transport Safety Board (JST), which is promoting safety culture in the Argentine transport system.

The State response capacity facing a crisis such as the SARS-CoV-2 pandemic is shown in a variety of State actions developed in the different agencies of the National Public Sector: National Executive Branch, Presidency of the Cabinet of Ministers, Ministry of Health, Ministry of Transport, and the regulatory and enforcement agencies of the transport system. These actions had an impact on the transport service provision for people during the crisis and aimed at operations being affected as little as possible. It entailed imposing rules and regulations related to the crisis as well as establishing effective communication channels with the service providers for their enforcement and the systematic assessment of the actions.

Accordingly, this research proposes enquiring into the crisis management practices and strategies of the coronavirus pandemic crisis aimed at ensuring the continuity of operations of the four modes of transport, assessing the impact of such safety strategies and practices, and identifying the implications for State action as Lessons Learned. The Lessons Learned will be supplies for the regulatory and enforcement agencies and other key actors of transport in view of promoting effective management for future similar events.

This project is based on a systemic understanding of the origin and development of the pandemic in relation to the systemic model of the JST accident investigations. This framework explains the analysis of the current pandemic based on the systemic accident theory. Besides, the objectives are addressed from a strategy that includes qualitative and quantitative methods and techniques.

¹ On 11 February 2020, the International Committee on Taxonomy of Viruses (ICTV) announced that the name of the new virus would be «severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)». Thus, this virus will be called “Sars-CoV-2” in this project, and the coronavirus disease, discovered in 2019, “COVID-19”.



The project considers the creation of a research collaborative network with national and international agencies in order to establish a joint field of responsibility, and to systematically promote a risk prediction and management culture. Joint work will allow for effective and efficient strategies in order to face events of this scale in the Argentine transport sector.

The results will be submitted as Lessons Learned with implications for future action and will be addressed to regulatory and enforcement agencies related to each mode of transport. In turn, based on these proposals, they will be able to develop policies and start to jointly work with service providers for the effective implementation of planned crisis management strategies.



Purpose

This project seeks to disclose the strategies and practices implemented by the regulatory bodies and service providers of the four modes of transport to manage safety -operational and health- risks associated with SARS-CoV-2, thus to manage the current crisis. This study will allow identifying the Lessons Learned during the pandemic in order to be ready to manage future crises and associated health and safety risks as appropriate as possible.

There are also other purposes. On the one hand, other purpose is the expansion of the scope of implementation of the JST investigation model and, therefore, its scope of responsibility towards the investigation of major disruptive events similar to other safety boards. On the other hand, other purpose is the promotion of safety culture with the aim of developing effective and efficient strategies to face major disruptive events in the Argentine transport system.

Scope

The results of the project are expected to have the following impacts:

- Creation of a research collaborative network with national and international organizations.
- Cooperation between safety boards of other countries developing similar projects.
- Promotion of the systemic model for the management of other similar events in the various transport organizations in order to improve planning, implementation and assessment of the management of these types of accidents.
- Creation of a JST data bank that collects and classifies the strategies and practices implemented in the risk and crisis management of the Argentine public transport during the current pandemic.
- Development of a Lessons Learned report arising from the research.



Reason for the Project

The JST is a decentralized organization in the orbit of the National Ministry of Transport whose objective is to contribute to multimodal transport safety through 1) the technical transport accident and incident investigation, and 2) the development and issuing of effective safety recommendations (based on the results of the investigations) and action plans for implementation.

In order to carry out the investigation tasks and development of the corresponding safety recommendations, the JST implements its own work methodology based on the systemic model for accident investigation. This model allows understanding the “accident” concept as an event resulting from the unexpected interaction of multiple failures in a complex system, whose complexity is revealed through the interrelations of social, technological and even biological components -subsystems-.

In the context of the current SARS-CoV-2 pandemic, the JST identified the need and opportunity to expand the scope of implementation of the investigation model towards major disruptive events in line with safety boards of countries such as the Netherlands (*Dutch Safety Board*) and Finland (*Finnish Safety Investigation Authority*). These boards, besides focusing on their corresponding multimodal transport system, are the competent authority on safety and accident, incident and major exceptional events investigation.

In this regard, the JST has the legal right to conduct specific studies, investigations and special reports about transport safety, independently of the investigations conducted from transport events (Act 27.514/2019, Art. 26).

The design of the investigation is descriptive and exclusively technical, excluding the determination of administrative, civil or criminal liabilities and/or assigning blame, whose area belongs to the legal or administrative investigation, which the JST is independent of (Act 27.514/2019, Chapter 1, Subsection D).

Stages

The project has four stages, which are described in chart 1 (below).

Chart 1. Stages of the project.



Source: Own research.

Research Question and Objectives

Research Question

The following questions gave rise to this research: What were the crisis management strategies and practices facing the coronavirus pandemic that the multimodal transport

organizations implemented in order to maintain operational continuity during the pandemic period since 3 March 2020 (patient zero in Argentina) until 31 August 2020”?

General Objective

To identify and systematize the crisis management and health and safety management strategies and practices implemented by the Argentine transport system organizations in the framework of the SARS-CoV2 pandemic between March and August 2020.

Specific Objectives (SO)

SO1: To collect, systematize and analyze documentation related to SARS-CoV-2 crisis management as well as to health and safety management (rules, regulations, procedures, guidelines, etc.) issued by the regulatory bodies and service providers and other key agencies of the transport system.

SO2: To collect and analyze primary data on the practices and strategies for crisis management and health and safety management implemented by the various actors of the transport system.

SO3: To identify the implications for State action as Lessons Learned to be considered by the regulatory and enforcement agencies and other key actors of the transport sector in order to promote effective management of future similar events.

Methodological Design of the Research

A descriptive investigation design has been chosen. The objectives will be addressed with a strategy that includes qualitative and quantitative methods and techniques: secondary data collection and organization, and primary data processing and analysis. Consequently, a survey is developed where quantitative and qualitative data merge.

Quantitative data comes from:

- Statistics
- Documents and other secondary sources
- Surveys

Qualitative data comes from:



- Documents, rules, guidelines, procedures and other secondary sources
- Semi-structured interviews to key informants involved in crisis management, and health and/or safety management.

Due to the amount of public and private organizations from the Argentine transport system, the population object to the research will be limited according to two important transverse units of analysis for the four modes of transport: regulatory bodies and service providers. Key organizations were selected for each mode of transport; each JST transport department will make the selections for each mode of transport and the selection of samples to organize data collection.

The data collection process will be structured according to the units of analysis selected. Within each unit of analysis, the semi-structured interviews will aim at certain positions/functions (explained below).

Regulatory and enforcement bodies:

- Senior Management
- Crisis Committees
- Safety Leader
- Leader of Health and Safety in the Workplace

Service Providers:

- Senior Management
- Crisis Committees
- Safety Leader
- Leader of Health and Safety in the Workplace
- Medical Services
- First-line Operators

The participating units of analysis will be part of the research collaborative network (check annexed document for participating organizations of the network).

It is worth mentioning that the following are excluded: private road traffic transport and the transport system users.

Strategies and Practices to Verify in the First Stage (more can be added during the research):



- Real-time government information update procedures (basis for the organizational strategies design)
- Creation of crisis committees
- Establishment of alternative workplaces
- Work system design by substitute groups
- Immediate action procedures after contagion (at the workplace and at home)
- Safety and health procedures
- Training and dissemination
- Continuity plans for personnel ratings
- Risk management and communication of each specific mode/organization
- Medical advice and support for workers (at the workplace and at home)
- Psychological support for workers (at the workplace and at home)
- Risk perception by workers, managers, etc.
- Perception of the effectiveness of the risks and crisis management strategies
- Informal risk management measures developed by first-line operators (collective and individuals)

Stages of the Field Work

During stage 3 of the project, field work will be conducted and will be divided into three stages:

STAGE 1	STAGE 2	STAGE 3
Document Collection and Analysis	Field Work: Interviews and Surveys	Data Processing and Analysis Database Creation

During stage 1, the relevant documentation to the main concern of the project will be collected. Consequently, regulations and other health and safety management and crisis management documentation will be requested from the governmental agencies (Ministry of Transport, regulatory and enforcement bodies of each mode of transport, etc.) and key service providers of each mode of transport.

The processing and analysis of these documents will allow creating a database; the JST will focus on the significant information about the measures taken by the key transport agencies in Argentina in order to face the crisis. The database will be public.



The preliminary analysis of stage 1 will allow designing the tools for stage 2 (guidelines for interviews, survey forms, etc.).

Stage 2 (interviews and surveys are carried out) seeks to understand how the crisis and the risks associated with the coronavirus pandemic were managed by key Argentina transport agencies. Interviews and surveys will be processed during stage 3.

Deliverables

1. Consolidated database of the crisis management strategies and pandemic related risks in the four modes of transport of the Argentine transport system.
2. Public research report with results obtained.
3. Lessons Learned Report.

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