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Evaluation of Facilities and Infrastructure of Bandung Station as a Circulation HUB for the North-South Region

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ABSTRACT

Bandung Railway Station serves as the primary gateway to the city, symbolizing its urban identity and acting as a key public transportation node. The station's expanded functions—handling long-distance, local, and feeder trains (Whoosh/KCIC)—have significantly increased passenger volumes, especially during peak times. This surge has strained the station's facilities and infrastructure, reducing comfort, efficiency, and accessibility. Furthermore, the current access system restricts entry to passengers only, limiting engagement with pedestrians and non-passenger visitors. This creates barriers to integration between the northern and southern parts of the station and weakens its potential as a connective urban space. This study evaluates Bandung Railway Station's infrastructure performance and area circulation within a broader integrated urban context. Using field observations, on-site assessments, and railway infrastructure regulation analysis, the research finds that the station's design falls short in supporting its role as an inclusive and accessible public space. To address this, the study proposes redesigning pedestrian circulation and public space arrangements, emphasizing adaptability and inclusivity for all users. These recommendations aim to improve intermodal connectivity, foster integration across the urban fabric, and enhance Bandung Railway Station's position as a sustainable mobility hub—aligning with successful global examples.

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1. INTRODUCTION

Bandung Station is one of the main transportation hubs in the city of Bandung and ranks among the busiest stations in West Java. It serves a variety of travel modes, including intercity trains, local trains, and feeder services for the Jakarta–Bandung High-Speed Rail (KCIC Whoosh), thus playing a vital role in both urban and regional mobility systems (Wismadi et al., 2022). As transportation networks expand and intercity mobility increases, the number of users at Bandung Station has significantly risen, particularly during national holidays and weekends. During these peak periods, the passenger count can surge by over 30% compared to regular days, resulting in high congestion in several areas of the station, especially in waiting zones and circulation corridors (Nurhadi et al., 2017; Wulandari, 2016).

The primary issue in this context is the suboptimal infrastructure at Bandung Station in supporting its role as an integrated transportation node. Connectivity between the northern and southern zones of the station remains limited. Currently, two main access points exist—from Kebon Kawung Street (north) and Stasiun Selatan–Pasirkaliki Street (south)—but no public corridor connects both sides directly. As a result, pedestrians must take a significant detour or pass through platform areas that are only accessible to ticket holders (Sari & Nugroho, 2019; Rosada et al., 2017).

Based on literature review and preliminary observations, several key infrastructure-related issues have been identified within the Bandung Station area:

1. Limited accessibility between the northern and southern sides, resulting in inefficient pedestrian and vehicular circulation and inadequate inclusivity for persons with disabilities and other vulnerable groups (Rosada et al., 2017).
2. Insufficient waiting area capacity, particularly on the southern side, leading to discomfort during passenger surges (Nurhadi et al., 2017; Wulandari, 2016).
3. Lack of public open spaces and poorly integrated landscape quality, which hinders the station area from fully functioning as part of the city's spatial network (Andini et al., 2020).
4. Overlapping functional zoning, where transit spaces mix with commercial areas, parking, and informal activities without clear spatial organization (Rachman & Fauzan, 2022).
5. Lack of multimodal integration, including minimal direct connections between urban transport (angkot), online ride-hailing services, and bicycle lanes with the station's inner zone (Rizki et al., 2024; Sari & Nugroho, 2019).

Beyond technical concerns, the architectural and urban design approach surrounding the station has yet to effectively position the station as an inclusive public space. As Gehl (2011) argues, a station should serve not merely as a transit node but as a lively space for social interaction. Within this context, Bandung Station holds potential as a city landmark and a contributor to Bandung's urban image. However, this potential remains untapped due to poor spatial integration, a sense of exclusivity, and disconnected urban zoning (Yuliana & Suryandari, 2023).

This research aims to address the aforementioned challenges through a comprehensive evaluation of the existing infrastructure at Bandung Station and to explore its role in promoting more inclusive, efficient, and sustainable north-south connectivity within the urban fabric.

1.1. Problem Statement

Bandung Railway Station has great potential as an urban connectivity hub, especially as a link between the northern and southern parts of the city. However, various problems have arisen, such as limited spatial integration, facilities that are not yet inclusive, and a lack of orientation toward pedestrian movement and intermodal connections, which hinder its

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function as an efficient and representative transportation node for the city's image. Based on this background, the research questions formulated in this study are:

1. What is the existing condition of facilities and infrastructure at Bandung Railway Station in supporting its function as a circulation hub connecting the northern and southern areas?
2. To what extent do the station's facilities and infrastructure support the principles of connectivity, comfort, and accessibility?

1.2. Research Objectives

1. To evaluate the existing conditions of facilities and infrastructure at Bandung Railway Station as the main transportation node linking the northern and southern city areas.
2. To identify the extent to which the station's facilities and infrastructure fulfill the principles of comfort, accessibility, and spatial connectivity, both horizontally and vertically.
3. To analyze functional and spatial problems occurring during peak seasons, as well as the potential user overload in the station area.
4. To develop strategic recommendations for reorganizing the station's facilities and infrastructure to support the creation of an inclusive, integrated transportation area that better reflects the representative image of Bandung city.

2. LITERATURE REVIEW

2.1. Transportation Infrastructure and the Role of Architecture

The Directorate General of Railways (2018) defines railway facilities and infrastructure as physical elements that support operational and passenger services, including vehicles, tracks, stations, and complementary amenities. The quality of these infrastructures is crucial to ensuring smooth and comfortable journeys (Setiawan, 2021; Aini & Pratama, 2018). Architecture plays a vital role in designing transport infrastructure that is not only aesthetically pleasing but also functional and inclusive. Inclusive design is essential to ensure equitable access, particularly for vulnerable groups such as people with disabilities (Fauzi & Handayani, 2019; Rahayu & Hidayat, 2022). Gehl (2011) emphasizes that railway stations should function not merely as transit points but as vibrant urban spaces that welcome all users.

2.2. Connectivity, Inclusivity, and Spatial Capacity

Connectivity is a key aspect of sustainable urban planning, involving the integration of pedestrian pathways and multimodal transportation systems (Lynch, 1960; Prasetyo & Wulandari, 2021). Carmona et al. (2010) highlight the importance of inclusive public space design for all societal groups to support equitable mobility, especially for persons with disabilities (Rahayu & Hidayat, 2022). In the case of Bandung Station, surges in user volume during peak travel seasons have resulted in spatial mismatches, creating overcrowded conditions that compromise passenger comfort (Balai Teknik Perkeretaapian Wilayah Jawa Barat, 2022; Hartono & Sukarno, 2020; Tümer & Yayla, 2016).

2.3. Studies on Bandung Station and Its Role as a City Landmark

Simanjuntak (2021) evaluated Bandung Station's service performance with a focus on cleanliness and comfort during the pandemic. However, research on spatial connectivity between the northern and southern zones and access inclusivity remains limited. As a city gateway, Bandung Station holds a strategic role in shaping urban identity through well-organized infrastructure and circulation (Rapoport, 1982). Other studies also highlight the importance of intermodal integration in enhancing railway functionality within metropolitan areas, as well as the influence of station design on user satisfaction (Sari & Nugroho, 2017;

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Utami & Santoso, 2020). This study aims to fill the gap by evaluating inclusivity and circulation functions, which remain underexplored (Widiastuti, 2020; Hidayat et al., 2021).

3. RESEARCH METHODS

The method in this study is descriptive qualitative by interpreting and describing the data in the field. The study will be conducted in several stages, namely:

- Direct field observation on the North and South sides of the station.
- Documentation study in the form of station area development plan data, railway technical documents, and zoning and circulation maps

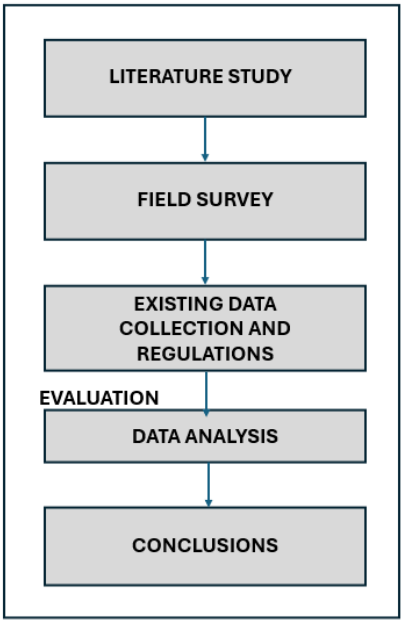

Figure 1. Graphic Stages of Research Methods
(Source: Author's Concept, 2025)

3.1. Data Analysis Technique

The analysis was conducted qualitatively through a descriptive-evaluative approach with the following stages:

1. Identification of existing conditions of facilities and infrastructure (access, waiting rooms, public areas, pedestrian paths, and signage).
2. Evaluation of the feasibility and efficiency of space by referring to:
3. Railway Minimum Service Standards (SPM) from the Directorate General of Railways (2018).
4. Ergonomic theory of public space (Zimring & Reizenstein, 1980) to assess comfort, travel distance, and accessibility.
5. The concept of flow and wayfinding by Arthur & Passini (1992) to assess the flow of user movement and the readability of the circulation system.
6. The concept of connectivity and inclusiveness of space according to Lynch (1960) and Carmona et al. (2010)

4. RESULT AND DISCUSSION

4.1. Overview of the Bandung Station Area

1. Location and Address

Bandung Station (Stasiun Hall) is situated at Jl. Kebon Kawung No. 43, centrally located in Bandung City. This strategic position ensures accessibility from various directions,

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serving both commuter and intercity travel needs. The station functions as a pivotal transportation hub, connecting multiple modes of transport, including intercity trains, local commuter services, and the Jakarta–Bandung High-Speed Rail (KCIC Whoosh) feeder services.

2. Station Typology

Classified as a Type A station, Bandung Station serves as the primary railway station for the Bandung and West Java regions. It comprises two main access points:

- **Northern Side** (Kebon Kawung): The main entrance for long-distance passengers.
- **Southern Side** (Stasiun Timur): Closer to the city center and historical districts.

The station's architectural evolution reflects its historical significance and functional adaptations over time.

3. Circulation Changes (Past vs. Present)

- **Past:** Historically, the station allowed unrestricted pedestrian movement between its northern and southern areas. This openness facilitated direct access across the station, integrating it seamlessly with the urban fabric.
- **Present:** Recent infrastructural developments have introduced controlled access measures. Currently, only ticket holders can traverse between the northern and southern sections via internal passageways. This restriction has disrupted the station's role as a public thoroughfare, impeding pedestrian connectivity and contributing to urban fragmentation.

Crossing access between the station sides (north and south) is only allowed for ticket holders, so the general public cannot cross. This creates obstacles to city circulation because it cuts off direct access between the two parts of the city that used to be connected through the station area.

Figure 2. Bandung Station Map
(Source: Deviantart, 2025)

4.2. A Brief History of Bandung Station

Bandung Railway Station, also known as Stasiun Hall, was officially opened on May 17, 1884, by the Dutch colonial railway company Staatsspoorwegen (SS). The construction of the station aimed to support the Batavia (Jakarta)–Bandung railway line, as part of the broader development of transportation infrastructure in the Dutch East Indies. Originally, the station was designed with a blend of Indies architectural style and later incorporated Art Deco

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elements. Significant renovations and expansions were carried out in the 1920s to accommodate the city's rapid growth and the increasing number of passengers. The name "Stasiun Hall" derives from the Dutch architect E.H. de Roo, who designed the station's iconic central hall, which remains a defining feature of the building. Over time, Bandung Station has become a crucial node in Java's railway network, serving as a major connection point between Bandung and other key cities such as Jakarta, Yogyakarta, and Surabaya. To this day, Bandung Station continues to function as one of the busiest and most important railway stations in Indonesia.

4.3. Analysis of Space

Analysis of Outdoor Space

This section describes the Bandung Hall Station site in detail between the north station building and the south station and also finds several major problems, including the following: There are many intersections of human and train circulation in the rail and platform areas. Lack of facilities for waiting for trains in the south station building. The condition of the South Station, especially on Jalan Stasiun Barat, is not well organized, the condition of the North Station, especially the entrance area, is not well organized and there are many public transportations that cause congestion in access especially on Peron area.

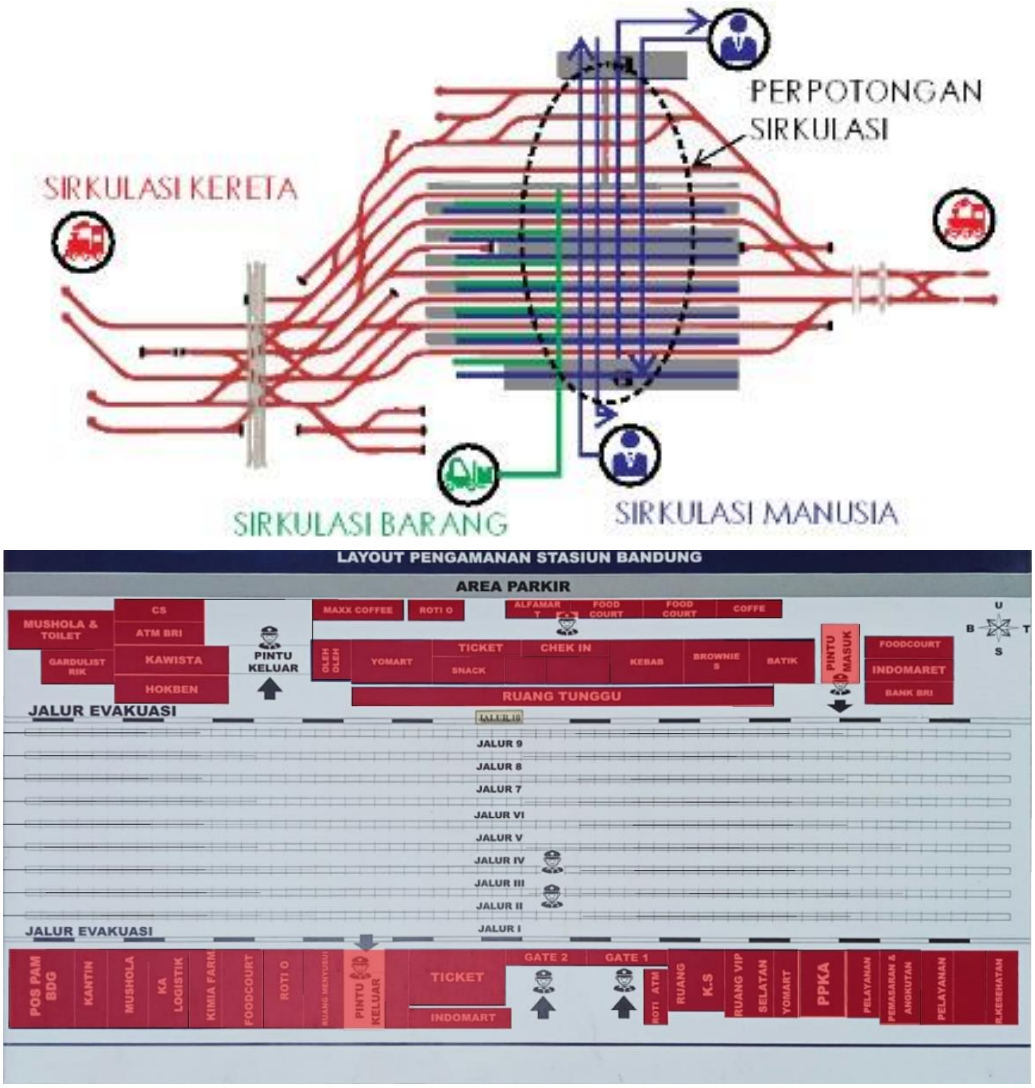

Figure 3. Problem Analysis in Interior Space (Floor Plan)
(Source: Author's analysis, 2025)

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Table 1. Analysis of Outdoor Space

Problem	Information
Intersection of human and train circulation	Occurs in the rail and platform areas
Lack of waiting facilities in the south building	Lack of waiting facilities in the south building Lack of comfortable waiting areas
South Station area (Jl. Stasiun Barat) is not well organized	South Station area (Jl. Stasiun Barat) is poorly organized Spatial planning and facilities are inadequate
North Station area is not well organized and is disturbed by public transportation	North Station area is not organized and is disturbed by public transportation Causes congestion in access to the station

(Source : Author's Analysis, 2025)

4.3.1. Passenger Number Analysis

According to data from BandungBergerak.id, the total number of train passengers departing from Bandung between 1999 and 2020 fluctuated above 10 million annually, with the highest recorded in 2012 at 23,863,019 passengers. This indicates that, on average, approximately 17,915 passengers utilized the station each day during this period.

This substantial daily ridership underscores the critical role of Bandung Railway Station as a major transportation hub in Indonesia. The station's capacity to accommodate such a volume of passengers highlights the importance of continued infrastructure development and service enhancements to meet the growing demand for rail travel.

Table 2. Highest Passenger Number Data

Aspect	Information
Average Passengers (2012–2016)	76.189.485 persons
Average Passengers per day	17.915 persons

(Source : Author's Analysis,2025)

1. Space Requirement Analysis

The space requirements for Bandung Railway Station are evaluated by considering both user needs and official standards. Firstly, the analysis refers to the functions and activities of the station's users, recognizing that increased passenger occupancy demands more spacious and efficient facilities to ensure comfort and smooth circulation. Secondly, the evaluation follows the official standardization guidelines provided by PT. Kereta Api Indonesia (PT. KAI), which serve as the benchmark for railway infrastructure design and space allocation. Current observations indicate that the existing station space falls short in accommodating the growing number of passengers, leading to congestion and discomfort, especially during peak hours. Minor deficiencies in space allocation highlight the need for expansion and redesign of the station's public areas, waiting rooms, and circulation pathways. Therefore, enhancing the station's spatial capacity is essential to meet both the practical demands of users and comply with PT. KAI's standards, ultimately improving passenger experience and operational efficiency.

Table 3. Space Requirements Analysis

Analysis Methods	Information
Based on user needs	Refers to user functions and activities
Based on PT. KAI standardization guidelines	Referring to the official manual from PT. KAI

(Source : Author's Analysis,2025)

4.3.2. Space Zoning Analysis

The current spatial layout of Bandung Railway Station is organized into distinct zones based on function, including passenger waiting areas, ticketing counters, platform access, commercial spaces, and service facilities. The station primarily separates passenger-only zones from non-passenger public areas, with controlled access limiting movement

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between different sections. This zoning aims to streamline circulation and maintain security for travelers.

Table 4. Space Zoning Analysis (Existing)

Zone	Information
Human	Ticketed and non-ticketed passengers (exclusive)
Logistic	Area for transportation and distribution of goods
Vehicle	Area for private and public vehicle access
Circulation	Many circulation zones intersect and are not exactly aligned.

(Source: Author's Analysis, 2025)

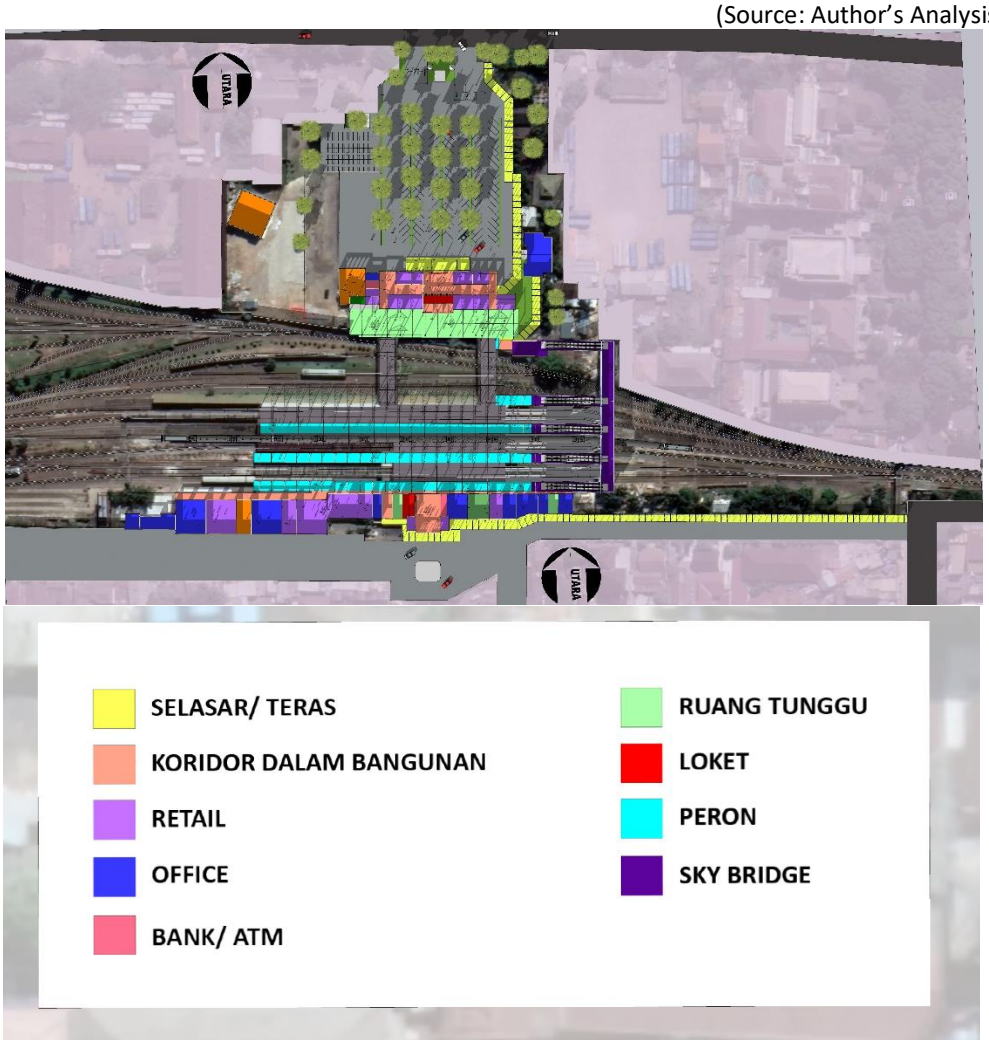

Figure 4. Existing Space Zoning Analysis
(Source: Author, 2025)

- Major Problem: A significant issue with the existing zoning is the restricted access system, which limits entry only to ticketed passengers. This creates a physical and social barrier between the northern and southern parts of the station, reducing pedestrian connectivity and interaction with the surrounding urban environment. As a result, the station fails to function effectively as an integrated public space, diminishing its role as a vibrant urban hub.
- Minor Problem: Within passenger zones, some waiting and circulation areas are inadequately sized or poorly arranged, causing congestion during peak hours. The flow between ticket counters, waiting rooms, and platforms lacks smooth transitions, leading to bottlenecks and discomfort for users.
- Opportunities for Improvement: Improving spatial zoning by introducing more inclusive access policies and redesigning pedestrian pathways can enhance

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connectivity and user comfort. Expanding and reorganizing waiting and circulation spaces will better accommodate passenger volumes and improve overall station efficiency.

4.3.3. Circulation Analysis

Several major issues related to the circulation and access, both inside and outside the station, are as follows:

Table 4. Circulation Analysis

No.	Issue	Description
A	Obstructed Entry/Exit Circulation	Many public minivans (angkot) wait and load/unload passengers directly in front of the station entrance, causing congestion.
B	Intersection of vehicle and pedestrian circulation:	There is an overlap between the circulation paths of cars, motorcycles, pedestrians, and public minivans in the entrance area of the station.
C	Limited pedestrian access:	There is only one pedestrian pathway located at the far end of the parking area, and only a portion of it is covered with a roof.
D	Illegal parking and vehicle buildup:	Vehicles parked illegally cause traffic congestion and block entry and exit access at the station's southern gate.
E	Pedestrian–railway track crossing:	Some pedestrian routes still cross directly over active railway tracks, posing safety risks.
F	Mixing of passenger and freight circulation:	The boarding and alighting areas mix passenger circulation with freight/logistics distribution, creating potential circulation conflicts.
G	Intersection of cargo and train circulation:	Cargo circulation routes overlap with operational railway lines, disrupting operational efficiency and safety.
H	Platforms without canopies:	The ends of the platforms, which are still used for boarding and alighting, lack canopy coverage, providing little comfort or protection from the weather.

(Source: Author's Analysis, 2025)

4.4. Facilities Analysis

The waiting area at Bandung Station has limited seating capacity and is unable to accommodate the surge of passengers during peak seasons. The location and size of retail areas within the station further reduce the effective space available for passenger seating. Additionally, the lack of clear separation between ticketed passengers and general visitors, along with poorly organized entry routes to the gates, contributes to congestion. As a result, many visitors are forced to stand while waiting for departure, especially during busy periods.

Figure 5. The atmosphere of the sitting room at North Station (a) and South Station (b)
(Source: Author's Documentation, 2025)

According to the Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 63 of 2019 concerning Minimum Service Standards for Passenger Transportation

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by Rail, the maximum passenger density in waiting areas is 0.6 m² per person. If the waiting area is insufficient in size, passenger comfort and safety may be compromised.

Therefore, an evaluation of the waiting area capacity at Bandung Station is necessary, including the rearrangement of retail spaces and gate access flows, to ensure passenger comfort and safety, particularly during peak seasons.

4.4.1. *Skybridge*

The skybridge at Bandung Station was originally designed to serve as a pedestrian connector between the northern and southern parts of the station, improving circulation and allowing easier movement across the rail tracks. It aimed to enhance passenger flow, reduce crossing at track level, and support integration within the station complex by providing a safer, elevated pathway. However, in practice, the skybridge has not fully addressed the circulation challenges for several reasons:

1. **Access Limitation**: The skybridge is restricted to ticketed passengers only, which excludes pedestrians, visitors, or local residents who may want to cross from one side of the city to the other via the station. This undermines the idea of the station being an inclusive public connector.
2. **Unresolved Circulation Conflict:** There is still a crossing of flows between arrival and departure passengers, especially near the platform areas and access gates. The layout and routing do not effectively separate or organize these movements, leading to congestion and confusion, particularly during peak hours.

Figure 6. The Atmosphere Skybridge In Bandung Station
(Source: Author's Analysis, 2025)

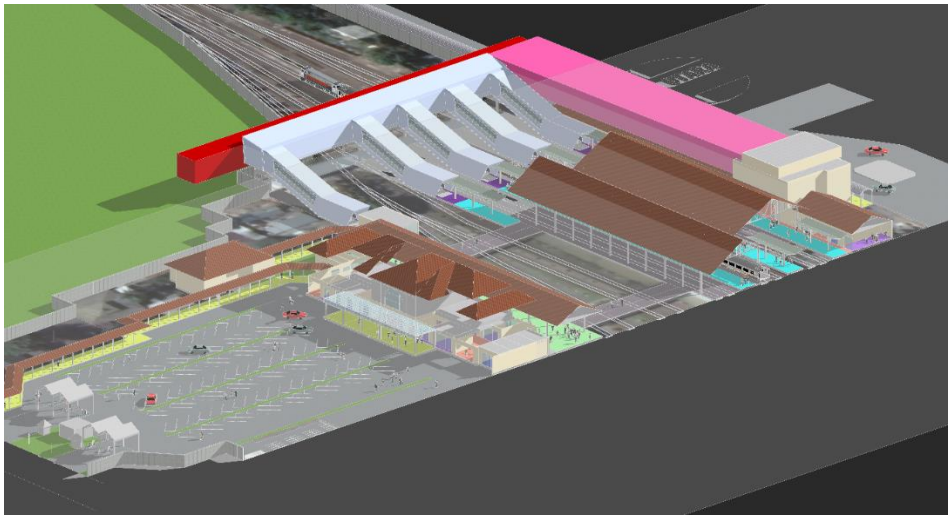

Figure 7. The Atmosphere Skybridge In Bandung Station
(Source: Author's Analysis, 2025)

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Table 5. Skybridge Analysis – Circulation

Aspect	Before Skybridge	After Skybridge	The problem that still occur
Accessibility	Passengers move between platforms via underpasses, making it difficult for people with disabilities and the elderly.	Skybridges make it easier for ticket holders to move between platforms.	Access to the skybridge is for ticket holders only, limiting access for non-passenger visitors, which is not in line with the principle of inclusiveness of public space.
Passenger Circulation	Separate arrival and departure flows, but with inadequate facilities.	More efficient circulation for ticket holders.	Only one skybridge causes arrival and departure flows to mix, causing congestion during peak seasons.
Non-Ticket Visitor Access	Visitors can access the platform area freely.	Access is limited, non-ticket visitors must detour through the outer area of the station such as Paskal and Kebon Jati.	Longer and inefficient travel distance for non-ticket visitors, making it difficult especially for the elderly and people with disabilities

(Source: Author's Analysis, 2025)

Improvement Suggestions

1. Addition of Skybridge or Alternative Route
2. Build additional skybridge or alternative route to separate arrival and departure routes, reducing congestion during peak seasons.
3. Accessibility Improvement
4. Open skybridge access for non-ticket visitors with adequate supervision, and provide facilities such as lifts and ramps in accordance with PM 98 of 2017.
5. Station Layout Evaluation
6. Conduct a comprehensive evaluation of the station layout to ensure that all areas support the principles of inclusivity and efficiency.
7. Provision of Clear Information
8. Provide clear and easily accessible information regarding circulation routes and available facilities, assisting passengers and visitors in planning their trips.

4.4.2. Parking and Plaza Analysis

Bandung Station as the main transportation node in the city center should not only serve the function of vehicle circulation, but also be a comfortable, green, and inclusive public space.

Figure 8. Motorcycle and Car Parking Area of Bandung Station
(Source: Author's Documentation, 2025)

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Bandung Station as the main transportation node in the city center should not only serve the function of vehicle circulation, but also be a comfortable, green, and inclusive public space. Currently, the arrangement of parking pockets on the north and south sides is still car-centric, covering the visual facade of the building, and ignoring the potential of plaza and pedestrian spaces. This is contrary to the spirit of Bandung as a "Flower City" which emphasizes greenery, city aesthetics, and pedestrian comfort.

Table 6. Parking Pocket Arrangement & Development

Aspect	Present Condition	Development Recomendations	Objective
North side parking	Parking is in front of the main entrance, blocking the potential plaza	Relocate to the left and right sides of the area, create a green open plaza zone	Highlight the facade, create public space
South side parking	Vehicle parking covers the facade and mixes with pedestrians	Relocation to the perimeter + one-way drop-off zone	Arrange circulation flow, show architectural value
Green space & plaza	No green transition space in front of the building	Public open space design as city identity	Realize the concept of “Bandung, Flower City”
Pedestrian access	Pedestrians share space with vehicles	Add wide, accessible pedestrian paths and disabled-friendly	Prioritize non-motorized access
Parking capacity	Centralized and limited, prone to conflict	Spread parking to the east-west side, optimize small pockets	Reduce circulation conflicts and congestion

Table 7. Standard Rules & Regulatory References for Parking and Vehicles

Regulation	Related Content	Source
Law No. 26 of 2007 on Spatial Planning	The function of public space as a social and ecological space	Law 26/2007
Law No. 22 of 2009 on Traffic and Road Transport	Provisions for parking arrangements and pedestrian zones	Law 22/2009
Ministry of Transportation Regulation No. 34/2014	Technical regulations on road markings and parking zones	MoT Reg 34/2014
Bandung City Regional Regulation No. 18/2011 (RTRW)	Bandung is directed to be a green, inclusive city that prioritizes pedestrians	Regional Reg 18/2011
Law No. 11 of 2010 on Cultural Heritage	The importance of highlighting historic buildings and strengthening city identity	Law 11/2010

4.4.3. Bus Stop and Public Transportation Analysis

The availability of parking pockets for bus stops around Bandung Station is currently inadequate. The area that should function as a drop-off and pick-up location for passengers is often used as an illegal parking area, both by private vehicles and online motorcycle taxis. The lack of special bus stops and markings triggers illegal parking. This condition causes congestion, circulation conflicts, and disrupts the comfort and safety of public transportation users.

Figure 9. Bus Stop on the North Side of Kebon Kawung Condition
(Source: Author’s Personal Documentation, 2025)

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Table 8. Bus Stop and Public Transportation Analysis

Aspect	Present Conditions	Impact
Bus stop parking pocket	Limited, not properly designed	Unable to accommodate pick-up vehicles
Illegal use	Used for illegal parking	Disrupts the smooth flow of public transportation
Unclear drop-off zone	Inadequate road markings and signage	Drivers are unaware of the proper parking/drop-off areas

Table 9. Standard Rules & Regulatory References for Public Transportation Commute

Regulations	Key Points	Source & Year
Law No. 22 of 2009 on Traffic and Transportation	Penalties for parking violations; transportation facilities must be accessible and efficient	Law No. 22/2009
Government Regulation No. 79 of 2013 on Traffic	Parking must be in designated zones and must not disrupt traffic flow or safety	Gov. Reg No. 79/2013
Ministry of Transportation Regulation No. 34/2014 on Road Markings	Road markings must clearly designate parking and drop-off areas	MoT Reg No. 34/2014
Ministerial Decree No. 66 of 1993 on Parking Facilities	Parking facilities must separate parking and moving vehicle zones; capacity must be adequate	Decree No. 66/1993

Table 10. Recommendations for Enhancing Public Transport Infrastructure

Recommendation	Brief Explanation
Reorganization of bus stop zones	Installation of clear road markings and signage to regulate parking and drop-off areas in line with regulations
Law enforcement	Active monitoring and imposition of penalties for illegal parking in accordance with Law No. 22/2009
Construction of official parking areas	Provide designated parking areas near bus stops to reduce illegal parking
Evaluation of public transport zone design	Ensure the spatial design of bus stops and parking areas meets principles of order, comfort, and inclusivity

4.4.4. Peron Analysis

The platforms at Bandung Station present several critical issues that affect passenger comfort, safety, and accessibility.

Figure 10. Existing Peron Analysis
(Source: Author's Documentation, 2025)

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One of the primary concerns is the inconsistent platform heights across different sections, which complicates boarding and alighting from trains. This variation in height not only causes inconvenience but also raises safety risks, especially for elderly passengers, children, and those with limited mobility. Access to the platforms is primarily via stairs, which are often steep and narrow, lacking ramps or elevators that would support disabled-friendly access. This situation makes it challenging for passengers using wheelchairs, the elderly, and travelers with heavy luggage to navigate safely and comfortably. The absence of proper accessibility features indicates a significant gap in meeting universal design principles and regulatory standards for public transport facilities. Moreover, on both sides of the platforms and tracks, there is a notable lack of security screens or barriers. These safety features are crucial to prevent accidental falls onto the tracks, unauthorized crossing, and to enhance overall passenger protection. Their absence increases the risk of accidents and compromises the safety of both passengers and operational staff.

Besides the standard requirements for spaces within the station building, the design of the platform—which serves as the loading area for passengers and goods directly facing the railway transportation mode—should also meet adequate standards to ensure the smooth operation of activities in that area. Below are the standard dimensions for a railway platform.

Table 12. Peron Standard Design

No	Description	Peron Types		
		Tall	Medium	Short
1	Platform height, measured from rail head to platform floor	100 cm	43 cm	18 cm
2	Distance from platform edge to the centerline of straight track	160 cm	135 cm	120 cm
3	Distance from platform edge to the centerline of curved track	165 cm		
4	Minimum width for island platform (between two tracks)	200 cm	250 cm	280 cm
5	Minimum width for side platform (alongside one track)	165 cm	190 cm	205 cm
6	Safe boundary distance, measured from outer platform edge toward platform centerline	35 cm	600 cm	750 cm
7	Platform length	Adjusted according to the longest passenger train set in operation		

From the explanation above, it is known that the size of the platform is based on its type. In the Bandung Station building, where the station building is a large station building, the large station building has 2 types of platforms, namely medium and high platforms.

Table 13. Ministerial Regulation 2019 about Peron Standard

Ministerial Regulation 2019				
Service Type	Description	Indicator	Major Station	Description
	It is a station floor that is parallel to the train floor, functioning as		• The gap between the edge of the platform and the train body does not endanger minors and passengers using wheelchairs and; • The difference in	• • Maximum platform-train door gap: 20 cm. • • For height differences > 20 cm, a temporary bancik or ramp can be provided • Especially for new stations that will start construction in 2019,

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Ministerial Regulation 2019				
Peron	a waiting area and accessibility for passengers to get on / off.	• Availability • Condition	height of the station platform floor is 20 cm from the train floor; • The station platform floor is free from commercial activities, is not slippery and is not flooded, and is equipped with:	the level must be parallel between the platform and the train floor.

Ministerial Regulation 2019				
Service Type	Description	Indicator	Major Station	Description
Peron	It is a station floor that is parallel to the train floor, functioning as a waiting area and accessibility for passengers to get on / off.	• Availability • Condition	• Markings / barriers for passengers getting on / off the line. • Markings / guiding blocks • to show the way for blind passengers. • Safety lines are available from the edge of the platform or PSD • *(platform screen door).*	• Safety line is not slippery. • Safety line is at least 35 cm from the edge of the platform

From the explanation of the Ministerial Regulation above, it is known that a platform should be able to provide greater comfort and security and always pay attention to its users with easy access and clear directions. As examples given below:

1. Cross Section of High Platform.

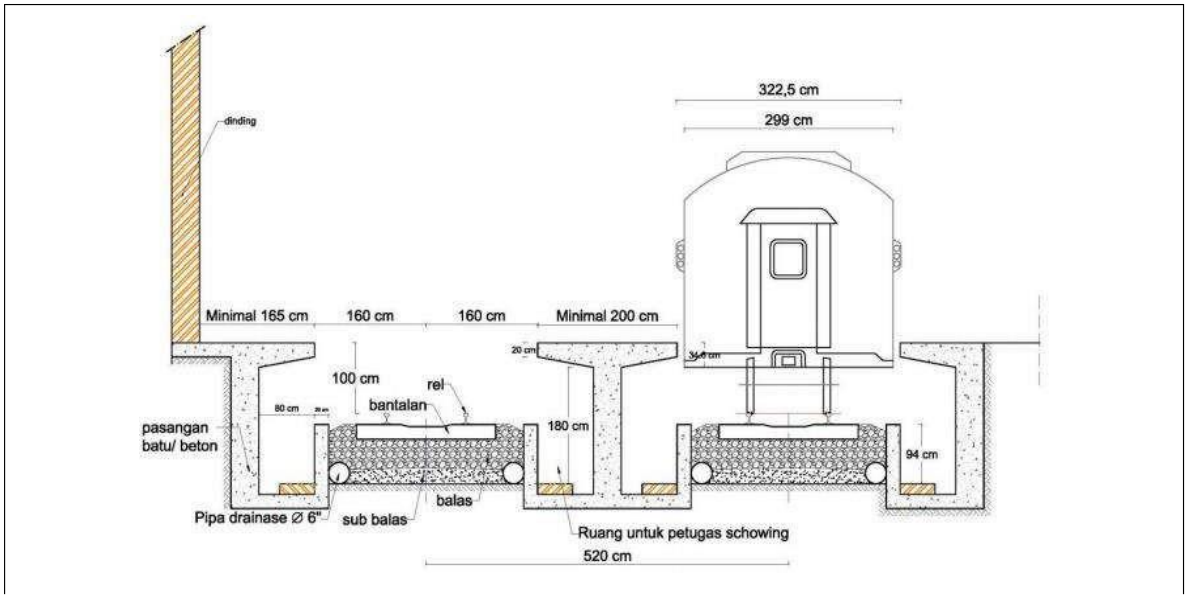

Figure 10. Cross Section of High Platform-Peron
(Source: PT. KAI (Kereta Api Indonesia), 2025)

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2. Cross Section of Low Platform.

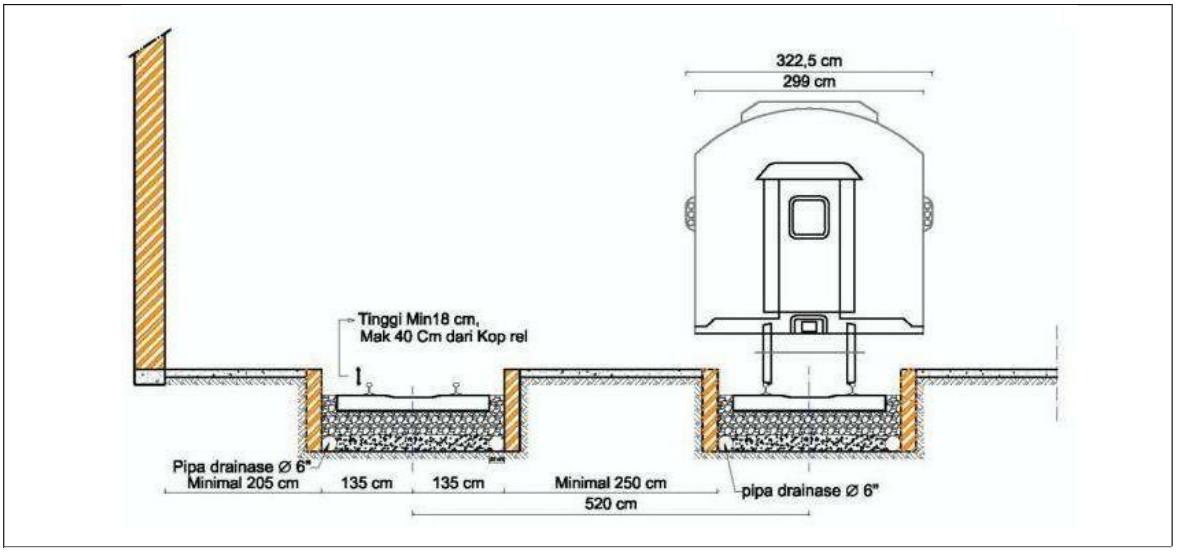

Figure 11. Cross Section of Low Platform-Peron Standard
(Source: PT. KAI (Kereta Api Indonesia), 2025)

5. CONCLUSION

Based on the evaluation of the facilities and infrastructure of Bandung Railway Station as a north–south circulation hub, it can be concluded that the existing conditions do not fully support the station's optimal function. Accessibility between the northern and southern sides remains limited, causing inefficient pedestrian and vehicle circulation and a lack of friendliness for people with disabilities and vulnerable groups (Rahmawati et al., 2021). The available waiting areas are inadequate to accommodate passenger surges, especially on the southern side, reducing user comfort (Putra & Wicaksono, 2023). Additionally, the lack of public open spaces and poor landscape quality means the station area is not yet fully integrated into the city's spatial network (Wulandari et al., 2024). Poorly organized functional zoning also results in overlapping activities between transit, commercial, parking, and informal sectors without optimal space management (Santoso & Hartanto, 2022). Lastly, integration between transportation modes such as city buses, online motorcycle taxis, and bicycle lanes with the station area remains insufficient, hindering smooth user mobility (Rahmawati et al., 2021).

Overall, these findings indicate that Bandung Station's facilities and infrastructure have yet to fully meet the principles of connectivity, comfort, and accessibility. This creates barriers to the station's function as an effective and inclusive mobility center within a continuously developing urban context.

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