



SAFETY ASSESSMENT OF MITRE LINE RAILWAY STATIONS



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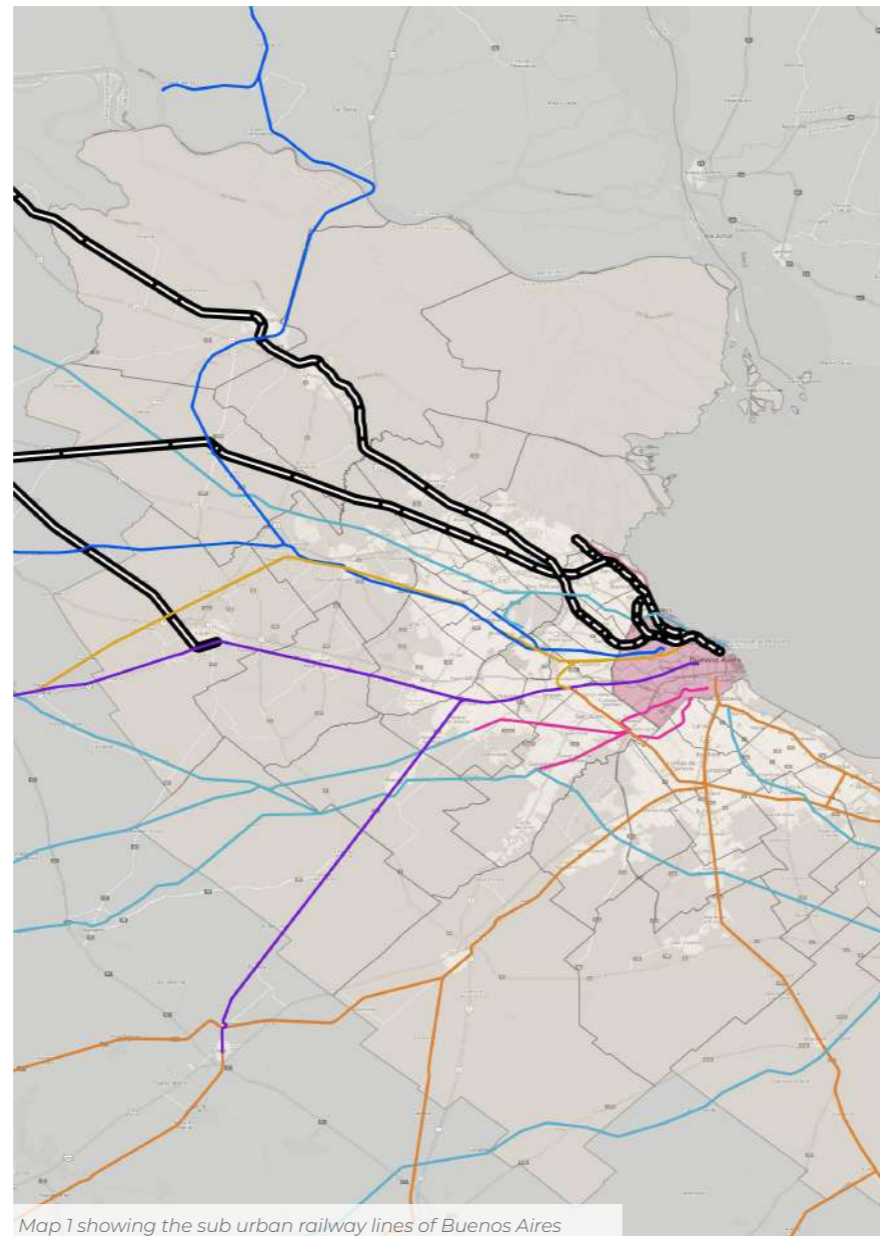
Special thanks to the World Bank team-Veronica Ines Raffo, Ignacio Sanchez D'Ocon, Andres Garcia Treceno for their constant feedback and support.

INTRODUCTION

The World Bank in collaboration with the Government of Argentina is working on the Buenos Aires- Mitre passenger railway line modernization project. The main objective of the project is to upgrade the existing railway line infrastructure to make it more reliable, inclusive, accessible, and safer for use. The project focuses on upgrading the existing 56 railway stations and the building of new multi-modal stations for efficient integration of the railway system.

The Mitre line is the third most used of AMBA's (Área Metropolitana de Buenos Aires) eight suburban rail lines. In 2019, the Mitre line carried 13 percent of total passengers of the AMBA railway system (58 million annually). It has five branches with 56 stations which span across 192.4 km of the railway track. The Buenos Aires – Mitre Passenger Railway Line Modernization Project will upgrade and renew the railway infrastructure, including the Retiro railyard, as well as tracks, signaling and electrical systems in different branches of the Mitre line, as the existing infrastructure is outdated and of poor quality.

Given its importance, improving efficiency and safety around the Mitre line will have positive spillover effects on the entire public transit system in the region. It would improve user's access to public transport, contribute towards alleviating traffic congestion and pave the way towards a more sustainable urban transport. The project will also facilitate and improve access to jobs through enhanced and robust public transport systems, thereby reducing social inequality particularly for socially vulnerable groups.



Map 1 showing the sub urban railway lines of Buenos Aires



Base: Google Map

Buenos Aires Railway Tracks



The project aims to contribute to gender equality by improving women's access to transport services. The lack of safe and reliable public transport services and related infrastructure restrict women from using public transport thereby decreasing their access to various opportunities. Apart from upgrading the existing physical infrastructure of the railway stations and constructing new multi-modal railway stations, the project will also look at aspects of gender inclusion and safety at and around the railway stations.

As a part of this gender and safety assessment, The World Bank engaged Safetipin as a consultant in the Buenos Aires – Mitre passenger railway line

modernization project to conduct safety and accessibility assessment of the 7 selected railway stations on the Mitre Line named Benavidez, Bancalari, Tigre, Victoria, J. L. Suarez, San Martin, Facultad De Derecho and their surroundings. Safetipin is a technology platform that works to make communities and cities safer by collecting and disseminating safety and accessibility related information on a large scale through a set of map-based applications.

The overall aim of this study was to identify gaps in existing infrastructure and suggest recommendations to promote safety, accessibility and inclusion at and around the railway stations.



Map 2 showing the location of assessed 7 railway station

METHODOLOGY

For this project the Safetipin Site tool was used to collect in-depth information about the built environment and social usage around the railway stations. Safetipin Site is a technology tool designed to collect information about selected public places or public services through a detailed questionnaire, pictures, and spatial data. The app can be used to assess public spaces such as railway stations, bus stops, public toilets, public parks, etc to collect detailed information on spatial and infrastructural parameters. The app records geo-coordinates of the collected images for evidence-based assessment.

As a part of the gender and safety assessment, 7 selected railway stations on the Mitre line in Buenos Aires were mapped using Safetipin's web application- Safetipin Site. The collected data has been used to understand key mobility patterns and related concerns of the railway users. Specific questionnaires were designed to

assess the existing condition of physical infrastructure at the railway station buildings, platforms and public toilets. Bus stops within 800m radius of the railway station terminals were mapped to understand the last mile connectivity concerns of the users. Availability of designated parking spaces, condition of lighting and walk path at and around the railway stations have also been assessed.

Universal accessibility elements such as ramps, tactile paving, pedestrian crossings around the railway stations have been studied to identify safety and mobility concerns of the pedestrians particularly the differently-abled. To better understand the social usage around the railway stations, information on number of people, presence of shops and vendors and types of activities were captured. User perception surveys were formulated to understand the key safety and accessibility related concerns of the users.

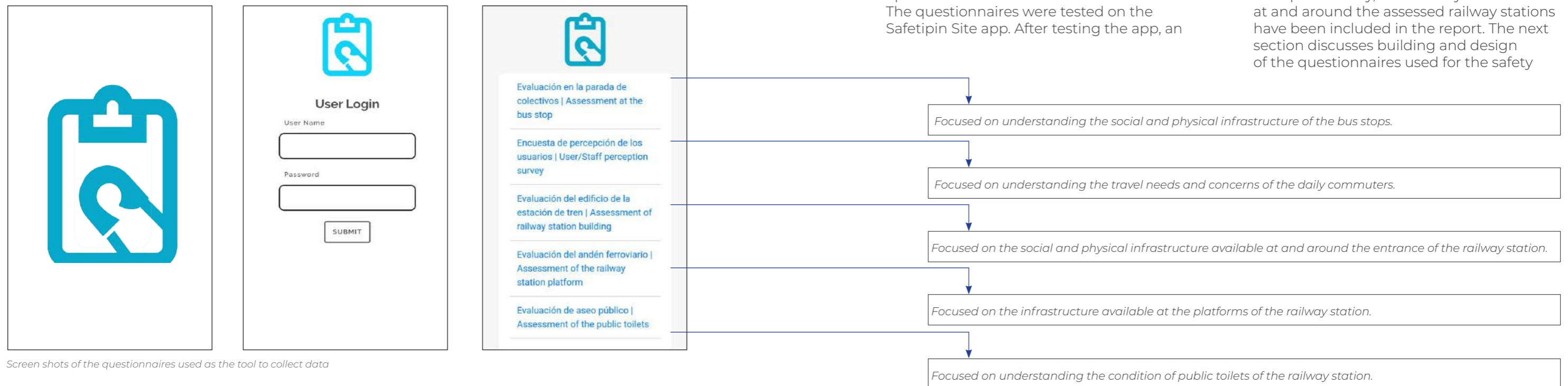
As a part of this assessment, the Safetipin and WB (The World Bank) teams worked closely with the national railway construction and maintenance company ADIF (Administración de Infraestructuras Financieras Sociedad del Estado) and the Argentina State Railway Operator, SOFSE (Operadora Ferroviaria Sociedad del Estado) to conduct the safety mapping around the selected railway stations. Existing images of the railway stations along with geo- spatial data layers were shared with the Safetipin team by the ADIF and SOFSE teams. The information helped Safetipin team to better understand the local site context and design the safety mapping assessment accordingly.

Online interactive sessions were organized with participants from ADIF, SOFSE and WB teams to take their feedback and inputs on the Safetipin Site assessment questionnaires. The questionnaires were finalized in consultation with the ADIF, SOFSE and WB teams. The ADIF and SOFSE teams translated the questionnaires in Spanish for the ease of the data collectors. The questionnaires were tested on the Safetipin Site app. After testing the app, an

online training workshop was conducted by Safetipin team to train the data collectors from ADIF and SOFSE teams for using and collecting information using the Safetipin Site app.

Each data collector was assigned a specific railway station and the surrounding area for conducting the assessment. The information was collected in August 2021. A WhatsApp group was created with the data collectors and the Safetipin team to assist in app troubleshooting and address any queries. The collected responses were reviewed by Safetipin and feedback was shared with the data collection team. Post data collection, the responses in Spanish were translated to English by ADIF and SOFSE and shared with the Safetipin team for analysis.

Safetipin's team of architects and urban planners reviewed the collected information, and identified existing gaps in infrastructure along with key user concerns. Action points to improve safety, accessibility and inclusion at and around the assessed railway stations have been included in the report. The next section discusses building and design of the questionnaires used for the safety





Designing the questionnaires

Building Gender-Inclusive Railway Stations



Women traveling with small children and bags in Buenos Aires. Source: Heather Allen, ESMS (2018)

A literature review was carried out to understand the mobility related concerns of women. This helped the Safetipin team in designing questionnaires to assess mobility and safety concerns of the station and bus users.

This section discusses the travel patterns, accessibility and safety related concerns of different user groups. It also presents key features of a gender inclusive railway stations.

Well- designed, safe and easy to access railway stations form an integral part of the city's essential services. This is important both from the perspective of environmental sustainability and providing affordable mobility solutions to the residents. This is particularly important for vulnerable user groups such as the elderly, women and

children. Ensuring safe travel for women benefits other groups including children and the elderly, as often women are the care givers in the family. Planning for the needs of women would make the city more inclusive and equitable.¹

Since vehicular ownership lies primarily with men from higher economic groups, women, especially from lower economic backgrounds, tend to rely more on public transport. As a result of using public transport more frequently, women are also more likely to suffer due to the lack of safe and accessible transport options.

This not only restricts women's access to the city, but also consequently, reduced their opportunities for better education, employment and overall quality of life. (Network Rail, 2011)

Unfortunately, despite women's higher dependency on public transport being reported in various studies over the years, traditional policies and city planning continues to adopt a gender- neutral perspective, which overlooks the differing needs of its various users and stakeholders.

The way men and women travel in public transport, is very different. Due to persisting gender roles, women often take up a majority of domestic responsibilities in addition to employment. This forces them to make a higher number of shorted trips throughout the day, leaving them time poor. This is in stark contrast to men, who usually take longer trips, but only at specific times of the day.²

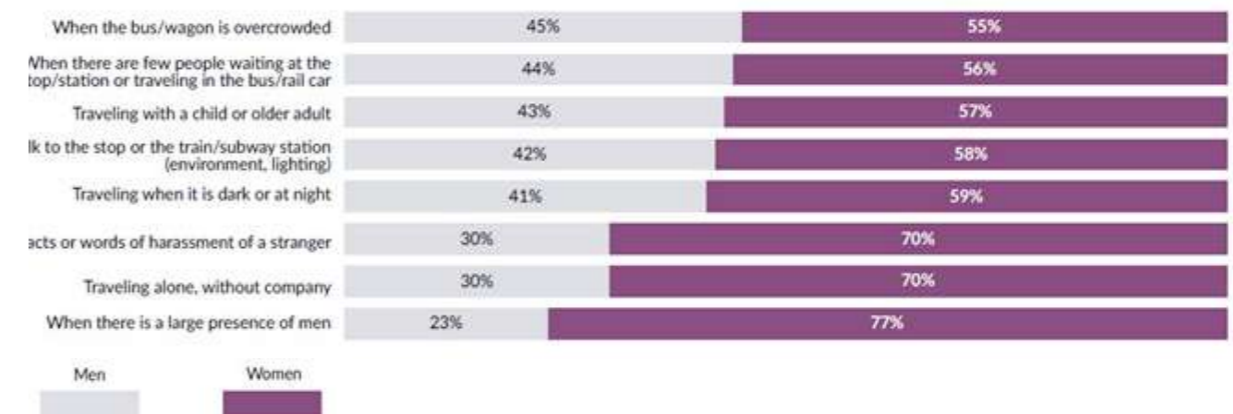
Additionally, women often travel with children, strollers or shopping bags and thus, have significantly different travel needs, which resemble that of the elderly,

or people with disabilities. In addition to different infrastructural requirements, while both men and women are scared of theft or robbery, women also face a fear of sexual harassment, and worry more about using public transport, especially when it is dark. (ESMS, 2011)

Public transport planning must take into consideration the travel needs of different users including women, elderly, children and differently-abled people. This includes provision of safe access to public transport and related infrastructure. In the situation where public infrastructure fails to cater to women's needs, they may even be forced to give up traveling itself, and as a result may loose out on better education and jobs.

Key elements of designing a gender-sensitive railway station are discussed in the following section.

Aspects that generate insecurity while traveling in Buenos Aires. Source: ESMS (2018)



1. Network Rail. (July 2011). Guide to Station Planning and Design, Issue 1.

2. CAF; FIA Foundation. (2018). Ella se mueve segura .

Key Elements of a Gender- Inclusive Railway Station

I. Accessing the station safely and comfortably

A railway station is used by people of varying ages, genders, mobility levels, at different times of the day or night. To ensure unrestricted use of the station, last-mile connectivity beyond the stations must also be ensured. This includes direct and safe connections between access points of the station and nearby bus stops or para-transit hubs.

Pedestrian Access

Improving connectivity beyond the station can decrease the time of the journey and hence, increase the opportunities available to women to work and travel in the city. A well- developed pedestrian network is especially beneficial to women with children, or women carrying heavy bags.

Pavements to the station must be well paved, well-maintained, brightly lit and obstruction free. Pedestrian crossings should be equipped with elements like dropped curbs, tactile tiles and safety islands to ensure universal accessibility for users who may be on wheelchairs, visually-impaired or even carrying heavy luggage.

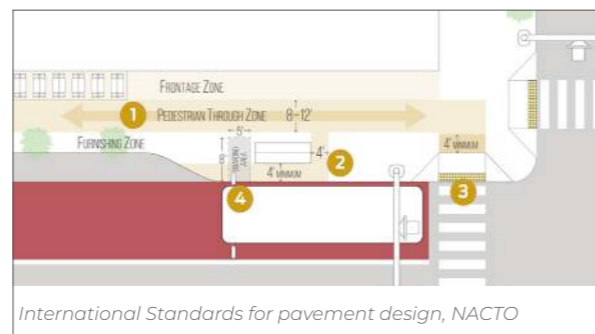
Supporting infrastructure like retail kiosks or designated vending areas can also generate activity along the routes, which may improve the perception of safety and familiarity around the station, encouraging women and girls to travel even at night.

Well connected bus stop or para-transit hubs

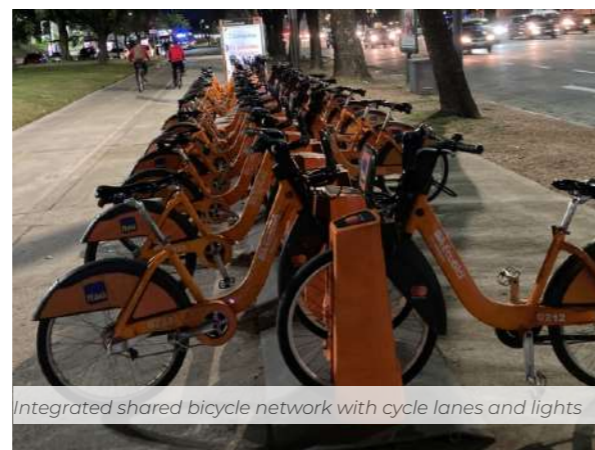
Accessible bus stops, cycle stands or other para-transit services near the railway station, provides the freedom of choice, and enables users to reach the station at different



Well lit, well paved and obstruction free pavements



International Standards for pavement design, NACTO



Integrated shared bicycle network with cycle lanes and lights

times of the day and night. However, to ensure usage by women and girls, these transit hubs must be equipped with **adequate lighting, seating infrastructure, clear signage and real-time passenger information** at the bus stops, which helps them feel safe and comfortable.

The infrastructure at the bus stops and para-transit stops must be assessed periodically, and maintained accordingly to ensure continuous usage by the users. Panic buttons and emergency helpline numbers should also be provided at the bus stop to help people in distress.

Private vehicles

Clean, well-lit and clearly demarcated parking should be provided at the station for the ease of users traveling in their own vehicles. The parking should have reserved parking for persons with disabilities, to encourage them to travel with comfort at their own convenience. This should be clearly indicated with universally recognised symbols.

Supporting signage

Due to their care-related roles, women are often required to trip chain, while accommodating for their children's schedules, shopping, and running other domestic errands. Consistent and simple way finding signage and real time information about services or disruptions should be provided beyond the immediate vicinity of the station. This includes station entrances, nearby bus stops, and along the pavements or bike routes to ensure that users are able to plan and change their travel conveniently.



A well-designed bus stop with clear sight lines, seating and real time information. Image Source: Sebastián Anapolsky.



Designated Parking Source: <https://www.heraldsun.com.au>



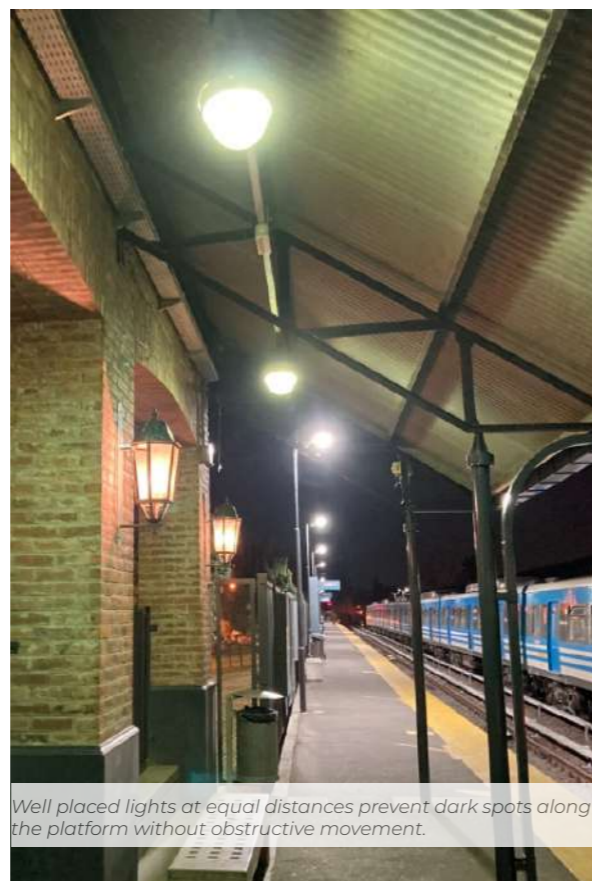
Real time information and schedules at bus stops. Image Source: www.smartcity-displays.com/

II. Providing and maintaining adequate lighting infrastructure

Railway stations are civic amenities and may need to be accessed at all times of the day or night. As discussed previously, lighting infrastructure is essential in supporting public transport and last mile connectivity to and from the station, especially for women and young girls using the station at night. Additionally, lighting also plays a critical role in creating a safe and comfortable user experience within the station premises.

Lighting provisions must be designed to prevent undesirable dark corners and provide a consistent level of illumination in and around the station either through direct (ceiling lights, lampposts) or indirect (advertisement banners, shops, reflective surfaces) sources. Light sources can also be designed with varying levels of illumination to define routes in existing stations or highlight important facilities without building additional infrastructure.

Regular **upkeep and maintenance** of these amenities is essential to sustain the quality of the station environment and ensure an appealing and comfortable experience for its users.



Well placed lights at equal distances prevent dark spots along the platform without obstructive movement.

III. Designing crime-preventing infrastructure

The presence of surveillance devices such as CCTV cameras can be helpful to record criminal activities in railway stations. However, while CCTV cameras may be helpful in identifying perpetrators, they do not reduce the risk of crime. Alternatively, the station infrastructure must itself be designed to prevent and be secure against a range of different threats, including accidents, robberies or petty crimes, and physical or sexual harassment.



Porous walls allow clear sight lines and increase safety

Direct connections with clear sight lines and high visibility in all directions, between key facilities around the station can help reduce the anxiety and fear that women may experience in the station, especially if they are unfamiliar with the area.

Special emphasis must be given to tunnels and overpasses that are used to cross platforms, as they tend to have dark spots, be out of immediate sight and thus attract unwanted activities. Ideally, they should be wide, porous, with clear sightlines and no dark corners. They should also be supported with well-lit lifts or escalators to ensure usability by all.

Clear sight lines must be supported with **social activity that promotes natural surveillance**. Thus, key areas around the stations such as intersections between platforms, ticket counters and waiting areas should be designed to be in clear view of each other, and of benches and small shops which people use regularly.

Other activity-generating facilities such as food courts, retail kiosks or cash machines could also be provided with respect to the range of users, the daily footfall, and context of the station to encourage social interactions and aid the perception of safety within the station.

This infrastructure must be supported by visible crime prevention elements, such as police warnings, information on police patrols and directions to guard rooms. While the presence of security personnel—male and female police, or private guards can discourage criminal activity, effective grievance systems must still be in place to ensure that the users are able to promptly seek help during emergencies.

Thus, **helpline numbers and other protocols** must be clearly displayed on signboards as well.



Porous and well lit platform crossing, with clear sight lines.



Access points, ticket counter, seating and retail units all placed in clear view of each other, in a well-lit environment.



Female guards can make women and girls feel safer

IV. Providing accessible sanitation services for all

Sanitation requirements for men, women and other genders vary due to both biological reasons like menstruation and pregnancy, and safety reasons like the occurrence of gender-based violence in public toilets. The female body also needs to at least partially undress to urinate, thus requiring more space, time and privacy than the male body. These barriers, are further exacerbated at the intersection of age or disability. Thus, providing equitable access to sanitary facilities to all users, can mean increasing funds, reconfiguring toilet spaces, and installing supportive infrastructure which help overcome both safety and sanitary barriers.

Separate toilets with clearly demarcated entrances should be provided for men, women, and non-binary or transgender users. All toilets should be safe, well lit, reachable via an accessible path and indicated clearly with internationally recognised, and gender-sensitive signage.

All toilets should be made universally accessible as per international standards. Openings for the toilet unit as well as cubicles should be large enough for wheelchair users to move and maneuver without obstruction. Other elements to be provided include wide, outward-opening doors, sturdy handrails designed to support body weight and even a large bolt lock which is easier to grip. All basic features including washbasins, mirrors and hygiene management facilities should also be provided at a lower height to ensure usability by all. (WaterAid, 2018)

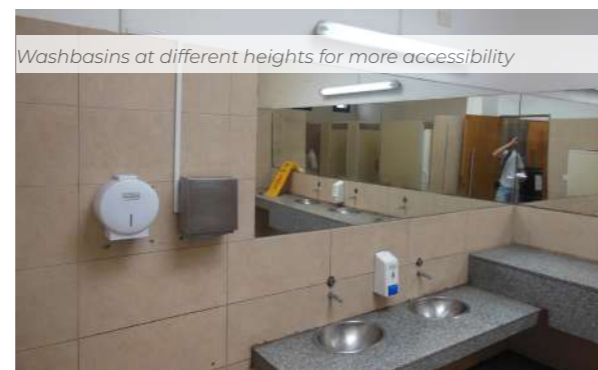
Providing supportive infrastructure for people who menstruate can enable them to spend longer hours in the public domain



Gender inclusive and disability-friendly (braille) signage, Source: www.payette.com/



An accessible and 'female-friendly' toilet. Source: WaterAid



Washbasins at different heights for more accessibility

without discomfort, and thus increase the opportunities available to them. Both female and gender-neutral toilets should be supported with hygiene facilities including water and soap; hooks, shelves and mirrors; access to menstrual products; and means for washing and/or disposal of menstrual products in a safe and dignified way.

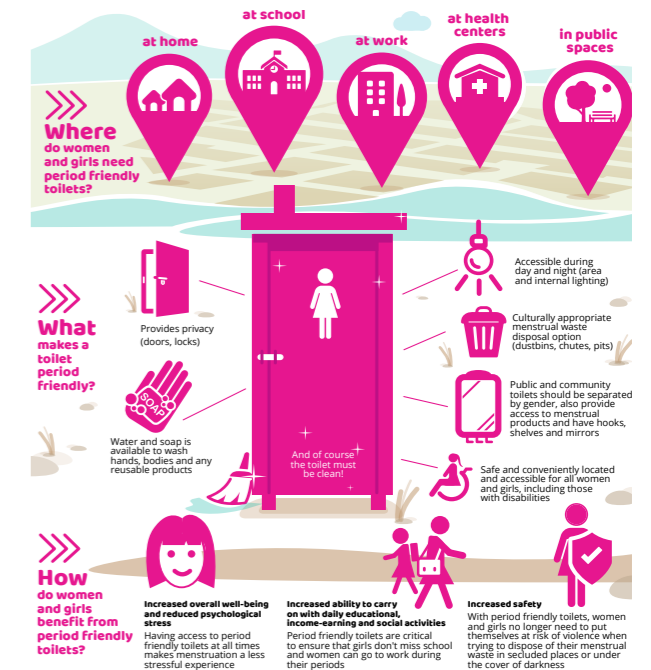
The toilet facilities should also include family-friendly cubicles or units which cater to the requirements of caregivers, irrespective of gender. Amenities should include adequate space for both the caregiver and the person they are caring for, diaper changing station, and hygienic disposal systems.

To ensure sustained usability, toilet facilities should be well maintained, have trained attendees and be functional during all operational hours of the railway station.

VII. Place-making around the station

Railway Stations may also be designed to promote a distinctive identity of the local context and add value as a landmark. By communicating a sense of place, the station can become a destination, adding social, economic and environmental value. This can enhance the walking experience of the users while attracting significantly larger economic benefits and revenues to the railway station.

An attractive public place can lead to increased commercial activities which encourages natural surveillance, providing a safer, and more comfortable transit experience for women.



Source: WASH United, WSSCC, World Vision



Placemaking to boost walkability & comfort Source: UNSense

A photograph of a railway station area. In the foreground, a paved walkway leads to a grassy area with several black, ornate street lamps. A long, covered walkway with a metal frame and glass panels runs across the middle ground. In the background, there is a large brick building with arched windows and a red-tiled roof. A tall palm tree stands to the right of the brick building. The sky is overcast with grey clouds. The text "Site Assessment at Railway Stations" is overlaid in white, bold font across the lower half of the image.

Site Assessment at Railway Stations



Benavidez

Tigre

Victoria

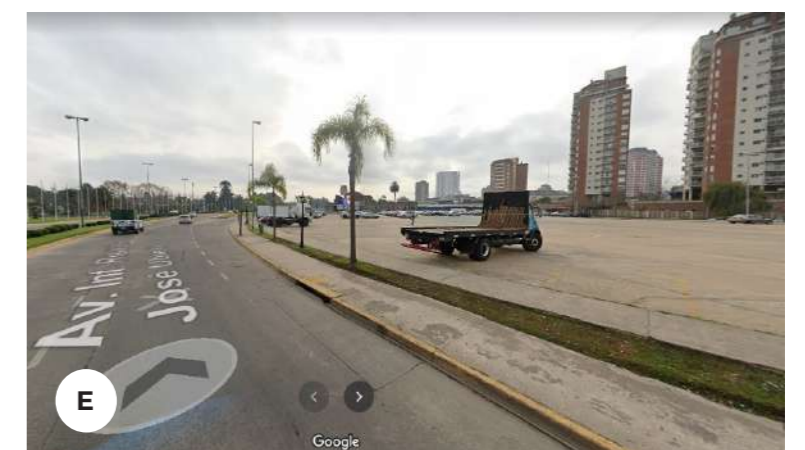
Bancalari

J.L. Suarez

San Martin

Tigre

Tigre station is one of the most popular and frequented stations. It is located on the Mitre railway line in Buenos Aires. It serves the Tigre town in Buenos Aires province. This station recorded a footfall of 3.5 million passengers in 2019 with a daily count of 9,551 passengers per day. The station has 4 platforms of which 3 platforms are with shelter and one is without shelter. The station complex has two large parking spaces located next to the station. This station is well connected and easily accessible by bus. Few bus stops present within 100 meter radius of the station are shown below:



At the Station



Lighting

The station entrance is well lit by pedestrian scale lights, streetlights and flood lights.

The station waiting area and platforms are well lit by flood lights and ceiling lights.



Walkpath

An un-obstructed and well maintained pavement is available. Elements of universal accessibility such as curb ramps and hand-rails are also available at the entrance of the station building. Tactile tiles are not available at the entrance.

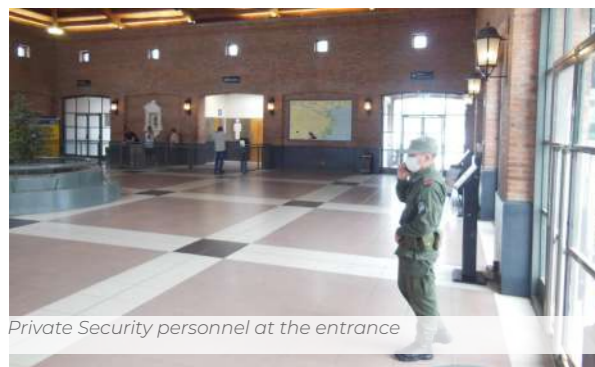
The platforms inside station building are also designed with universally accessible elements like ramps, tactile titles and at grade crossing for crossing the platforms.



Security

The station entrance is being monitored by female and male police personals. CCTV cameras are also installed outside the station entrance.

The platforms are being monitored by male police personnel, male private security guard, station in-charge and CCTV cameras.



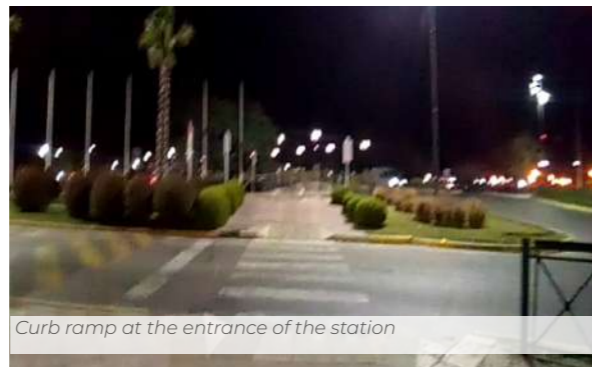
Private Security personnel at the entrance



Lighting condition at the entrance



Ceiling lights at the platform



Curb ramp at the entrance of the station

Amenities at the Station



Parking Area

Two unpaid parking areas are available outside the railway station building complex for the general visitors.

Data collectors reported that the parking areas are well-lit with pedestrian-scale lights, street lights and flood lights. Pavement with curb ramp is available to walk from the parking area to the station building. Data collectors also reported that the parking areas are being monitored by CCTV



Parking area



Other Facilities

Some shops, restaurants and cafes are present inside the railway station complex. Few kiosks are also available inside the complex.

Benches, trash bins, and public toilets are available on the platform.

Additional facilities such as train arrival and departure schedule, route information, real time information, audio announcement, are available inside the station building. Helpline numbers and help desk/inquiry counter are also available.



Entrance complex



At grade crossing



CCTV Camera



Real time information display



Trash bins and seating space

 **Public Toilets**

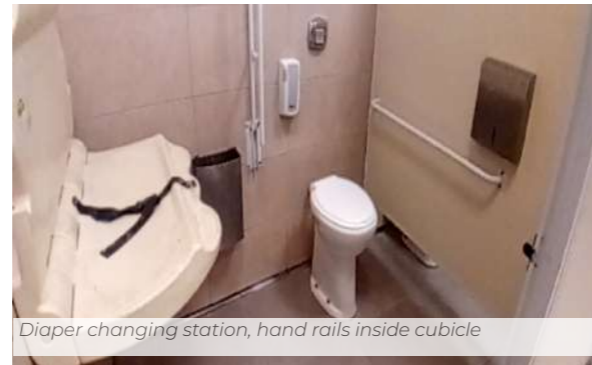
The station has an unpaid toilet facility available for women, men and differently-abled people located inside the railway station complex. The toilet facility is operational from 6:00 hrs to 20:00 hrs.

The toilets can be easily identified with the help of pictograms installed on the entrance of the toilets.

The toilets are well lit by ceiling lights and all the light fixtures are functional. The toilets are monitored by male and female security personnel and are well maintained.

Basic facilities such as dustbins, soap dispensers, towels/tissue dispenser, mirrors and diaper changing station for babies are also available.

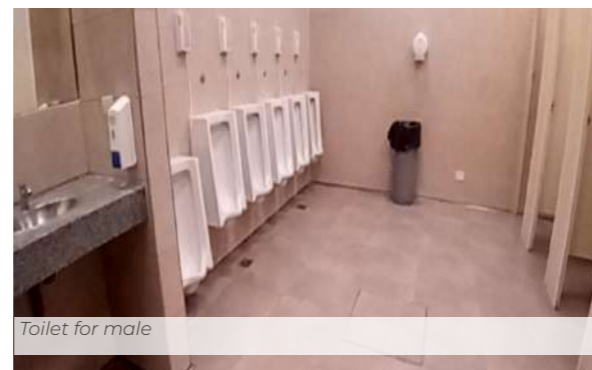
Facilities for differently-abled persons such as low height basin and handrails are also provided. However, the door width of the cubicle is less than 1.2 meters which makes it difficult for people on wheelchairs to enter the cubicle conveniently.



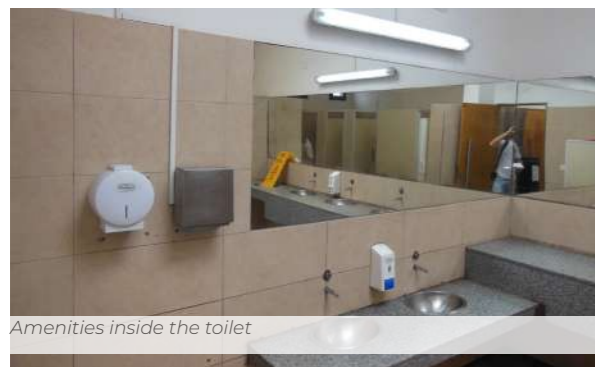
Diaper changing station, hand rails inside cubicle



Wash basins with different heights



Toilet for male



Amenities inside the toilet



Staff maintaining the toilets

User Feedback

“During the early morning you feel insecure at the entrance area, just before the waiting hall (especially winters when it is dark)”

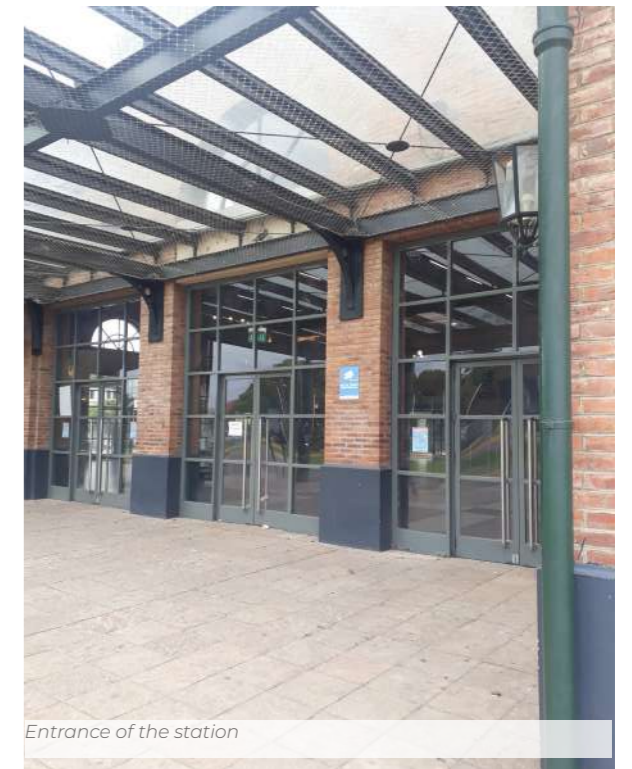
“Inconveniences to find the bathroom due to lack of information and signage”

“No information is there about the train schedule and help desk staff does not inform about the delays”

“The train is not usually very on time and it is common to hear comments on the street and around the station”

“We need more security in the vicinity of the station”

“In the morning there is very less circulation of people around bus stops and this gives a feeling of insecurity”



Entrance of the station



Back entrance without any surveillance



Vicinity of the station without active surveillance

Last Mile Connectivity



Bus Stops

721 and 722-Bus Stop

The bus stops 721 and 722 are located at 100 meter and 200 meter distance from the railway station complex. They are identified by bus stop poles. Private and government buses stop at both the bus stops. The path from the railway station building to the bus stop as well as the bus stop is well lit by pedestrian scale lights and street lights.

Some commercial buildings like shops, restaurants are available in the 200 meter radius of the bus stop.

Public amenities such as street furniture (chairs/benches), and trash bins and are available at the bus stops .

Facilities such as audio announcement and CCTV cameras are also provided . Data collectors also identified a help desk in the vicinity of the bus stop. Facilities such as route maps, real time information and braille signage for visually-impaired users are not available at either of the bus stops.

On the path from the railway station to the bus stop, 5-10 people were present out of which half were women and children.



Trash bins and benches



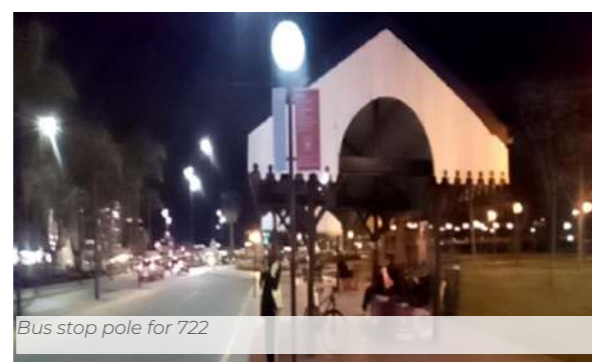
Bus stop pole of 721



Pedestrian scale light and Announcement speaker

"They stole my cell phone waiting for the bus at the stop"

"We need more visible safety and the panic button on the street"



Bus stop pole for 722

721 Estacion Togra

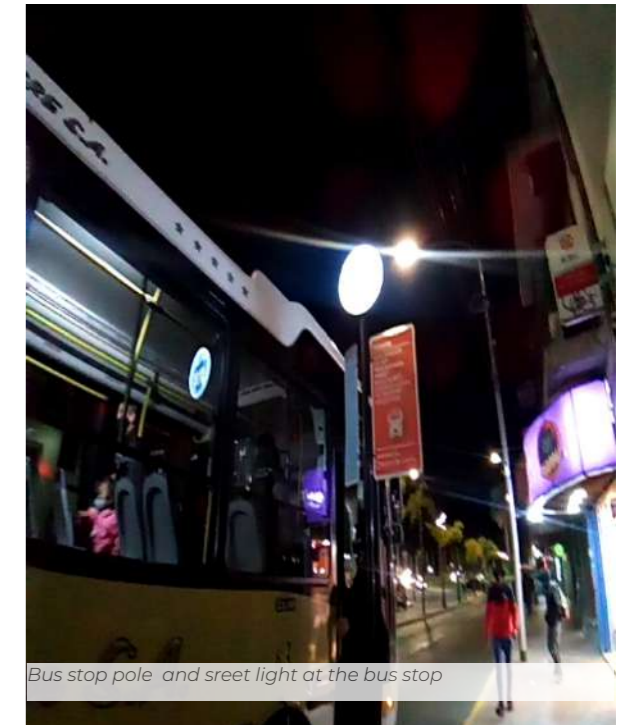
The bus stop 721 Estacion Togra is located at of distance of 200 meters from the railway station complex. The bus stop is identified by a bus stop pole. Only private buses stop at this bus stop. The path from the railway station building to the bus stop, and the bus stop itself, are well lit by pedestrian scale lights and street lights. The pavement is free from any obstructions.

Facilities such as 24X7 shops and services, such as restaurants and cafes are present around the bus stop.

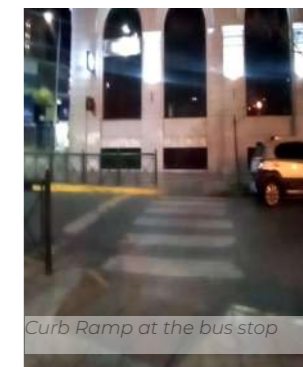
Trash bins and CCTV cameras are available at the bus stop. Bus route information is not available at this bus stop.

For universal access, only tactile tiles are available. However, these tiles are discontinuous and do not cover the path from the railway station to the bus stops. Braille signage or audio announcements for visually impaired users is not available.

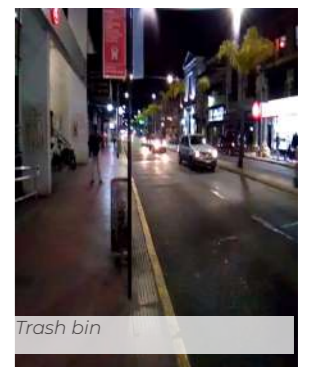
On the path from the railway station to the bus stop, banks, pharmacies, cafeterias and other retails buildings are present.



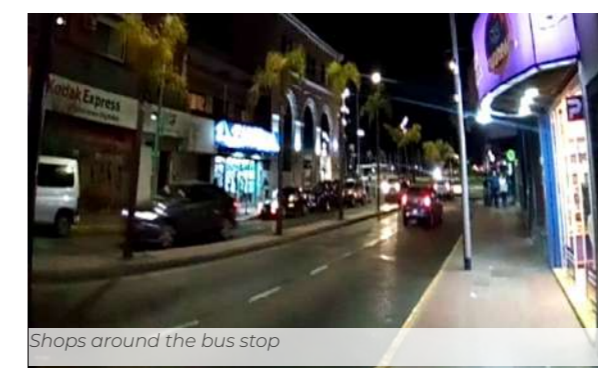
Bus stop pole and street light at the bus stop



Curb Ramp at the bus stop



Trash bin



Shops around the bus stop

"I feel unsafe while commuting to the railway station from home/ work place and while waiting at the bus stop"

"We need space to sit while waiting at the bus stop"

Action points for Tigre

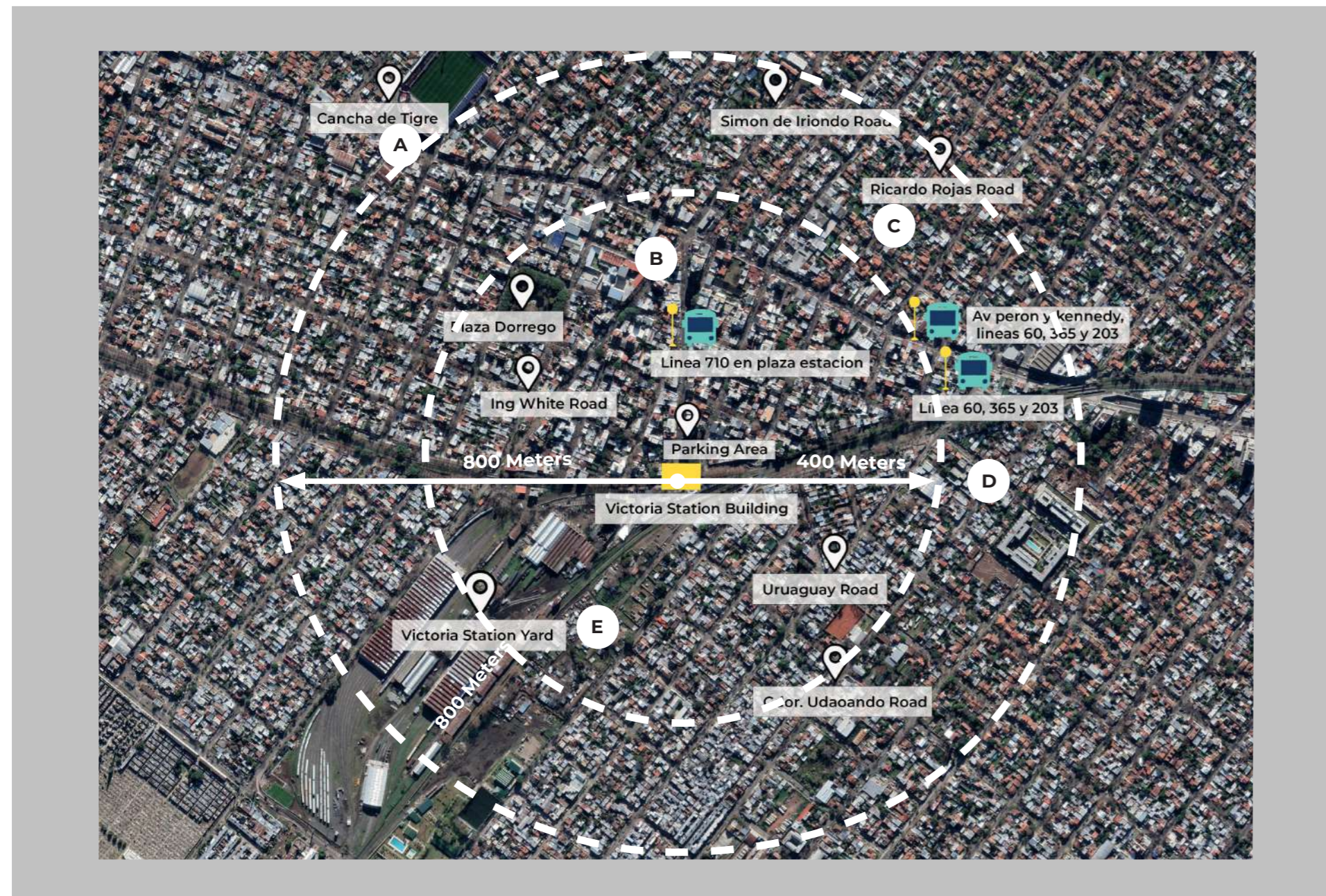
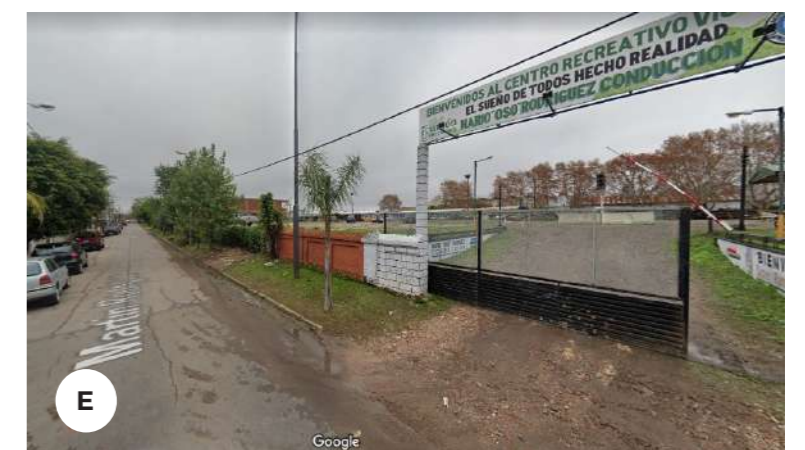
Findings	Action Point
<p>Lack of Toilet Signage</p> <p>Users reported inconvenience in navigating the toilet facility due to the lack of signage.</p>	<ul style="list-style-type: none"> · Provide clear and globally recognised signage for toilets for all genders. The signage should also be pointing/guiding towards the different toilet sections at the station.
<p>Inconvenience due to non-adherence to schedules</p> <p>Users reported problems of non-adherence to the fixed railway timings.</p>	<ul style="list-style-type: none"> · Provide real time information of train schedules and the information about expected delays outside the station. · Make such information available on railways website or mobile phone app to help passengers plan their journeys.
<p>Lack of Safety and Security</p> <p>The users especially women reported incidents of sexual harassment while waiting at the station and while walking to the station.</p> <p>Users also reported lack of visible security at and around the station.</p>	<ul style="list-style-type: none"> · Provide active surveillance (police patrolling, help desks with female staff) at and around the Tigre railway station to ensure safety of the commuters. · Vendors and shops at and around the station also provide a sense of safety to the commuters. Promote retail and encourage female vendors/shopkeepers to set up their business at the station complex. · Set up help lines, share the details with all the female passengers and build a robust grievance redressal system. This will instill a sense of confidence among women to seek help if they encounter unsafe situations. · Employ more women in the railways- as planners, designers and operators. Provide supporting facilities such as separate washrooms, child care facilities so that women can take up employment in railways.
<p>Reclaim Open Parking spaces</p> <p>The railway station has two large parking areas. Some of this space for parking can be reclaimed and used as a public space for station users.</p>	<ul style="list-style-type: none"> · Tigre station complex has two large parking spaces. These spaces can be re-claimed and re-designed for active public participation. Insertions like temporary exhibition panels, children's play area and provision of open air theater for the station users to perform and engage could be designed to create vibrant public spaces around the station.

Action points for Bus Stops

Findings	Action Point
<p>Lack of physical infrastructure</p> <p>Few bus stops were found without the basic facilities. User surveys highlighted the need of seating space at the bus stops.</p>	<ul style="list-style-type: none"> · Provide shelters at the bus stop along with a bench/chairs to sit. · Provide information such as agency logo, station name, route map, and bus schedule for the ease of the commuters. · For visually impaired people provide braille signage.
<p>Lack of universal accessibility elements</p> <p>Lack of universal accessibility elements make it difficult for commuters to access the bus stops.</p>	<ul style="list-style-type: none"> · Provide minimum of 1.2 meter wide pavement for the ease of walking of the pedestrians along with a person on a wheelchair. · Design and build safe pedestrian crossings (preferably table top crossings with timer) to facilitate movement of the pedestrians. I . · Provide universal accessibility elements such as continuous tactile tiles, curb ramps and hand rails to access the bus stops.
<p>Lack of Safety and Security</p> <p>Most of the interviewed users had concerns regarding the lack of physical security around the bus stops. Some incidents of verbal abuse and theft were also mentioned.</p>	<ul style="list-style-type: none"> · Provide emergency helpline numbers-police, medical assistance at the bus stops. · Provide emergency panic buttons connected to a central control room inside the bus or at the bus stops. · Areas around bus stops should be patrolled by police during early mornings and late nights so that the commuters particularly women feel safe. · Vendors and shops at and around the bus stop provide a sense of safety to the commuters as they act as eyes on the street. Promote retail and encourage female vendors/shopkeepers to set up their business around the bus stops

Victoria

Victoria is one of the stations located on the Mitre railway line in Buenos Aires. It serves the Victoria town in Buenos Aires province. The location is adjacent to the neighbourhood Villa Uruguay. This station recorded a footfall of 0.8 million passengers in 2019 and 2,372 passenger per day. The station has two platforms of which one platform is with shelter and one is without shelter. The station complex has one parking lot just outside the building. This station is well connected and easily accessible by bus. Few bus stops present within 100 meters radius of the station are shown below:



At the Station

Lighting

The station entrance building is brightly lit by pedestrian scale lights, streetlights and flood lights.

The station waiting area and platforms are well lit by ceiling lights.

Walkpath

A well maintained pavement is available at the entrance.

Elements of universal accessibility such as ramps and hand-rails are available at the entrance of the station building.

The platforms inside station building are equipped with universal accessibility elements like ramps, tactile tiles. An overhead bridge is available for crossing the platforms. However lifts or ramps to access the bridge are not provided.

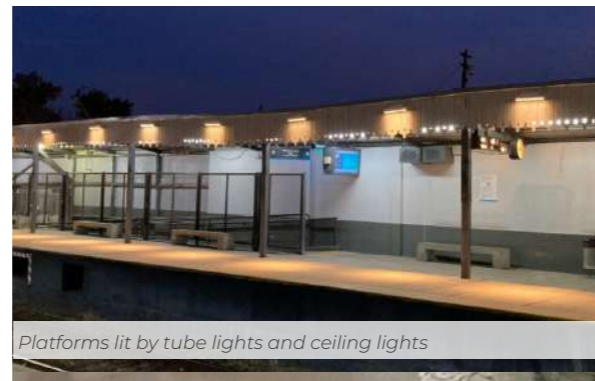
Security

The station entrance is being monitored by male police personnel. CCTV cameras are also available.

The station platforms are being monitored by female and male police personnel, and station in-charge.



Entrance lit by pedestrian scale lights



Platforms lit by tube lights and ceiling lights



Paved walkpath at the entrance



CCTV Camera



Police personnel cabin



Ramp at the entrance



Curb ramp at the entrance

Amenities at the Station

Parking Area

An unpaid parking area for 4 wheelers is available on the street outside the railway station building complex.

The parking area is lit with pedestrian scale lights, street lights. While lighting infrastructure is available, it is not adequate. Pavement with curb ramp is available to walk from the parking area to the station building

It was reported that the parking area is being monitored by police personnel.

Other Facilities

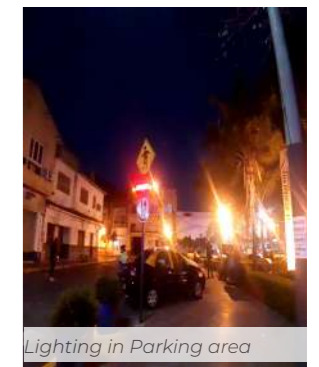
Cafe with an outdoor seating and vending trucks are present in the vicinity of the railway station complex. Eateries/ shops are also available on the station platforms.

Benches, trash bins, and public toilets are available at the platforms. However due to the pandemic, the public toilets were shut.

Facilities such as train arrival and departure schedule, route information, real time information, audio announcement, helpline numbers and help desk/enquiry counters are available inside the station building.



Parking Signage



Lighting in Parking area



Paved walkpath from parking to the entrance



Trash Bins



Seating space



Real time information display



Foot over Bridge



User Feedback

"Sometimes the train schedules change without prior information and there are delays as well"

"We need more security cameras and presence of police personnels"

"Walking to the station is not a safe experience for us"

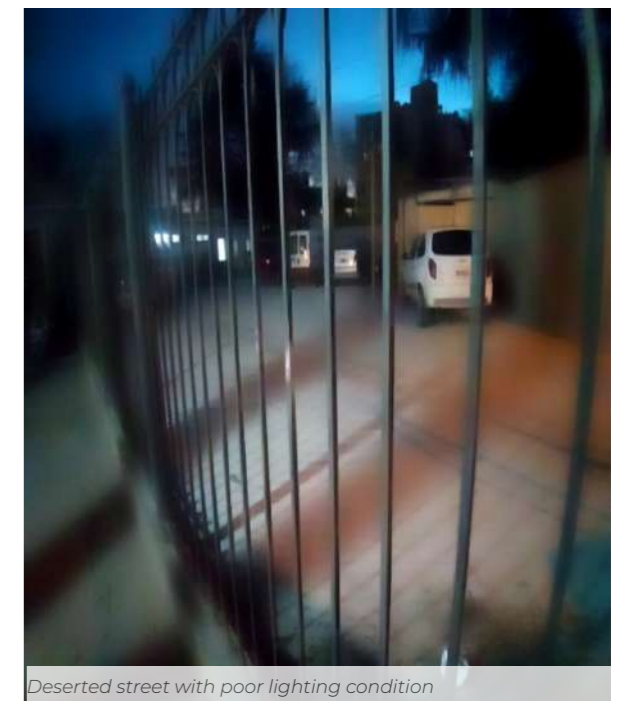
"Need better lighting during the early morning"

"We don't feel safe while traveling inside train and while waiting at the railway station"

"I feel unsafe while walking to the railway station from work/home"



Street with high boundary walls



Deserted street with poor lighting condition

Last Mile Connectivity

Bus Stops

Linea 710 en plaza estacion 203

The bus stop 710 en plaza estacion 203 is located at a distance of 100 meters from the railway station complex. The bus stop is identified by a shelter. Private buses stop at this bus stop. The path from the railway station building to the bus stop, as well as the bus stop, are well lit by lights from the shops, pedestrian scale lights and street lights.

Seating spaces and emergency numbers are provided at the bus stops.

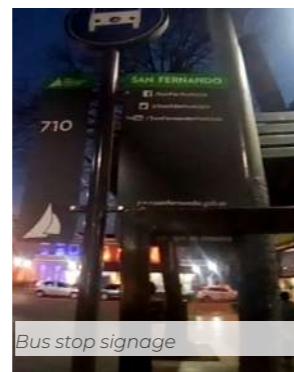
For universal access, tactile tiles are available at the bus stop. However they are discontinuous and are not available across the entire pavement. A cycle stand for parking cycles is available at the bus stop.

Facilities such as route map, real time informations and audio announcements are not available at the bus stops.

On the path from the railway station to the bus stop, many shops are available. Other amenities such as benches and trash bins are also available.



Bus stop shelter



Bus stop signage



Seating space



Obstructed pavement



Cycle stand at the bus stop

"I have been groped on an over crowded bus"

Av peron y kennedy Línea 60, 365 y 203

The bus stop Av peron y kennedy, is located at a distance of 500 meters from the railway station complex. The bus stop is identified by a shelter. Government buses stop at this bus stop. The path from the railway station building to the bus stop as well as the bus stop itself is poorly lit. Pedestrian scale lights are provided but were non-functional at the time of the safety assessment. The pavement is broken and not-maintained properly.

Seating spaces are available at the bus stop and emergency numbers are displayed on the board at the stops.

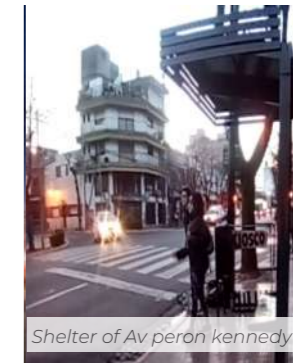
Universal accessibility elements, such as curb ramps and hand rails are also available. However the surface of the ramp is uneven and difficult to use by a person on wheelchair.

Facilities for passenger information such as audio announcement, real time information, and route maps are also not available at either of the bus stops.

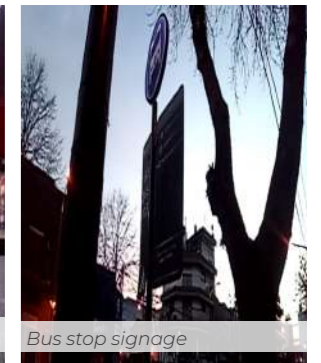
On the path from the railway station to the bus stop, many shops with particular business hours are available. Other amenities such as benches and trash bins are also available.

"While waiting at the bus stop we face harassment such as, stalking, verbal abuse"

"I need some transport service that connects my house and the train"



Shelter of Av peron kennedy



Bus stop signage



Non functional light



Pavement w/o tactile tile



Crossing at the bus stop



Commercial buildings around the bus stop



Línea 60, 365 y 203

The bus stop Línea 60, 365 y 203, is located at a distance of 550 meters from the railway station complex. The bus stop is identified by a shelter. Private buses stop at this bus stop. The path from the railway station building to the bus stop as well as the bus stop is well lit by pedestrian scale lights. However some of the lights were found to be non-functional at the time of the safety assessment. The pavement is free of any obstructions.

The bus stops are provided with benches for seating, and emergency numbers are also displayed on the board.

Elements of universal accessibility such as tactile tiles, curb ramps and hand rails are available. However the tactile tiles are dis-continuous. Braille signage for visually impaired users is not available.

Facilities for passenger information such as audio announcements, real time information, and route maps are not available at either of the bus stops.

On the path from the railway station to the bus stop many people were seen using the outdoor seating of the cafes and restaurants. Street furniture is also available on the path from the railway station to the bus stop.

"I need some transport service that connects my house and the train"



Non functional light



Pedestrian scale light



Active street



Ramp with tactile tiles and hand rail



Street furniture

Action points for Victoria

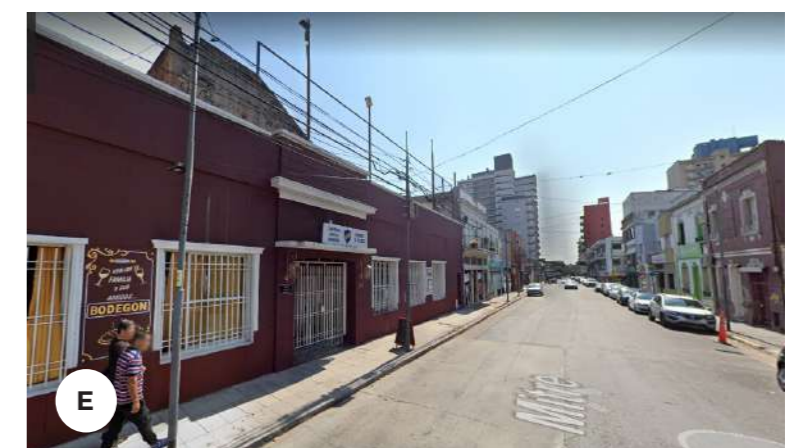
Findings	Action Point
<p>Non-operational toilets</p> <p>The toilets were non operation due to the ongoing Covid-19 pandemic</p>	<ul style="list-style-type: none"> · Access to public toilets is a basic human need. Unavailability of the facility causes discomfort to the commuters. To ensure continued usage of the railways, at least one toilet should be made functional for the ease of the users.
<p>Lack of information</p> <p>Users reported issues of non adherence to the fixed railway timings.</p>	<ul style="list-style-type: none"> · Provide real time information of train schedules and the information about expected delays outside the station. · Make such information available on railways website or mobile phone app to help passengers plan their journeys.
<p>Lack of safety and security</p> <p>The user especially women reported incidents of sexual harassment while waiting at the station and while walking to the station.</p> <p>Users also reported lack of visible security at and around the station</p>	<ul style="list-style-type: none"> · Provide active surveillance (police patrolling, help desks with female staff) at and around the Victoria railway station to ensure safety of the commuters. · Vendors and shops at and around the station also provide a sense of safety to the commuters. Promote retail and encourage female vendors/ shopkeepers to set up their business at the station complex. · Set up help lines, share the details with all the female passengers and build a robust grievance redressal system. This will instill a sense of confidence among women to seek help if they encounter unsafe situations.

Action points for Bus Stops

Findings	Action Point
<p>Lack of physical infrastructure</p> <p>Two out of the three audited bus stops have poor lighting condition.</p>	<ul style="list-style-type: none"> · Install additional streetlights and pedestrian scale lights near the bus stops. Ensure periodic checks and maintenance of the existing fixtures · Provide, route map, bus schedules and real time display on the bus stops.
<p>Lack of universal accessibility elements at and around the bus stops</p> <p>Lack of universal accessibility elements make it difficult for commuters to safely access the bus stops</p>	<ul style="list-style-type: none"> · Provide minimum of 1.2 meter wide pavement for the ease of walking of the pedestrians along with a person on a wheelchair. · Design and build safe pedestrian crossings (preferably table top crossings with timer) to facilitate movement of the pedestrians. I . · Provide universal accessibility elements such as continuous tactile tiles, curb ramps and hand rails to access the bus stops.
<p>Poor last mile connectivity</p> <p>Users highlighted the lack of buses connecting the residential areas with the railway stations</p>	<ul style="list-style-type: none"> · Provide para transit/ feeder transport services to connect the residential areas to railway stations and main bus stops. Seamless connectivity improves the usage of public transport. · Easy to access, reliable, affordable and safe para transit services could encourage people to use public transport.
<p>Lack of safety and security</p>	<ul style="list-style-type: none"> · Provide emergency helpline numbers-police, medical assistance at the bus stops. · Provide emergency panic buttons connected to a central control room inside the bus or at the bus stops. · Areas around bus stops should be patrolled by police during early mornings and late nights so that the commuters particularly women feel safe. · Vendors and shops at and around the bus stop provide a sense of safety to the commuters as they act as eyes on the street. Promote retail and encourage female vendors/ shopkeepers to set up their business around the bus stops

San Martín

San Martín station is one of the stations located on the Mitre railway line in Buenos Aires. It serves the San Martín town in Buenos Aires province. It is situated north of Villa Progresso. This station recorded a footfall of 2.5 million passengers in 2019 and 7,053 passengers per day. The station has two platforms and both platforms are with shelter. There is no dedicated space for parking around the station. This station is well connected and easily accessible by bus. Few bus stops present within 300 meter radius are shown below:



At the Station

Lighting

The station entrance is poorly lit by a few street lights and flood lights. The light from inside the station illuminates the entrance.

The station waiting area and platforms are well lit by ceiling lights.



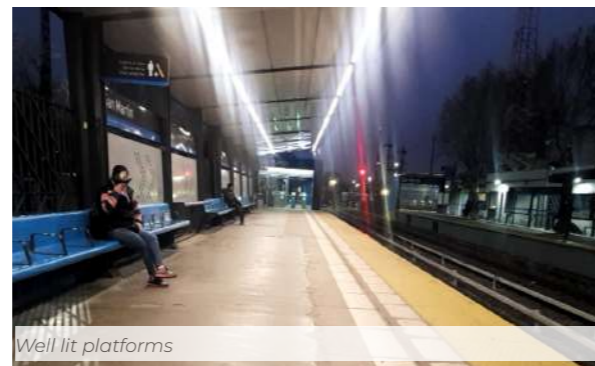
Poorly lit entrance

Walkpath

The pavement available at the entrance is broken and not well maintained.

Elements of universal accessibility such as ramps are available at the entrance of the station building. Data collectors also identified braille signage at the station entrance.

The platforms inside station building are equipped with universal accessibility elements such as ramps, tactile tiles and at grade crossing to cross the platforms.



Well lit platforms

Security

The building complex is being monitored by a male police personnel. CCTV cameras are also available at the entrance.

The station platforms are being monitored by female and male police personnels and the station in-charge.



Curb Ramp at the entrance



Security personnel at the entrance

Amenities at the Station

Parking Area

No parking space is available at or near the station.

Other Facilities

Shops, restaurants and cafes are located outside the railway station complex. Eateries are available on the station platforms as well.

Facilities such as, trash bins and public toilets for men and women are available. Public toilets are available but are non operational due to the ongoing pandemic.

Additional facilities such as train arrival and departure schedule, route information, real time information, audio announcements, helpline numbers are also available on the platforms.

Help desk/enquiry counter were also identified by the auditors inside the station building.



Tactile tiles on the platforms



Ramps to access the platform



Trash bin and benches



Real time display



At grade crossing



User Feedback

"Bathrooms are closed and it is not good for us"

"I don't see security personnel around the railway station while traveling at night"

"Poor train frequency"

"Robberies happen very often in the vicinity of the station"

"I feel unsafe while walking from my home to the railway station"

"Urban transport and areas around should be more safe to use"



Poor lighting in the vicinity of the stations



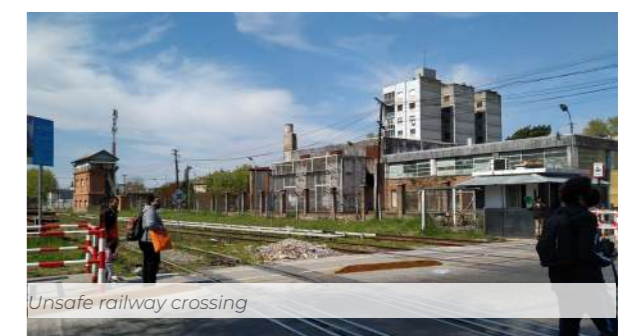
Poor pavement condition



Streets with poor visibility



Open land with poor visibility around the station



Unsafe railway crossing

Last Mile Connectivity

Bus Stops

169 moreno y 25 de mayo and 310 25 mayo y peatonal belgrano

The bus stop 169 moreno y 25 de mayo and 310 25 mayo y peatonal belgrano, is located at 400 meters distance from the railway station complex. Both the bus stops are identified by a pole. Only private buses stop at these bus stops. The path from the railway station building to the bus stop and the bus stop is well lit by pedestrian scale lights. However some of the lights were non-functional at the time of the data collection. The pavement available is not maintained and is broken at a few stretches.

Seating space and emergency numbers are available at the bus stops. However, only two blocks are provided as seating space for the commuters both the bus stops.

For universal accessibility, curb ramps are available. Elements such as tactile tiles, hand rails and braille signage are not available.

Facilities such as route maps, real time display and audio announcements are not available at the bus stop.

On the route from the railway station to the bus stop, retail shops, restaurants and food trucks are available

“Now with the issue of the pandemic we do not see so many police officers”



169 moreno y 25 de mayo - bus stop



25 mayo y peatonal belgrano - bus stop



Bus stop pole and seating blocks

670 varios ramales

The bus stop 670 varios ramales is located just outside the railway station complex. The bus stop is identified with a shelter. Private buses stop at this bus stop. The bus stop is well lit by pedestrian scale lights. However some of the lights were non-functional at the time of the data collection. The pavement is not maintained and is broken in some parts.

Facilities including seating spaces, bus route map, and emergency numbers displayed on the board are available at the bus stops.

For universal accessibility, curb ramps are available. Elements such as tactile tiles, hand rails and braille signage is not available.

Facilities such as audio announcement and real time information, are not available at the bus stop.

Shops and restaurants are available in the vicinity of the bus stop.

“We need more light in the surroundings of the station”

“In the early morning there are no people walking in the streets. That makes me insecure”



Bus shelter



Seating Space



Bus route maps



Curb Ramp

Action points for San Martin

Findings	Action Point
<p>Poor lighting condition</p> <p>The lighting condition outside the railway station was rated poorly by the data collectors.</p>	<ul style="list-style-type: none"> · Provide good lighting infrastructure at the entrance as well as on the street outside the railway station. Good lighting conditions instills a sense of safety in the commuters.
<p>Poor Pavement condition</p> <p>Poor pavement condition was reported outside the railway station</p>	<ul style="list-style-type: none"> · Pedestrian, especially vulnerable groups require comfortable and safe crossings such as at grade walking surfaces for their mobility. Pavements with missing, broken, dis-jointed paver blocks or manhole covers protruding out could be hazardous for the pedestrians. Provide at grade, hazard-free walking surface around the San Martin station.
<p>No space for parking</p> <p>No space for parking is available for the commuters in and around the railway station</p>	<ul style="list-style-type: none"> · Provide designated parking space around the railway stations. · The parking area should have reserved bays for vehicles of differently-abled persons.. · The path from the parking area to the railway station should have curb ramps, tactile tiles and hand rails for the ease of movement of vulnerable groups including persons with reduced mobility, elderly and children. · The parking area should be well-lit and monitored by either a security personnel or CCTV cameras to ensure safety of the commuters
<p>Non-operational toilets</p> <p>The toilets were non operational due to on going COVID-19 pandemic</p>	<ul style="list-style-type: none"> · Access to public toilets is a basic human need. Unavailability of the facility causes discomfort to the commuters. To ensure continued usage of the railways, at least one toilet should be made functional for the ease of the users.
<p>Lack of safety and security</p> <p>The user especially women reported incidents of sexual harassment while waiting at the station and while walking to the station.</p>	<ul style="list-style-type: none"> · Provide active surveillance (police patrolling, help desks with female staff) at and around the San Martin railway station to ensure safety of the commuters. · Vendors and shops at and around the station also provide a sense of safety to the commuters. Promote retail and encourage female vendors/ shopkeepers to set up their business at the station complex. · Set up help lines, share the details with all the female passengers and build a robust grievance redressal system. This will instill a sense of confidence among women to seek help if they encounter unsafe situations. · Employ more women in the railways- as planners, designers and operators. Provide supporting facilities such as separate washrooms, child care facilities so that women can take up employment in railways.

Action points for Bus Stops

Findings	Action Point
<p>Lack of physical infrastructure</p> <p>Two out three audited bus stops have poor infrastructure</p>	<ul style="list-style-type: none"> · Provide shelter and adequate seating space at the bus stops. · Provide route maps, bus schedules at the bus stops. · Braille signage should be provided at the bus stop for persons with audio and visual impairments.
<p>Poor pavement condition</p> <p>Lack of universal elements make it difficult for commuters to access the bus stops.</p>	<ul style="list-style-type: none"> · Provide minimum of 1.2 meter wide pavement for the ease of walking of the pedestrians along with a person on a wheelchair. · Design and build safe pedestrian crossings (preferably table top crossings with timer) to facilitate movement of the pedestrians. I . · Provide universal accessibility elements such as continuous tactile tiles, curb ramps and hand rails to access the bus stops.
<p>Lack of safety and security</p>	<ul style="list-style-type: none"> · Provide emergency helpline numbers-police, medical assistance at the bus stops. · Provide emergency panic buttons connected to a central control room inside the bus or at the bus stops. · Areas around bus stops should be patrolled by police during early mornings and late nights so that the commuters particularly women feel safe. · Vendors and shops at and around the bus stop provide a sense of safety to the commuters as they act as eyes on the street. Promote retail and encourage female vendors/ shopkeepers to set up their business around the bus stops



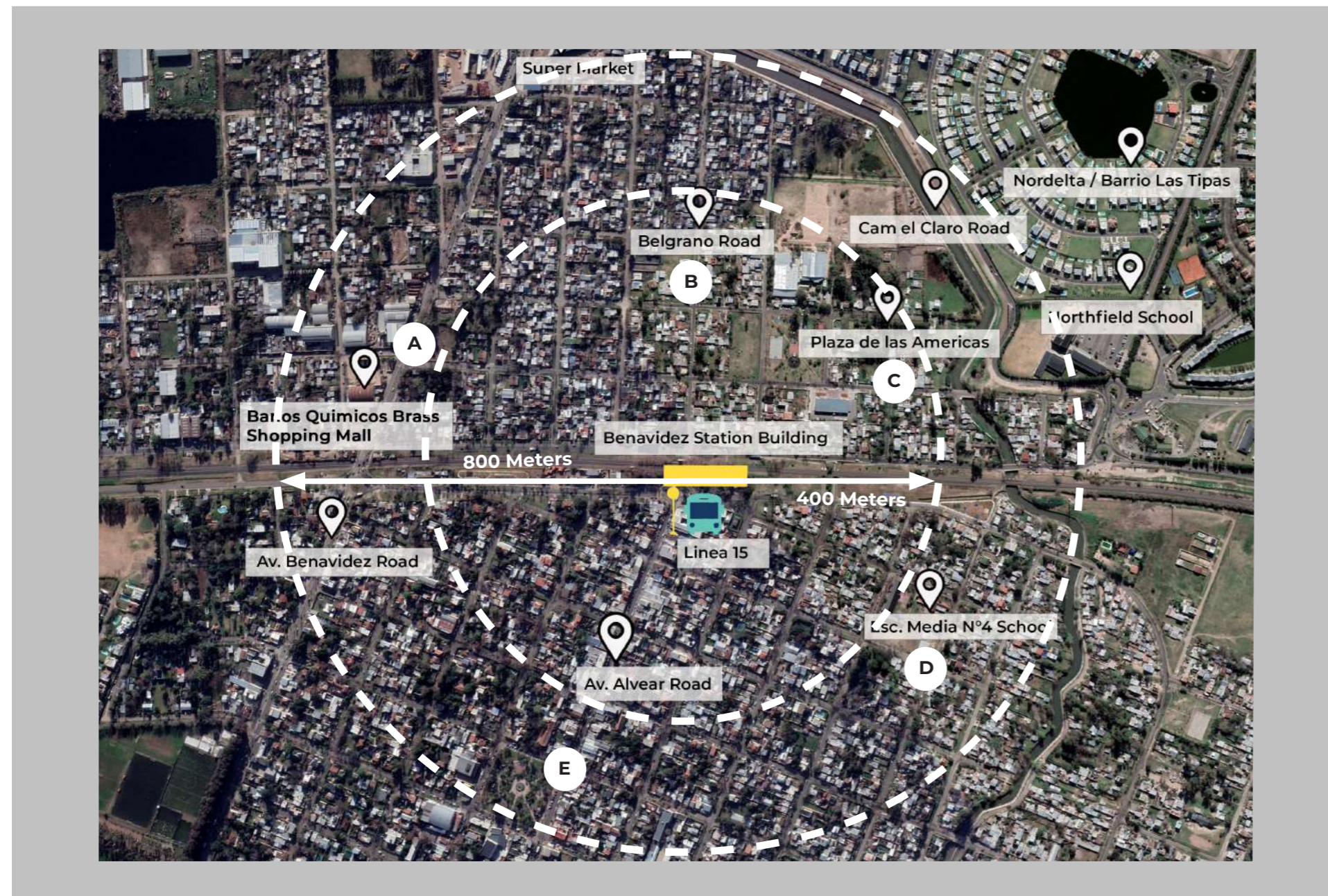
San Martín

San Martín

Google

Benavídez

Benavídez station is one of the stations located on the Mitre railway line in Buenos Aires. It serves the sub urban area of Buenos Aires province. This station recorded a footfall of 4,701 passengers per year in 2019 and 13 passengers per day. The station has two platforms and both platforms are partially covered with shelter. The station complex has parkings bays just outside the station building. The bus stop present within 100 meter radius is shown below:



At the Station

Lighting

The station entrance has adequate lighting infrastructure such as pedestrian scale lights, streetlights and flood lights. However, the illumination levels of this area are not known as the data collection was done during the day time.

The station waiting area and platforms are have lighting infrastructure such as ceiling lights and pedestrian scale lights.

Walkpath

A well maintained pavement is available at the entrance.

Universal accessibility elements such as ramps and hand-rails are available at the entrance of the station building.

The platforms are designed with universal accessibility elements like ramps, hand rails and tactile titles. Two separate access points are available to access the two platforms.

Security

The station entrance is being monitored by a male police personnel.

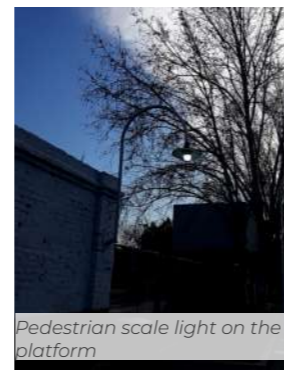
The station platforms are being monitored by female and male police personnels, a female private guard and station in-charge.



Street lights at the entrance



Ceiling light on the platform



Pedestrian scale light on the platform



Pavement at the entrance



Police personnel at the station



Tactile tiles on the platform

Amenities at the Station

Parking Area

An unpaid parking area for 4 wheelers is available on the street outside the railway station building complex.

Lighting infrastructure such as pedestrian scale lights and street lights are available (illumination levels of this area are not known as the data collection was done during day time). Pavement with universal accessibility elements like curb ramps are available for the ease of pedestrians walking from the parking area to the station building.

It was reported that the parking area is being monitored by the police.

Other Facilities

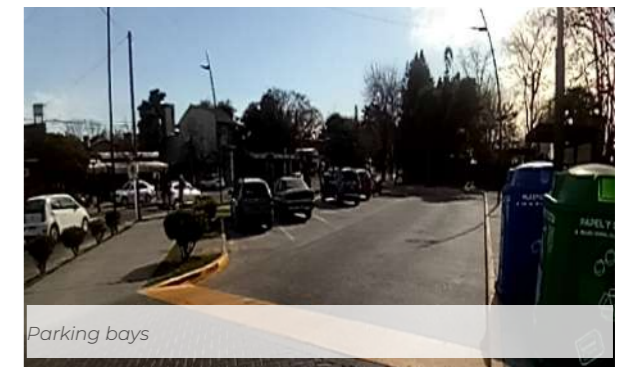
Eateries and other shops are available on the station platforms of the station.

Street furniture such as benches and trash bins are available. Currently, only one public toilet is available which is being used by all the users.

Route information and audio announcement facility are available inside the station building. Data collectors also identified a help desk/enquiry counter inside the station.



Separate entrance for platform 1



Parking bays



Benches on the station platforms



Audio announcement speaker



Separate entrance for platform 2

Public Toilets

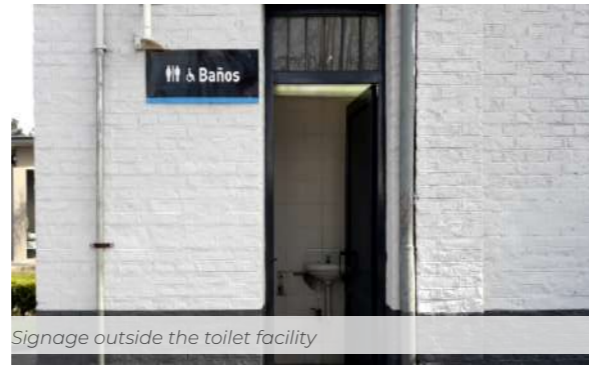
The station has an unpaid, common toilet facility for women, men and differently-abled persons. It is located inside the railway station complex. The toilet facility is operational from 06:00 hrs to 14:00 hrs.

The toilet can be easily identified by pictograms at the entrance of the toilet.

The facility is well lit by wall lights and all the light fixtures are functional. The cleaning staff monitors the toilet facility.

Except trash bins, no other amenities such as soap dispensers, tissue dispenser, mirrors, diaper changing station for babies are available.

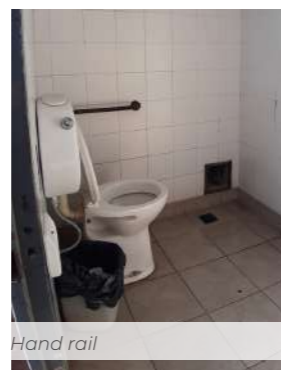
Except hand rails no other amenities for differently-abled persons such as low height wash basin and mirrors are available. The door width is also less than 1.2 meters which makes it difficult for people on wheelchair to access the toilet.



Signage outside the toilet facility



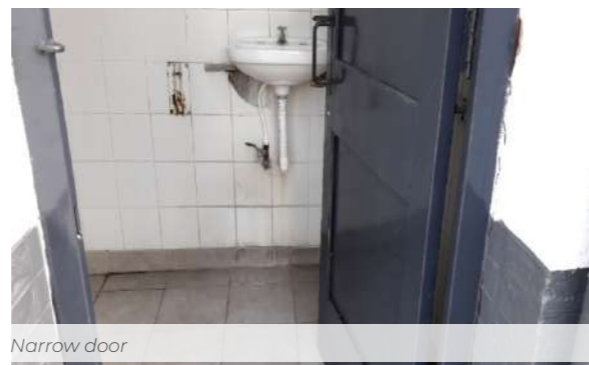
Wall light



Hand rail



Dust bin



Narrow door

Last Mile Connectivity

Bus Stops

Linea 15

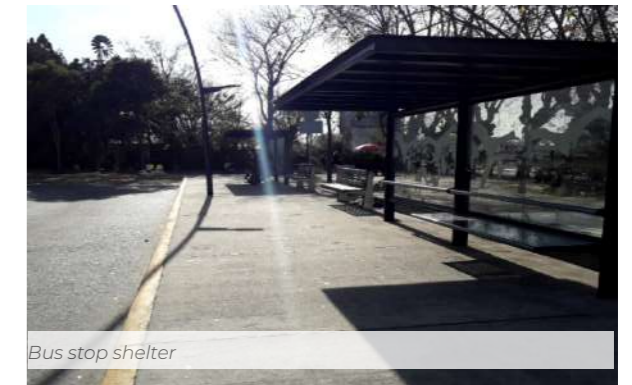
The bus stop Linea 15 is located at 50 meters distance from the railway station complex. The bus stop is identified by a shelter. Private buses stop at this bus stop. The path from the railway station building to the bus stop as well as the bus stop has lighting infrastructure such as pedestrian scale lights and street lights. However, the illumination levels of this area are not known as the data collection was done during the day time.

Seating space, bus route maps and emergency numbers are available at the bus stops.

For universal accessibility, curb ramps and hand rails have been provided. Elements such as tactile tiles and braille signage are not available.

Facilities such as audio announcement, real time information, , braille signage and route maps are not available at the bus stop.

On the path from the railway station to the bus stop, very few shops are available



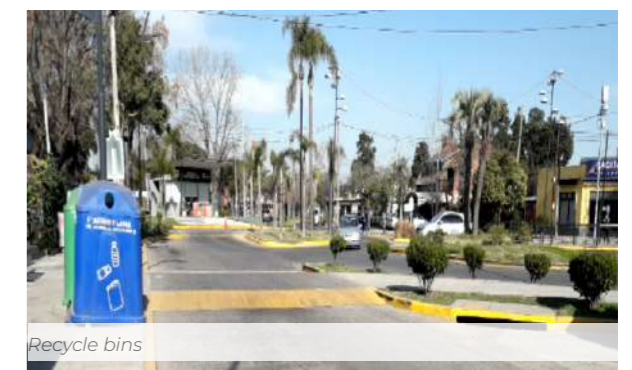
Bus stop shelter



Seating space



Pedestrian scale light



Recycle bins



Well maintained pavement

Action points for Benavídez

Findings	Action Point
<p>Poor Visibility around the station</p> <p>The station is located in a residential areas where there is very low visibility (no eyes on the streets such as shops, vendors or public spaces).</p>	<ul style="list-style-type: none"> · Allocate designated spaces for shops and vending activities at or around the Benavidez railway station. · Presence of high solid boundary walls creates a physical barrier between the pedestrians and inhabitants resulting in poor visibility. Wherever applicable, the height of the solid boundary wall should be reduced and grills could be provided over it to increase transparency.
<p>Poor Infrastructure at the platforms</p> <p>Few basic facilities were unavailable at the platforms.</p>	<ul style="list-style-type: none"> · Provide shelter at the platforms. · Provide information such as train route maps and schedules for ease of the commuters. · Provide facilities like real time information and braille signage. · Provide continuous tactile tiles from the access point to the boarding platforms
<p>Common public toilet for all users</p> <p>Only one toilet has been provided at the railway station for all the users.</p>	<ul style="list-style-type: none"> · Provide separate toilets for males, female and a gender neutral toilet. · Design toilets to accommodate the needs of differently-abled persons. · The cubicle door should be at least 1.2 meters wide. Low height wash basins, handrails and ramps should also be provided.

Action points for Bus Stops

Findings	Action Point
<p>Lack of physical infrastructure</p>	<ul style="list-style-type: none"> · Provide good lighting infrastructure. · Provide shelters at the bus stop along with a bench/chairs to sit. · Provide information such as agency logo, station name, route map, and bus schedule for the ease of the commuters. · For visually impaired people provide braille signage.
<p>Lack of universal accessibility elements</p> <p>Lack of universal elements make it difficult for commuters to access the bus stops.</p>	<ul style="list-style-type: none"> · Provide minimum of 1.2 meter wide pavement for the ease of walking of the pedestrians along with a person on a wheelchair. · Design and build safe pedestrian crossings (preferably table top crossings with timer) to facilitate movement of the pedestrians. I . · Provide universal accessibility elements such as continuous tactile tiles, curb ramps and hand rails to access the bus stops.
<p>Lack of safety and security</p>	<ul style="list-style-type: none"> · Provide emergency helpline numbers-police, medical assistance at the bus stops. · Provide emergency panic buttons connected to a central control room inside the bus or at the bus stops. · Areas around bus stops should be patrolled by police during early mornings and late nights so that the commuters particularly women feel safe. · Vendors and shops at and around the bus stop provide a sense of safety to the commuters as they act as eyes on the street. Promote retail and encourage female vendors/ shopkeepers to set up their business around the bus stops

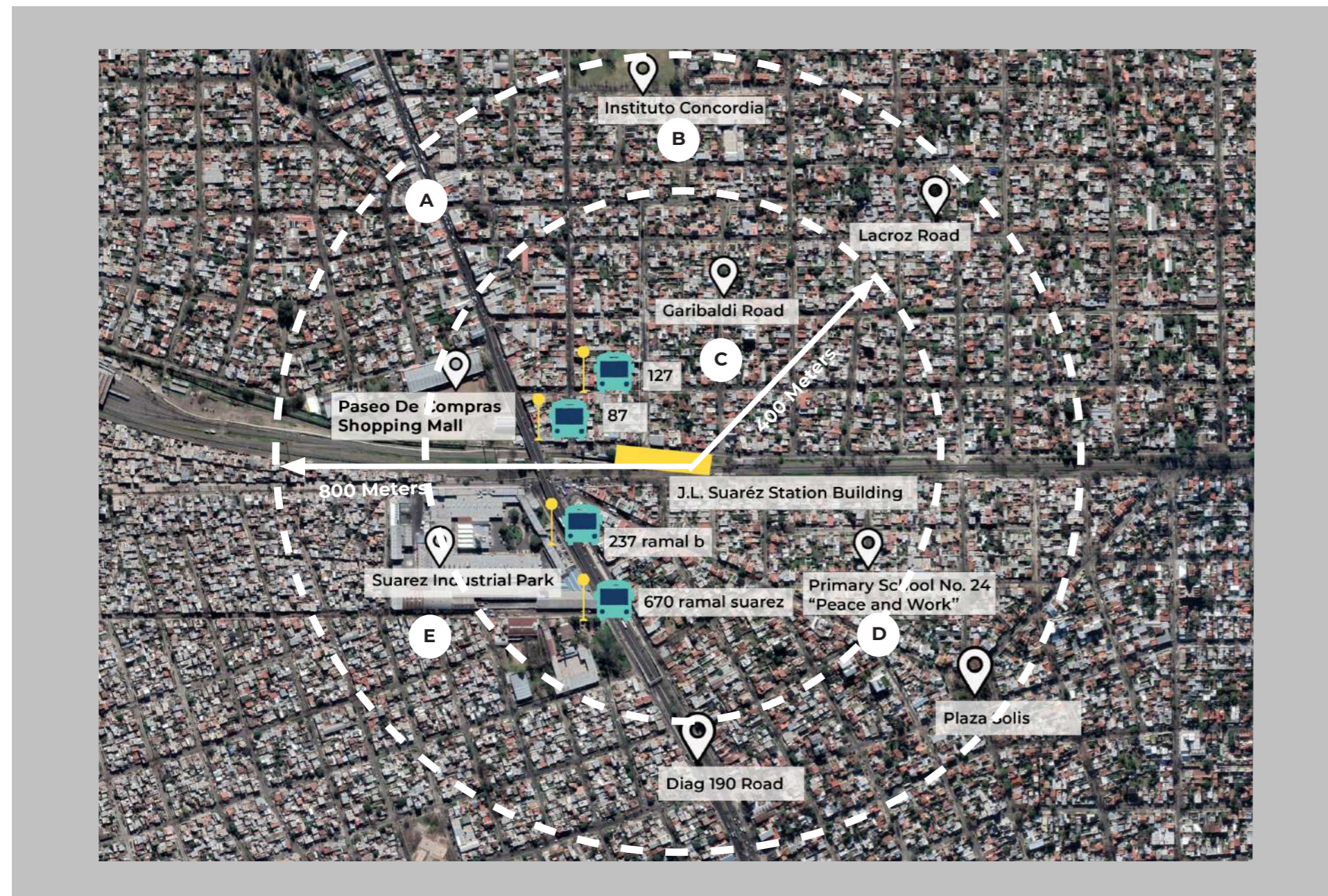


BENAVIDEZ

1.20

José León Suárez

José León Suárez station is one of the stations on the Mitre railway line in Buenos Aires. José León Suárez station is located in the homonymous locality, in the district of General San Martín, Greater Buenos Aires. This station recorded a footfall of 2.6 million passengers per year in 2019 and 7,303 passengers per day. The station has one platform with shelter. The parking area is located on the street adjacent to the station building. This station is well connected and accessible by bus. The bus stops preset withing 100 meter radius are shown below:



At the Station

Lighting

The station entrance building has lighting infrastructure such as ceiling lights and flood lights. However the illumination level of the space is not known as the data collection was done during the day time.

The station platforms have lighting infrastructure such as ceiling lights and pedestrian scale lights.

Walkpath

A well maintained pavement is available at the entrance.

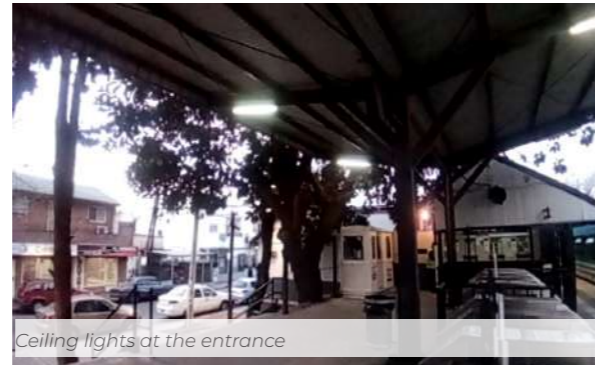
Elements of universal accessibility such as ramps and hand-rails are available at the entrance of the station building entrance.

The platforms inside station building are well maintained and have elements such as ramps, hand rails and tactile tiles to access the platforms.

Security

The station building complex is being monitored by male police personnel. CCTV camera is also available at the entrance.

Data collectors reported that the station platforms are being monitored by female and male police personnel, female and male private security. CCTV camera is also available on the platforms



Ceiling lights at the entrance



Ceiling lights at the platform



Tactile tiles at the entrance



Ramp at the entrance



CCTV Camera signage



Benches at the platform

Amenities at the Station

Parking Area

An unpaid parking areas for 4 wheelers is available on the street outside the railway station building complex.

Lighting infrastructure such as pedestrian scale lights and street lights are available. However the illumination level of the space is not known as the data collection was done during day time). Pavement with curb ramp is available to walk from the parking area to the station building. Pavement is broken at some points.

It was reported that the parking area is being monitored by private security guards.

Other Facilities

Benches, trash bins and public toilets for male, female and differently-abled users are available. However due to the ongoing pandemic the public toilet facility is non-operational.

Facilities such as route information, real time information display and audio announcement, are available inside the station building. Data collectors also identified a help desk/enquiry counter inside the station.



Real time information display



Pedestrian scale light in the parking area



Parkings bays



Non operational public toilets



Ramp at the entrance



User Feedback

"The area around the station is very unsafe"

"Bathrooms are closed"

"They do not warn when the train changes platforms"

"Because of the robberies we feel insecure in the surroundings"

"There should be more patrolling by the police"

"More safety on the train"

"In the early morning there are no people walking in the streets. That makes me insecure"



Open garbage dump



Unsafe railway crossing



Broken pavement around market



Broken pavement around parking area

Last Mile Connectivity

Bus Stops

87 and 127 Bus stop

The bus stop 87 and 127 are located at a distance of 100 and 150 meters from the railway station complex. Both the bus stops are identified by a shelter. Only private buses stop at these stops. The path from the railway station building to the bus stop as well as the bus stops have adequate lighting infrastructure such as pedestrian scale lights.

The data collectors reported that a pavement is available for the pedestrians but it is broken at some points and not well-maintained. Universal accessibility elements such as curb ramps, tactile tiles, hand rails and braille signage are also not available.

The bus stops have seating space for the commuters. However, the space is very narrow and not convenient for the passengers to sit comfortably. Emergency numbers are also available at the bus stops.

Additional facilities such as route maps, audio announcement and real time information are not available at either of the bus stops.

On the path from the railway station to the bus stop, retail stores are available.

Data collectors reported that the bus stops are being monitored only by CCTV cameras.

“ We face problem due the poor frequency of the buses”



87 bus stop shelter



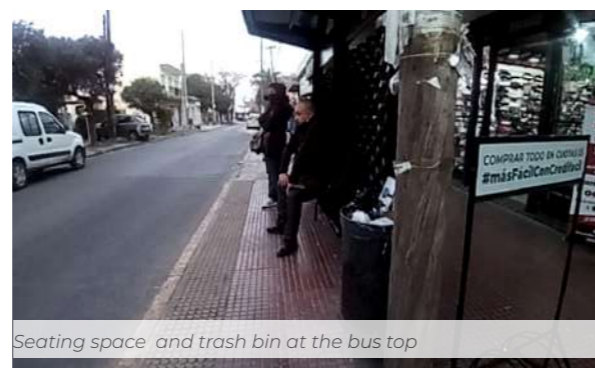
Pavement w/o tactile tiles



Street activities around 87 bus stop



127 bus stop shelter



Seating space and trash bin at the bus stop

237 Ramal b and 670 Ramal Suarez

The bus stop 237 Ramal b and 670 Ramal Suarez are located at a distance of 150 meters and 200 meters from the railway station complex. Both the bus stops are identified by a pole. Only private buses stop at these bus stops. The path from the railway station building to the bus stop and the bus stops is have lighting infrastructure such as street lights.

The pavement around the bus stop is obstructed by garbage and is broken at some points. For universal accessibility, other than tactile tile no other elements such as curb ramps, hand rails and braille signage have been provided.

No designated seating space for passengers is provided at the bus stops. Two seating blocks are available at both these bus stops.

Additional facilities such as audio announcement, real time information, and route maps are not available at both of the bus stops.

On the path from the railway station to the bus stop, 24X7 shops, restaurants, cafes are available. A police station is also located along this path.

“I feel insecure while waiting at the bus stop”



Bus stop pole



People using the bus stop



Blocks for sitting



Tactile tiles at the bus stop

Action points for José León Suárez

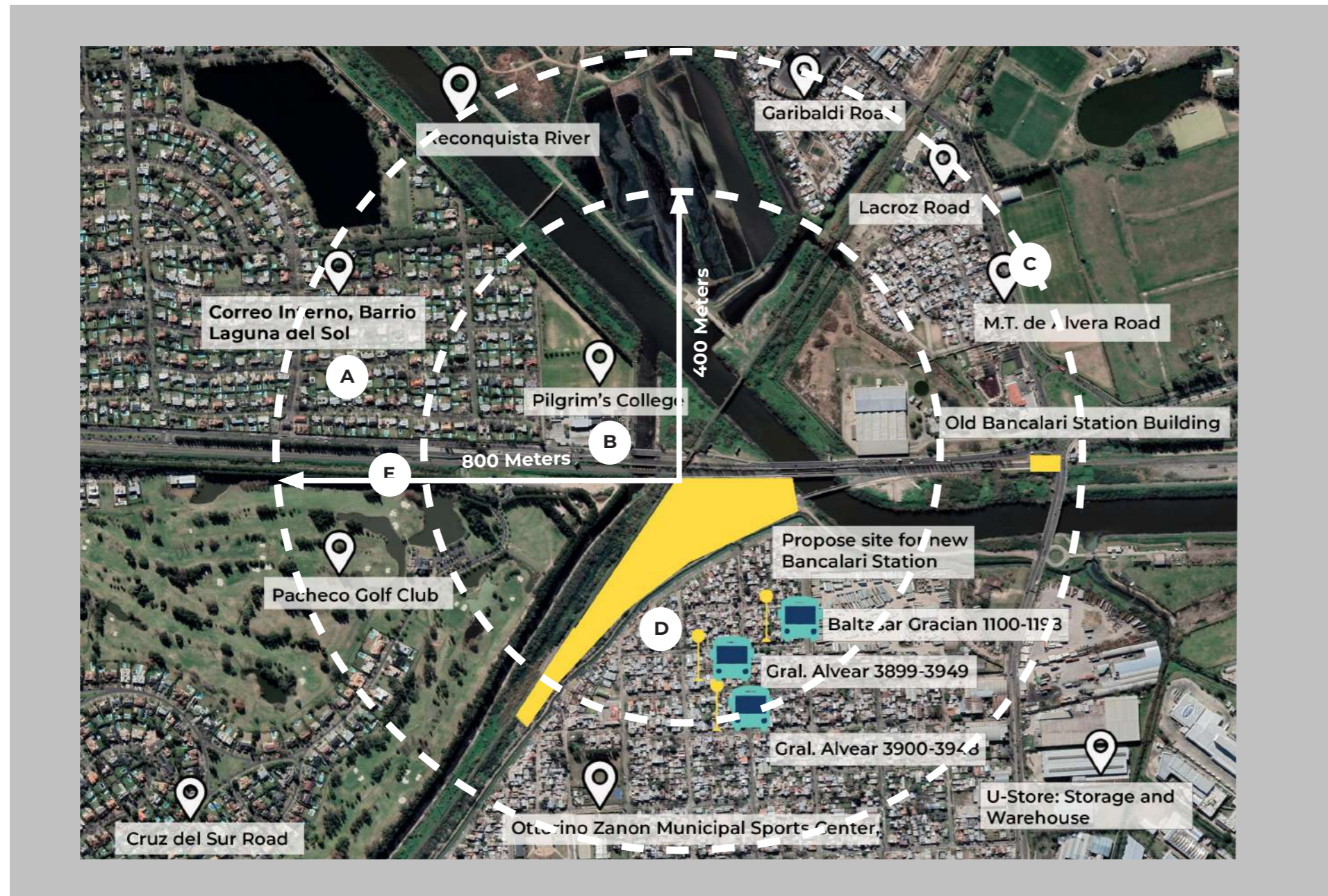
Findings	Action Point
<p>Non-operational toilets</p> <p>The toilets were non operational due to on going COVID -19 pandemic.</p>	<ul style="list-style-type: none"> · Access to public toilets is a basic human need. Unavailability of the facility causes discomfort to the commuters. To ensure continued usage of the railways, at least one toilet should be made functional for the ease of the users.
<p>Lack of information</p> <p>Users reported lack of information about the change in train schedules and platform number</p>	<ul style="list-style-type: none"> · Provide the real time information of train schedules and the information about expected delays outside the station, and on some technological platforms so that people can plan their journeys. · Non adherence to fixed schedule leads to long waiting time for the trains acts as deterrent in transit use.
<p>Lack of Safety and Security</p> <p>Women reported feeling of unsafe while accessing the railway station during early morning hours</p>	<ul style="list-style-type: none"> · Provide active surveillance (police patrolling, help desks with female staff) at and around the J.L. Suarez railway station to ensure safety of the commuters. · Vendors and shops at and around the station also provide a sense of safety to the commuters. Promote retail and encourage female vendors/ shopkeepers to set up their business at the station complex. · Set up help lines, share the details with all the female passengers and build a robust grievance redressal system. This will instill a sense of confidence among women to seek help if they encounter unsafe situations. · Employ more women in the railways- as planners, designers and operators. Provide supporting facilities such as separate washrooms, child care facilities so that women can take up employment in railways.

Action points for Bus Stops

Findings	Action Point
<p>Lack of physical infrastructure</p> <p>Bus stops lack basic amenities like shelter and a seating space.</p>	<ul style="list-style-type: none"> · Provide good lighting infrastructure at the bus stop. · Provide shelter and seating space at the bus stop for passengers to sit while waiting · Provide, route map, bus schedules and real time display on the bus stops. · For visually impaired people provide braille signage.
<p>Pavements are not designed for universal access</p> <p>Lack of universal elements make it difficult for commuters to access the bus stops.</p>	<ul style="list-style-type: none"> · Provide minimum of 1.2 meter wide pavement for the ease of walking of the pedestrians along with a person on a wheelchair. · Design and build safe pedestrian crossings (preferably table top crossings with timer) to facilitate movement of the pedestrians. I . · Provide universal accessibility elements such as continuous tactile tiles, curb ramps and hand rails to access the bus stops.
<p>Lack of safety and security</p> <p>Women reported feeling unsafe while waiting at the bus stops</p>	<ul style="list-style-type: none"> · Provide emergency helpline numbers-police, medical assistance at the bus stops. · Provide emergency panic buttons connected to a central control room inside the bus or at the bus stops. · Areas around bus stops should be patrolled by police during early mornings and late nights so that the commuters particularly women feel safe. · Vendors and shops at and around the bus stop provide a sense of safety to the commuters as they act as eyes on the street. Promote retail and encourage female vendors/ shopkeepers to set up their business around the bus stops

Bancalari

The proposed site for Bancalari station is located at a distance of 800 meters from the existing Bancalari station. This site can be accessed by bus. The proposed site is currently in an isolated location. It is adjacent to the Reconquista River and Pacheco Golf club (Image E). A few low-income neighbourhoods are located within a 1000 meters radius of the site. The upcoming station is proposed to be an elevated railway station. The interventions around the station will focus on reducing the waiting time of road commuters at the railway crossings.



Last Mile Connectivity

Bus Stops

Baltasar Garacian 1100-1198

The bus stop Baltasar Garacian 1100-1198 is located at a distance of 200 meter proposed site. The bus stop is identified by a shelter. Private buses stop at this bus stop. The path from the proposed site to the bus stop has lighting infrastructure such as street lights. (Illumination of the area is not known as the data was collected during the day). The pavement around the bus stop is broken and not maintained.

Facilities such as seating space , trash bins, route maps, emergency number display boards and help desks are not available.

No elements for universal accessibility such as tactile tiles, curb ramps, hand rails or braille signages for visually impaired users are provided .

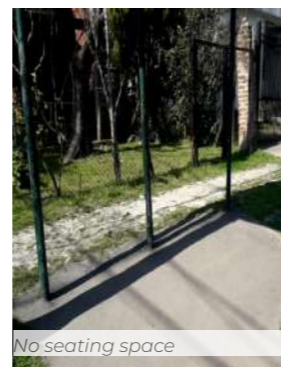
Facilities such as audio announcement, real time information, and route maps for passenger information are also not available at either of the bus stops.

On the path from the proposed site to the bus stop, no social activity was seen. only residential neighborhoods are present in vicinity of the proposed site.

“More light, a more comfortable space at the bus stop to differentiate the space from the road and monitoring cameras along with more number of security personnel”



Bus stop shelter



No seating space



Pavement without any universal accessibility elements



Unpaved walkpath



Pavement at the stop



Residential street around the bus stop

Gral Alvear 3899-3949 and Gral Alvear 3900-3948

The bus stop Gral Alvear 3899-3949 and Gral Alvear 3900-3948 is located at a distance of 300 meter from the proposed site. There is no identification marker for the bus stop such as shelter or pole. Government buses stop at both the bus stops. The path from the proposed site to the bus stop has lighting infrastructure such as street lights (Illumination of the area is not known as the data was collected during the day). The pavement around the bus stop is broken and not maintained.

The data collectors reported unavailability of seating space, trash bins, route maps, emergency numbers and help desks at both the bus stops.

No elements for universal accessibility such as tactile tiles, curb ramps, hand rails or braille signage for visually impaired users are provided .

Facilities such as audio announcement, real time information, and route maps for passenger information are also not available at either of the bus stops.

On the path from the proposed site to the bus stop shops or vendors were seen.

“Some passersby made comments about my gender, it is usually towards the late evenings ”

“The bus stops are on the main road and it only has a bar to lean on, if I have packages I have to put them on the ground and it is usually dirty or wet ”



Bus stop location without identification marker



Broken pavement



Poor pavement



Unpaved path



Residential street

Action points for Bus Stops

Findings	Action Point
<p>Poor physical infrastructure</p> <p>Some of the assessed bus stops lacked basic facilities. User surveys highlighted the lack of seating space at the bus stops.</p>	<ul style="list-style-type: none"> · Provide shelter at the bus stop. It will protect the passengers in extreme climate conditions -heavy rains and hot weather. · Provide Information such as, station name, route map, schedule and real time display at the bus stop. · Provide seating space for the commuters to sit while waiting for the bus. · Provide bus stop signage, braille signage,
<p>Poor pavement condition</p> <p>Bus stops have poorly maintained pavement to walk</p>	<ul style="list-style-type: none"> · Provide minimum of 1.2 meter wide pavement for the ease of walking of the pedestrians along with a person on a wheelchair. · Design and build safe pedestrian crossings (preferably table top crossings with timer) to facilitate movement of the pedestrians. I . · Provide universal accessibility elements such as continuous tactile tiles, curb ramps and hand rails to access the bus stops.
<p>Poor Visibility</p> <p>The bus stop are located in residential areas where there is very, low visibility (no eyes of street such as shops, vendors or public spaces)</p>	<ul style="list-style-type: none"> · Not many windows and entrances of shops or residences overlook the neighbouring streets . Presence of high boundary walls, isolating the streets is another reason for low visibility. · Providing some commercial nodes and allocating spaces for vending activities will improve the visibility in these area. Lowering opaque boundary walls of the houses will also help in improving visibility.
<p>Lack of safety and security</p> <p>Users had concerns regarding the lack of visible security around the bus stops. Some incidents of verbal abuse and theft were also mentioned.</p>	<ul style="list-style-type: none"> · Provide emergency helpline numbers-police, medical assistance at the bus stops. · Provide emergency panic buttons connected to a central control room inside the bus or at the bus stops. · Areas around bus stops should be patrolled by police during early mornings and late nights so that the commuters particularly women feel safe. · Vendors and shops at and around the bus stop provide a sense of safety to the commuters as they act as eyes on the street. Promote retail and encourage female vendors/ shopkeepers to set up their business around the bus stops

Recommendations for Bancalari

S no.	Recommendation	Action Point
R1	Activating the space by place making and tactical intervention at and around the station complex.	<ul style="list-style-type: none"> · Open spaces such as the entry plaza or some parking area of the railway stations could be reclaimed and redesigned for public use such as a kids play area or an open exhibition gallery. · Installations or insertions can be introduced in such spaces to attract and engage with the users. · Add comfortable seating, lighting and trees to make the space inviting for travelers and commuters. Vibrant and active spaces would result in a safe environment around the railway stations (Refer illustration R1 on page no. 80-81)
R2	Designing universally accessible and safe pavements around the station	<ul style="list-style-type: none"> · The railway station must have safe accessible and well designed pavements and pedestrian crossings. · Pedestrian crossings should be designed for universal access. Elements such as tactile tiles, curb ramps and hand rails should be available to facilitate movement for vulnerable users. · Pedestrian crossings should have a timer and alarm/sound beep for visually impaired users. · Good walking conditions enables pedestrians to access the public transport with ease ensuring their safety.(Refer illustration 2 on page no. 80-81)
R3	<ul style="list-style-type: none"> · Strengthening the last mile connectivity · Providing adequate physical infrastructure at the station and nearby bus stops 	<ul style="list-style-type: none"> · To improve the last mile connectivity, colectivos stands and other para-transit facilities should be provided near the bus stands and railway station. It will enhance the overall accessibility in the area. · To make the bus stops safer for women, transparent material like glass should be used. It allows users to see clearly. in all directions. Advertisement boards should not obstruct the view of the commuter. (Refer illustration R3 on page 81) · Emergency helpline numbers at the bus stops and active surveillance by people, vendors will instill a sense of safety in the commuters.
R4	Providing women friendly public toilets at or around the railway station	<ul style="list-style-type: none"> · Public toilet should be provided not just inside the railway station but in the vicinity as well. The toilet should be designed for universal access. · Facilities like vending machines for sanitary napkins disposal, baby diaper changing area, feeding area should be provided in the public toilets to facilitate travel for women. (Refer illustration R4 on page 81)



Examples of place making interventions

R1



Examples of Interventions to define space

R2

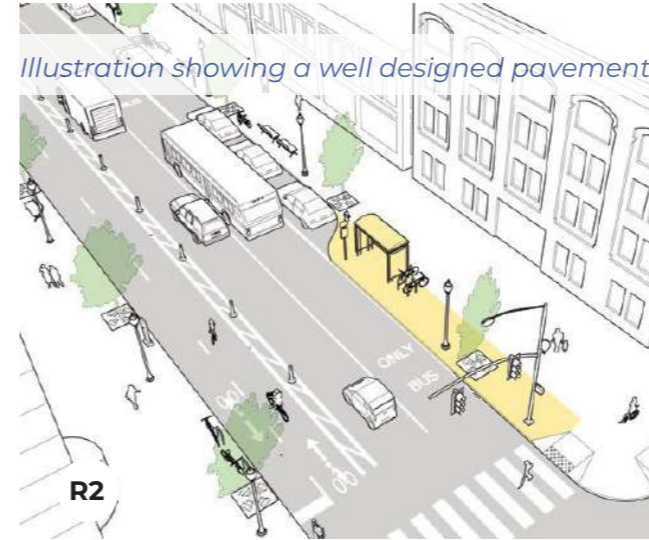


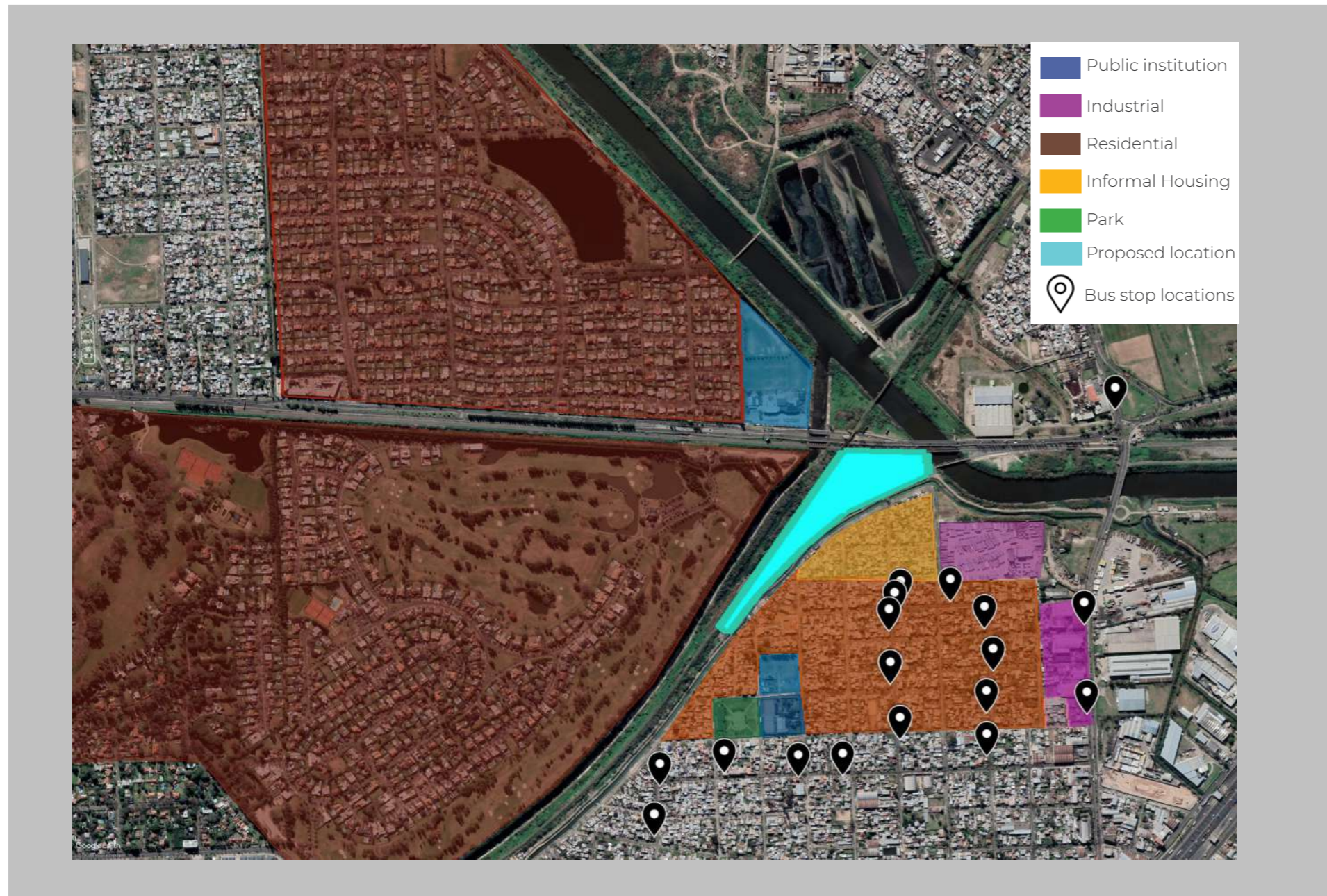
Illustration showing a well designed pavement

R2



Illustration showing a good bus stop design

R3



Redesigning the space



An example of the exterior of a female-friendly toilet

R4

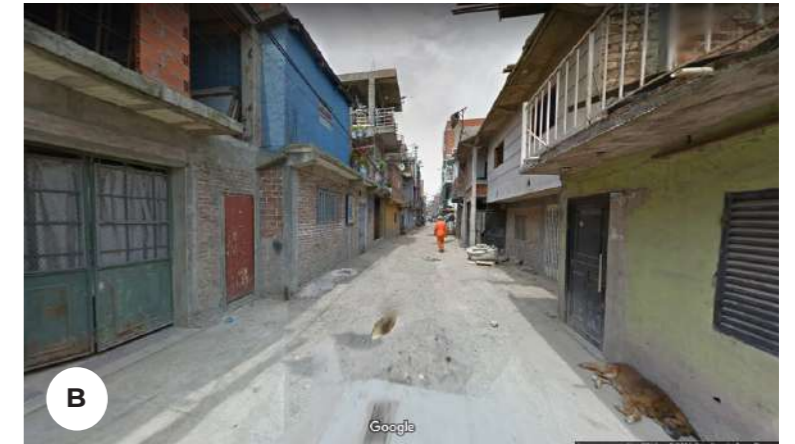


An example of the interior of a female-friendly toilet

R4

Facultad De Derecho

Facultad De Derecho is an upcoming station on the Mitre railway line in Buenos Aires. It is located in the center of the city of Buenos Aires. This site can be easily assessed by bus service (Collectivos), subway and cycles. The site is surrounded by important public places such as public universities (Law university), museums (Latin American art museum) and public plaza along with some informal settlements (Villa 31 Bis). It is proposed to be an multi-modal transport hub. The interventions around the station will focus on creating seamless integration across modes of public transport, walking and cycling.



Last Mile Connectivity

Bus Stops

Línea 67

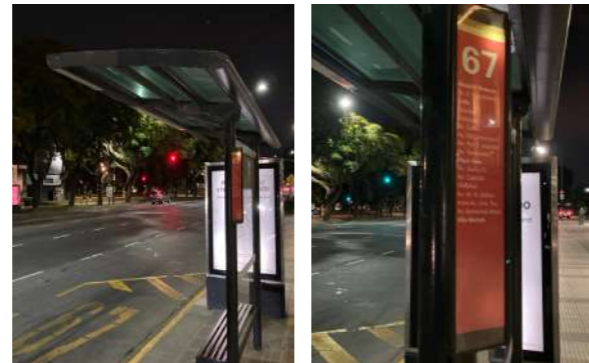
The bus stop Línea 67 is located at a distance of 250 meter from the proposed site. The bus stop is identified by a shelter. The bus stop is located next to the Law University. Government buses stop at this bus stop.

The pavement around the bus stop as well as the bus stop is well lit by pedestrian scale light, street lights and advertisement board. At grade crossing is provided. There is a well designed cycling track also available.

Facilities such as seating space and emergency numbers are available at the bus stops. The universal accessibility elements such as tactile tiles and curb ramps are also provided.

The stop is being monitored by CCTV cameras. Additional facilities such as audio announcement, real time information, braille signage and route maps are not available at the bus stop.

On the path from the proposed site to the bus stop, benches, are available. Cycle stand, shops, and other bus stops were also identified on the path. People were seen exercising, sitting in groups and playing.



Línea 130 ramal panamericana y ramal Munro and Línea 61

The bus stop Línea 140 and Línea 61 are located at a distance of 400 meter from the proposed site. The bus stops are identified by a shelter. The bus stops are located next to the National Museum. Only Government buses stop at both the bus stops.

The pavement around the bus stop as well as the bus stops are well lit by pedestrian scale lights, street lights and illumination from the advertisement boards. The pavement around the bus stops is well designed with at grade crossings and even surfaces.

Facilities such as seating spaces and emergency numbers are available at the bus stops. The universal accessibility elements such as tactile tiles are available.

Facilities such as audio announcement, real time information, braille signage, route maps and CCTV camera are not available at either of the bus stops.

On the path from the proposed site to the bus stop, benches, public plazas and shops are present.

"I don't travel by public transport so I feel very safe"



"Robberies happen often in this public plaza"

"None of us know the schedule of the bus service anymore so I arrive before time and wait for long"



Línea 92

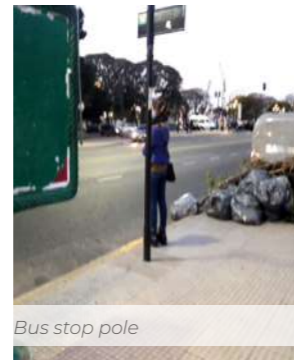
The bus stop Línea 92 is located at a distance of 600 meter from the proposed site. The bus stop is identified by a pole. Government buses stops at this bus stop. The bus stop is located next to the Plaza Francia.

The pavement around the bus stop is well lit by pedestrian scale lights, street lights and illumination from the advertisement boards. However, the light at the bus stop itself is not adequate. The pavement around the bus stops is free from any obstructions. There is a well designed cycling track also available around the bus stop.

Facilities such as trash bin and emergency number are available at the bus stop. No space for seating has been provided.

Additional facilities such as audio announcement, real time information, braille signage and route maps are also not available at the bus stop.

On the path from the proposed site to the bus stop- facilities such as benches, cycle stand, and shops are available. The universal accessibility elements such as tactile tiles and curb ramps are also provided.



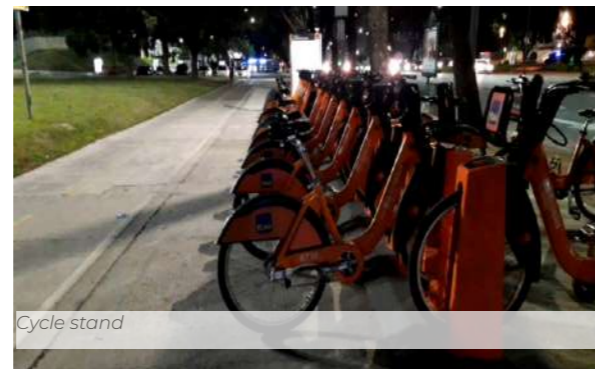
Bus stop pole



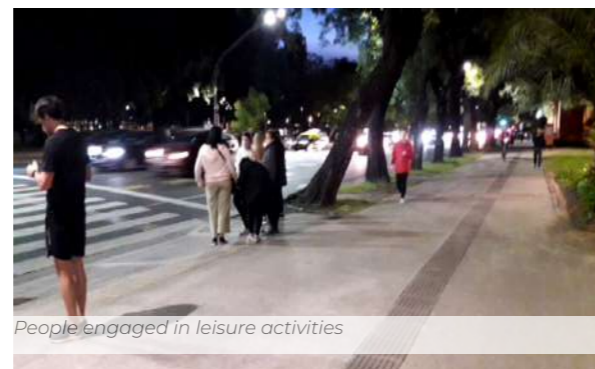
Helpline number displayed



Curb ramp and tactile tiles



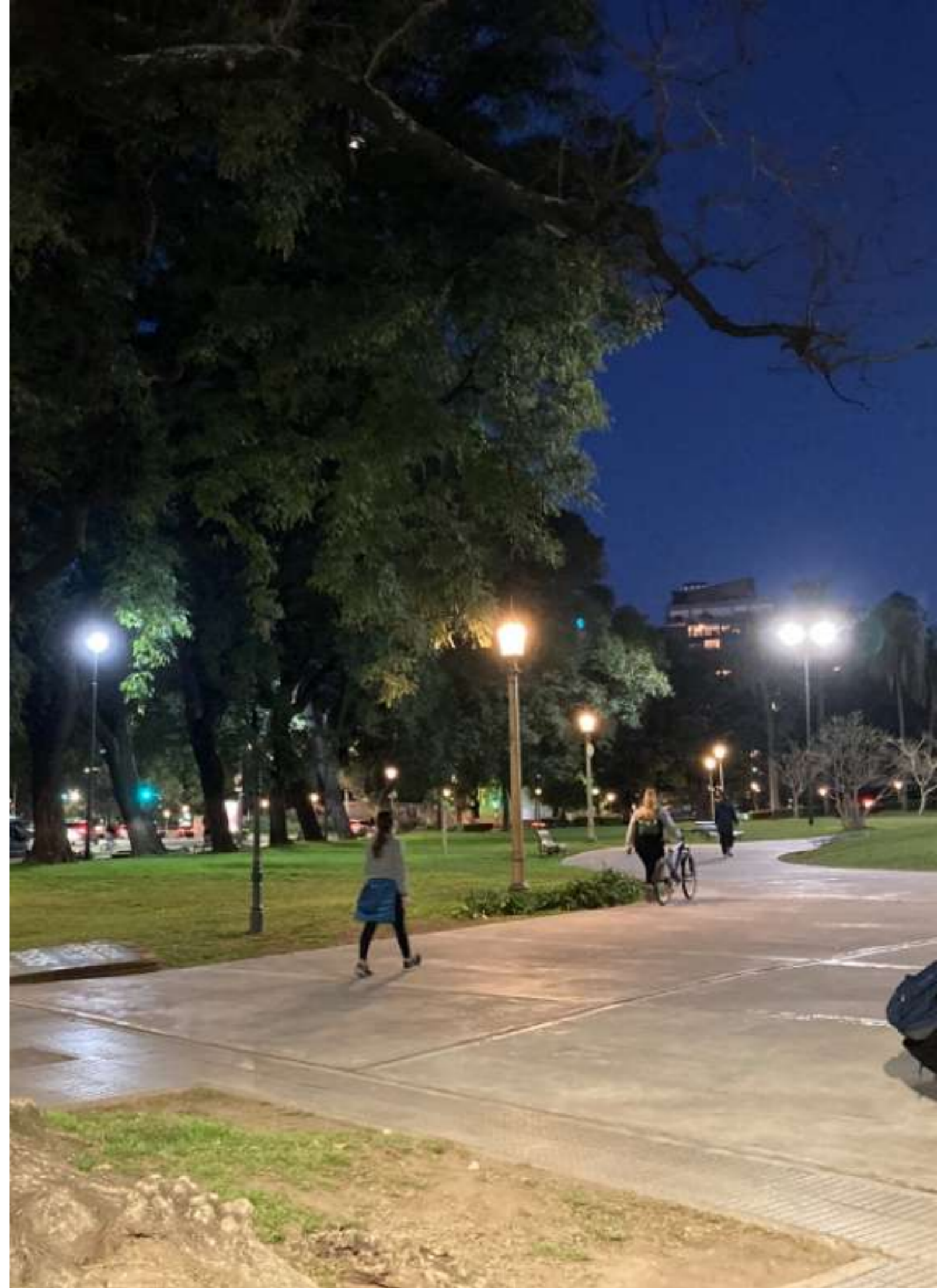
Cycle stand



People engaged in leisure activities

"In the schedules that are not peak there are not many people at and around the bus stop"

"With the issue of the pandemic, the collectives do not respect the quota of people"



Action points for Bus Stops

Findings	Action Point
<p>Lack of physical infrastructure</p> <p>Few bus stops lack basic facilities for the users.</p>	<ul style="list-style-type: none"> · Provide shelter at the bus stop. · Provide maps, bus route information, and real time display at the bus stop · Provide adequate seating space for the commuters to sit while waiting for the bus.
<p>Poor pavement condition</p> <p>Bus stops have poorly maintained pavement.</p>	<ul style="list-style-type: none"> · Provide universal accessibility elements such as continuous tactile tiles, curb ramps and hand rails. It will help all the vulnerable groups to access the bus stop easily.
<p>Unreliable bus schedules</p>	<ul style="list-style-type: none"> · Provide bus schedules and real-time information at the bus stop and on online platforms such as website and smartphone applications to facilitate smooth travel for the commuters.
<p>Lack of safety and security</p> <p>Users highlighted concerns of feeling unsafe while walking to the bus stop and waiting at the bus stop</p>	<ul style="list-style-type: none"> · To make the bus stops more safer for women, provide emergency helpline numbers at the bus stops. · The bus stops are located around popular public institutions. After the institutions are closed the spaces around get deserted. Promoting public engagement and eyes on the street by recreational or vending activities, etc. in the plaza could help in improving the sense of safety. · Active police patrolling could also help improve the perception of security around the bus stops.

Recommendations for Facultad- De-Derecho

S no.	Recommendation	Action Point
R1	Re-organising and re-designing the existing public plaza around the proposed Facultad De Derecho railway station.	<ul style="list-style-type: none"> · The proposed location of the upcoming Facultad De Derecho railway station is surrounded by many important public institutions, public plazas and low- income neighbourhoods. · Area around the station get deserted in the late evening hours(after the institutions are closed). These spaces like plazas should be re-organised and re-designed to promote public engagement. · To activate such spaces some installations or insertions can be introduced to attract people to engage with the space. Temporary exhibitions, musical performances, etc can be organized. (Refer illustrations R1 on page no 90-91) · The activities will be open for all user groups making the area safer and inclusive.
R2	Strengthen the last mile connectivity	<ul style="list-style-type: none"> · The proposed station is a multi-modal station. The interventions around the station is focused on creating seamless integration across modes of public transport, walking and cycling. · While there are many existing transport nodes near the public institutions, there are very few transport stands near low-income neighborhoods. Bus stops and para- transit stops with adequate lighting should be provided near these neighbourhoods to ensure the use of public transport by all.
R3	Provide women friendly public toilets at and around the station	<ul style="list-style-type: none"> · Public toilet should be provided not just inside the railway station but in the vicinity as well. The toilet should be designed for universal access. · Facilities like vending machines for sanitary napkins disposal, baby diaper changing area, feeding area should be provided in the public toilets to facilitate travel for women. (Refer illustration R2 on page 91)



Re-organising the space



Endnotes



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