

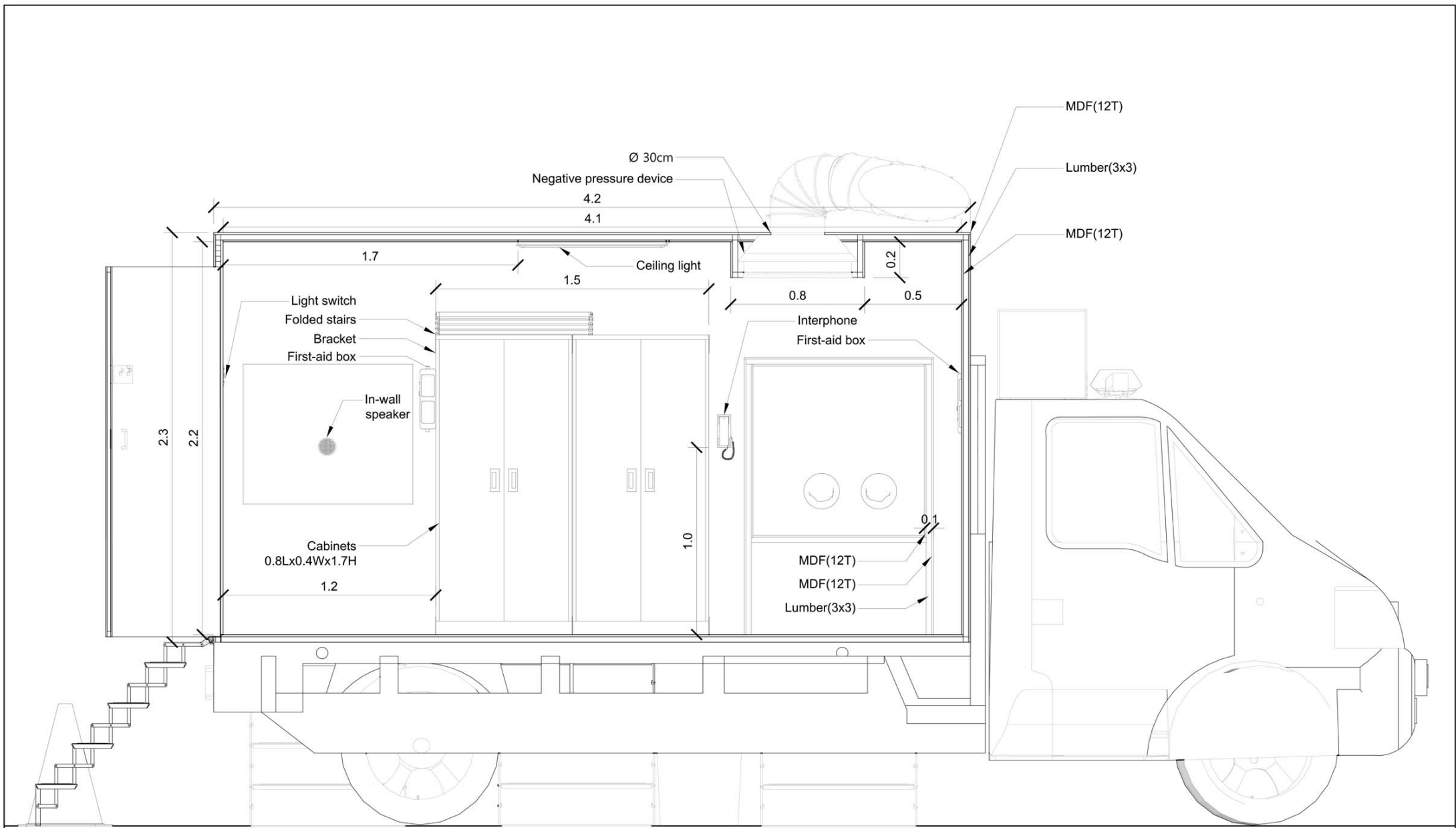
Mobile testing truck for COVID-19: an efficient testing site using standardized materials to quickly build for developing countries

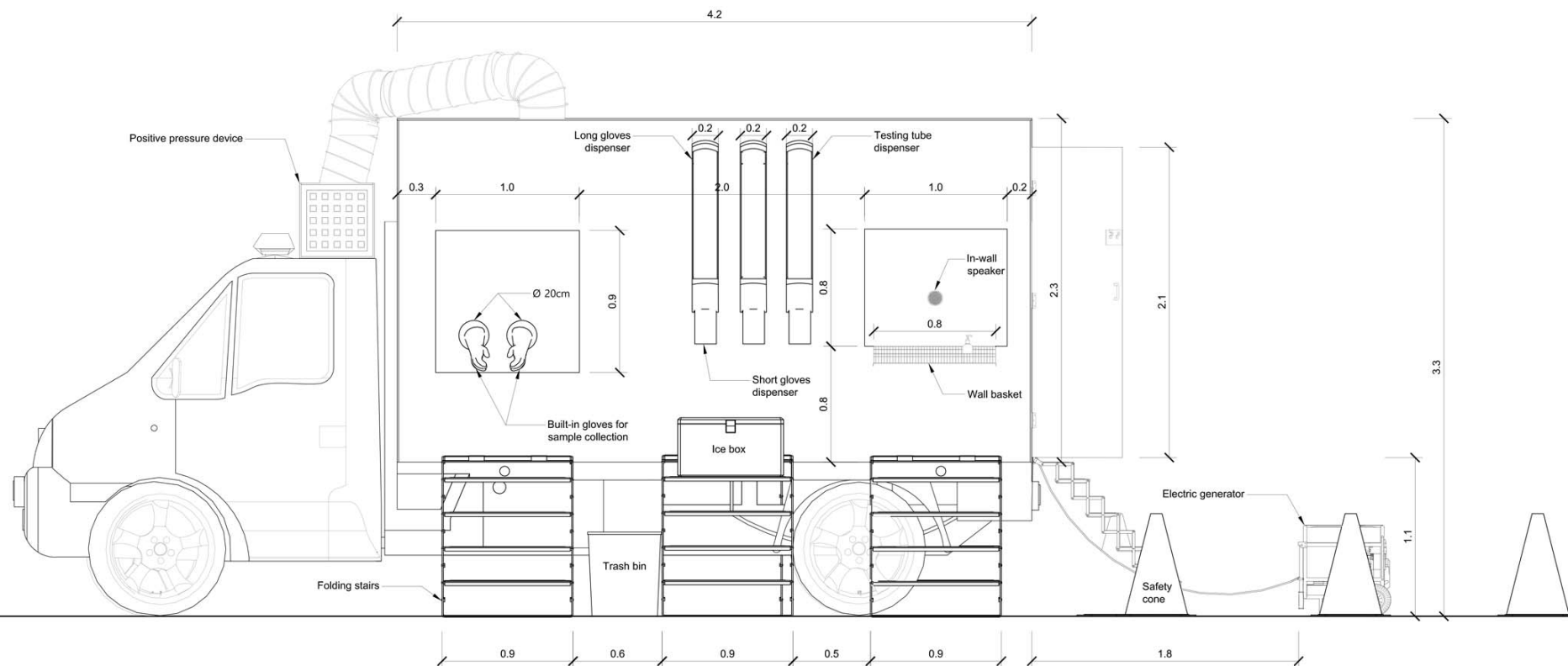
Overview

Mobile testing truck for COVID-19 is designed by Architecture Urban Planning Lab to provide an easy-to-build test site considering both health care workers' safety and availability for patients who live in areas that COVID testing site is not conveniently located. The truck is constructed using the most standardized materials available throughout the world: MDF 12mm sheets and 3cm x 3cm lumbers. The acrylic board(10mm) has two 20cm holes with medical gloves in order to allow the medical personnel to perform examinations without being in direct contact with patients. Installing a positive pressure device inside of the booth prevents viruses from entering the booth by keeping the pressure inside high. Also in order to prevent distortion of the booth from moist, apply polyurethane as finishing for the interior.

By converting the back of a truck into a testing site, it is equipped with a positive pressure machine, 6 medical personnels, and test kits. The patients are tested by medical personnels who will remain in the truck (sanitized area) to minimize the contact with patients.

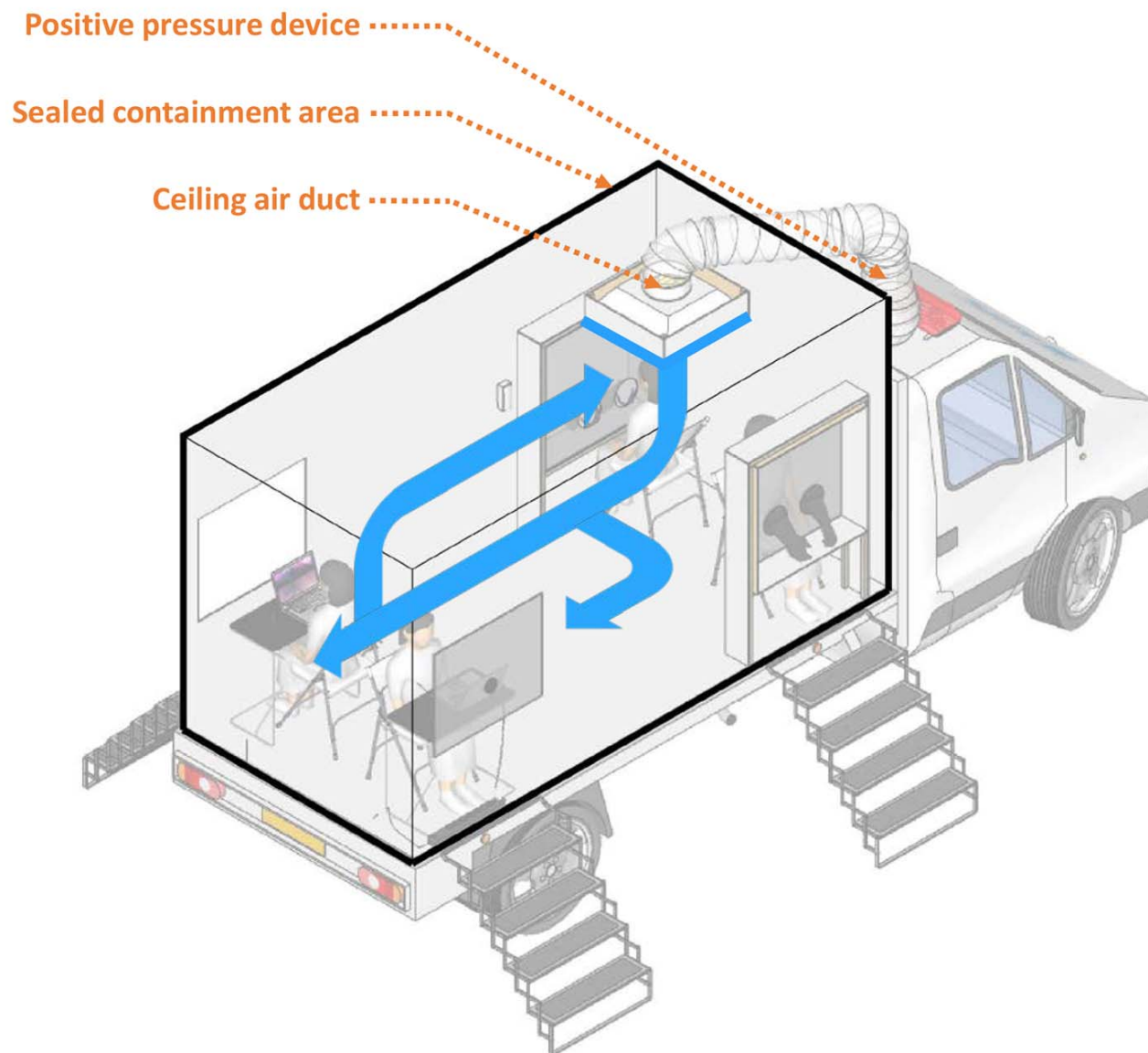






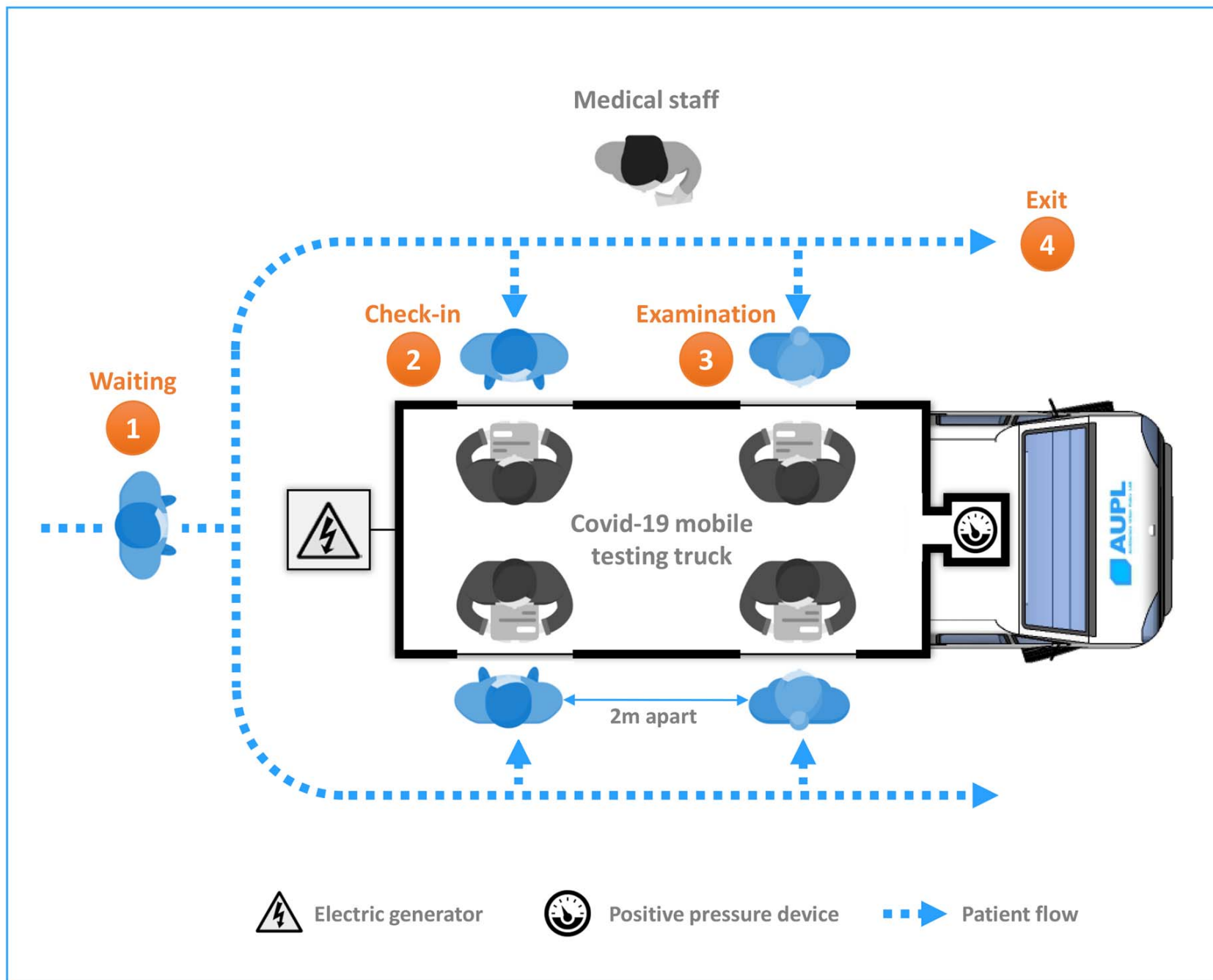


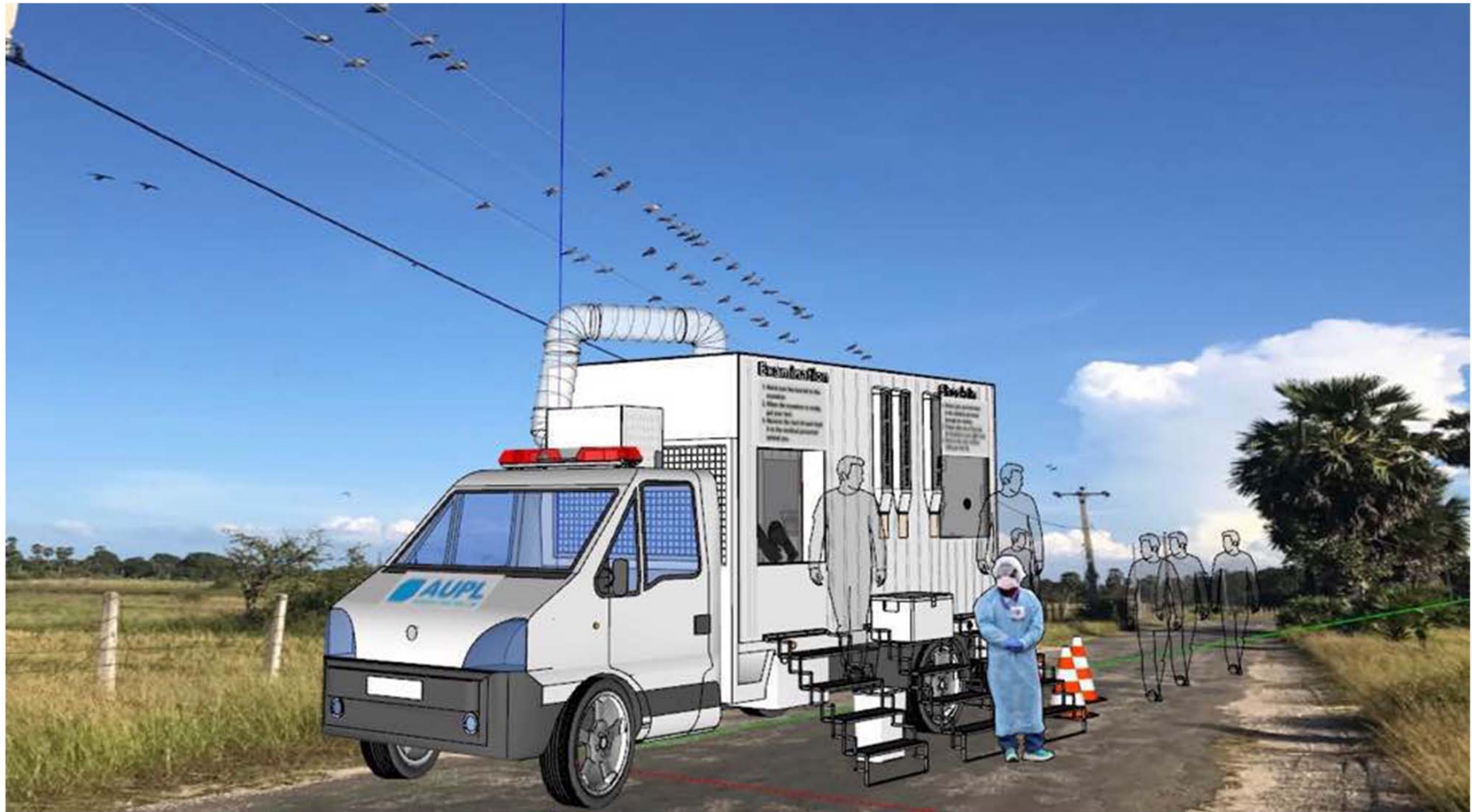
Mobile Testing Truck Pressured Air Circuit

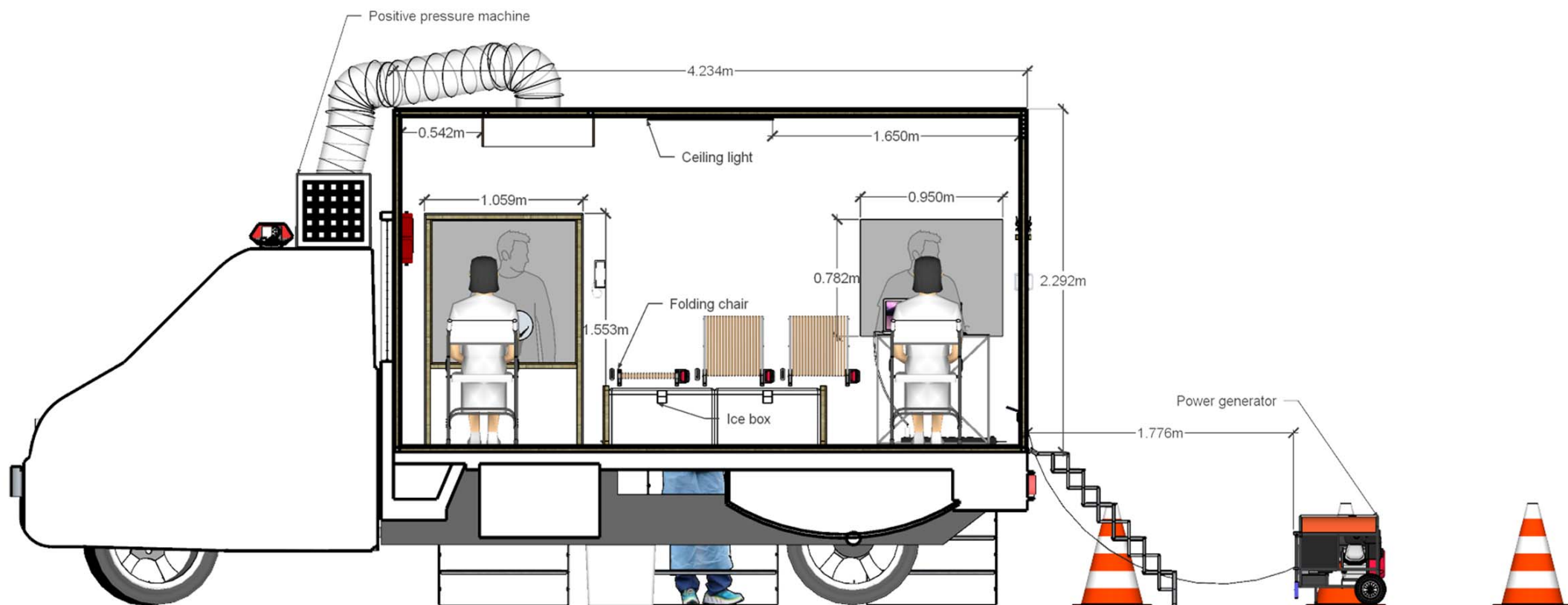


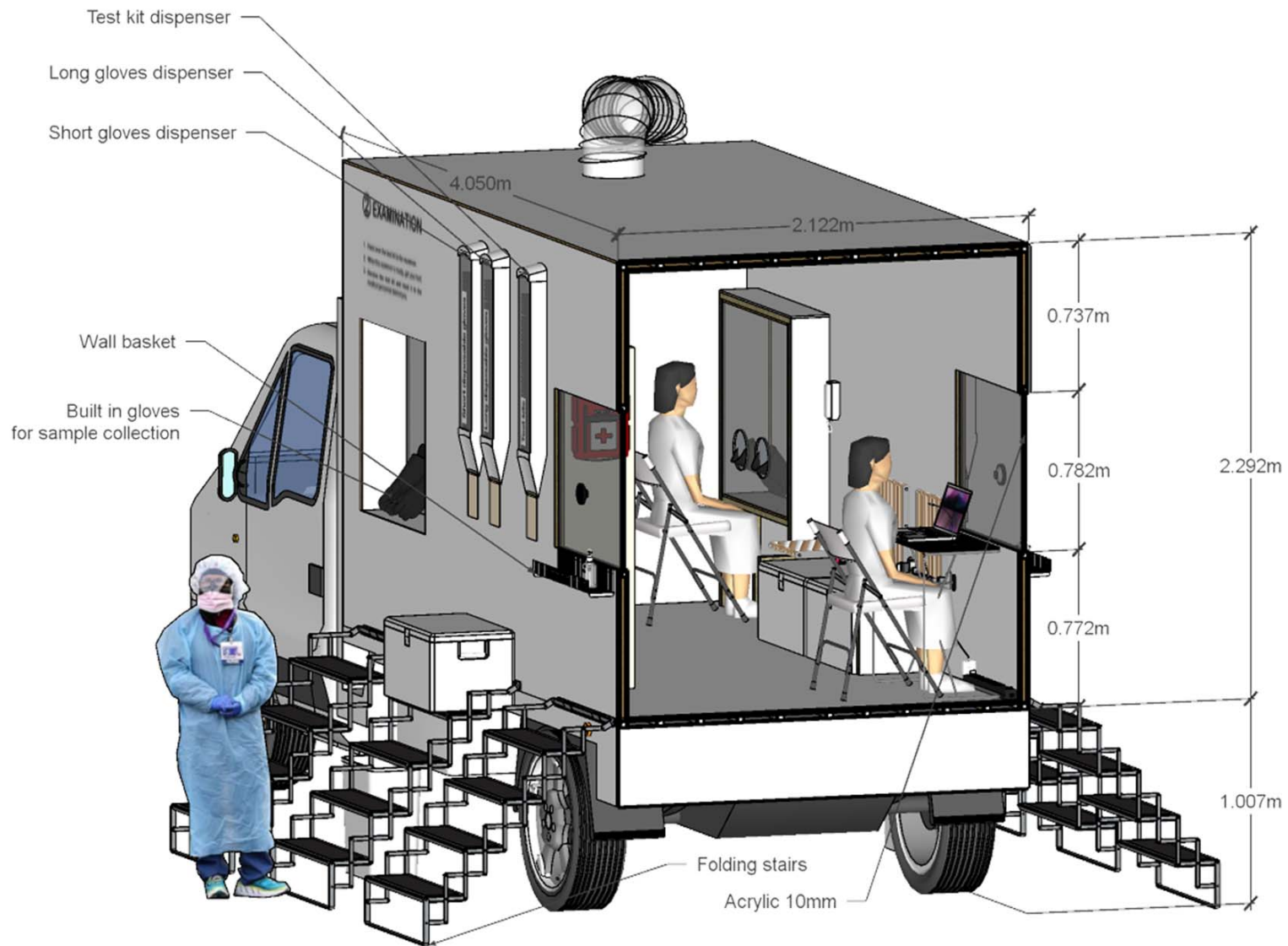


Mobile Testing Truck Patients Process Flow



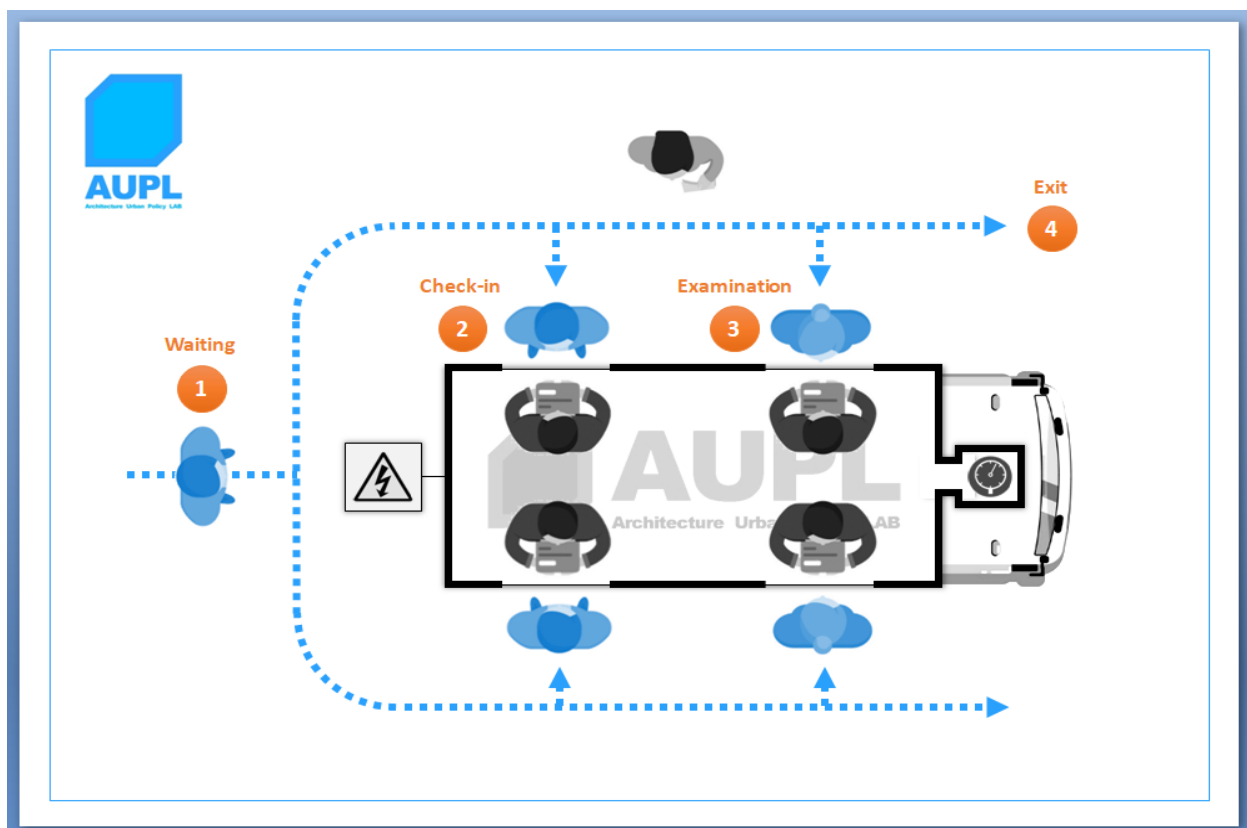






Process

Upon arriving at the mobile testing site, the patient checks in at the first station (2). During check-in, the patient provides personal information. When instructed, the patient takes one of the testing kits from the dispenser and shows its unique code to the medical personnel through the window. After, the patient moves onto the examination area. The examiner will receive the testing kit from the patient and proceed testing. After the testing is done, the patient hands over the kit to the medical personnel behind and exits. Once the patient has left the examination zone, the test tube goes into the ice box to be kept at a certain temperature. Once the medical staff has placed the testing tube inside of the icebox, using the gloves dispenser, she changes her own gloves first and changes gloves for the examiner for the next testing.



Cautions

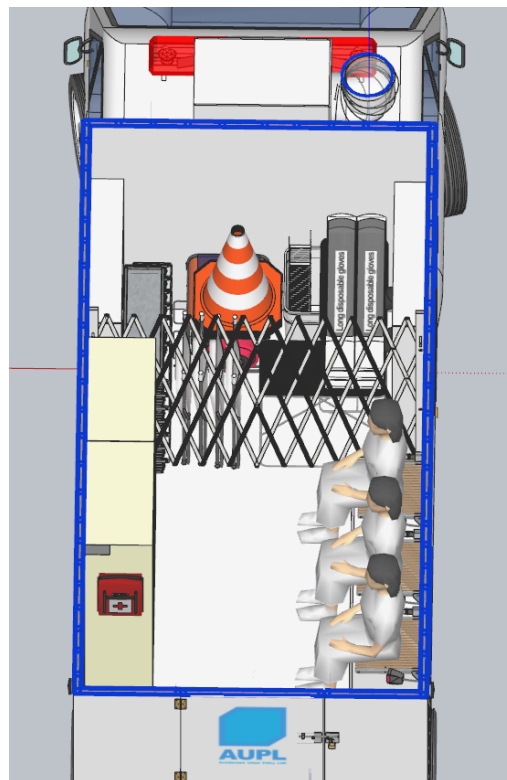
- The electric generator should be placed at least 1 meter away from the truck and should be kept away from moist/liquid entering.
- In order to keep a safe working environment, two medical personnels working outside should rotate with the ones inside every certain hours.
- In case of rain, there should be a tent covering at the minimum of the power generator and positive pressure machine located in the front of the bus.
- Since there will be no additional cleaning of the surface on the truck itself, the patients should never touch any part of the truck.
- In case the patient is very fragile, the medical personnel outside should stand behind to support the body in avoidance of falling.
- Every furniture located inside of the truck needs to be fixed to the wall using brackets if they are not put away behind the folding gate at the end of the examination day.
- In the waiting area, patients need to be 2 meters away from each other.

Items

Complete list of items needed in order to operate mobile testing truck

Item	Quantity	Position when in operation	Remark
Electric generator	1	Exterior	-At least 90cm away from truck -Avoid water and moist.
Safety cone	8	Exterior	-Surrounding power generator
Folding stair	7	Exterior	
Ice box	2-4	Exterior	-Should be able to keep certain temperature for at least 8 hours
Dispenser	6	Exterior	-Labelled clearly
Positive Pressure Unit	1	Exterior	
Folding chair+seat belt	3	Interior	
Work table	2	Interior	
Folding chair	4	Interior	
Laptop+charger	2	Interior	
First-aid box	2	Interior	-Place close to medical staffs for emergency

Garbage can	4	Exterior	
Long disposable glove	As many as the truck can test per day	Exterior	-Have extra in the cabinet
Short disposable glove	As many as the truck can test per day	Exterior	-Have extra in the cabinet
Interphone	4	Exterior	
Trash bag	30	Interior	-Have extra in the cabinet
Fixing bracket	20	Interior/Exterior	-Used to prevent movement while driving --Have extra in the cabinet
Hanging rack	2	Exterior	-Used to hold hand sanitizer
Hand sanitizer	6	Exterior	-Have extra in the cabinet



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