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Revitalization Station Labuan, Medan with Post Modern Architectural Approach

Firman Eddy ST,.MT[1], Asep Didin Simamora[2]

Architecture Departement, Faculty of Engineering , Universitas Sumatera Utara, Medan, 20155, Indonesia

*Corresponding Author: asepsimamora03@gmail.com

Abstract (English)

Labuan Railway Station has been an integral part of the history of Indonesian railways since it began operating in the city of Medan for a significant period. Its existence has become an important marker in the cultural heritage of Medan, North Sumatra. Unfortunately, this station has now experienced a significant decline in operations and facilities, resulting in its current inability to operate fully. Therefore, a revitalization effort is necessary, focusing on providing new facilities without neglecting the preservation of the existing building's values. This study aims to evaluate the strategies required to redevelop the role of Labuan Station as a functional transportation hub while maintaining the historical integrity and authenticity of the building. Qualitative methods and a case study approach are used to analyze the challenges and opportunities associated with reviving the station's operations and redesigning its facilities. It is hoped that the results of this study will provide more comprehensive insights into how to enhance the function of railway stations with historical value. Consequently, this study can serve as a guide for stakeholders in redesigning Labuan Station without diminishing the historical values inherent in the station, as well as developing sustainable strategies for similar stations in Indonesia.

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Key Words

Revitalization, railway station., Post-Modern

1. Introduction

Railways are one of the most efficient means of intercity land transportation, both for passengers and goods. Their ability to transport large numbers of passengers and freight makes them an extremely effective choice in terms of capacity and efficiency. With an extensive and integrated network, railways not only facilitate individual mobility but also serve as a primary means of logistics, enabling the quick and efficient transport of goods between cities.

Aligned with the national railway vision of achieving: “Competitive, integrated, technological, industry-synergized, affordable, and development-challenging railways”, the target for national railway services by 2030 is: “To achieve a railway transport service market share of 7% - 9% for passengers and 11% - 13% for goods from the total national transportation services”.

To meet these targets, it is crucial that railway transportation facilities, including the planning and design of railway tracks as well as the improvement of service quality at stations and on trains, fulfill public needs and increase trust in railway transportation. The presence of stations is essential as terminals for boarding and alighting passengers, and as places for interaction and activities for railway users waiting for their departures.

Labuan Station is one of the first stations built in the city of Medan, North Sumatra. Although it has been in operation for a considerable time, the station has experienced significant deterioration in the physical quality of its buildings and available facilities. This condition has caused the station to cease functioning as a passenger station as originally intended. Therefore, serious measures are needed to revitalize this station so that it can play a role in the development of railway transportation facilities in Indonesia, particularly in the city of Medan..

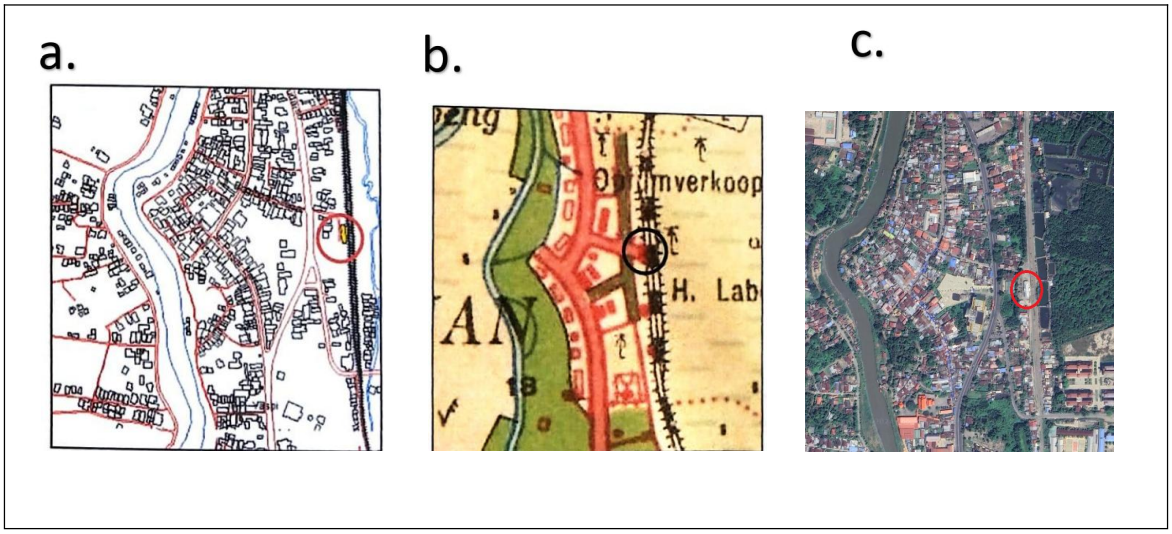

Figure 1. a.) Building Position in Medan City Map 2007; (*Source: Medan City Bappeda, quoted from Fitri, 2014*) b.) Building Photo in Medan City Map 1914 (*Source: KITLV, Leiden University Library, quoted from Fitri et al., 2014*) c.) Building Photo in Medan City Map 2023 (*Source: Google Earth,2023*)

The Labuan Station holds significant historical value for the city of Medan. Therefore, it is important to preserve this building to ensure that its historical significance remains intact, and the beauty of Dutch colonial architecture can be appreciated by the community. In the effort to develop Labuan Station, actions must be taken to maintain the authenticity of the existing structure.

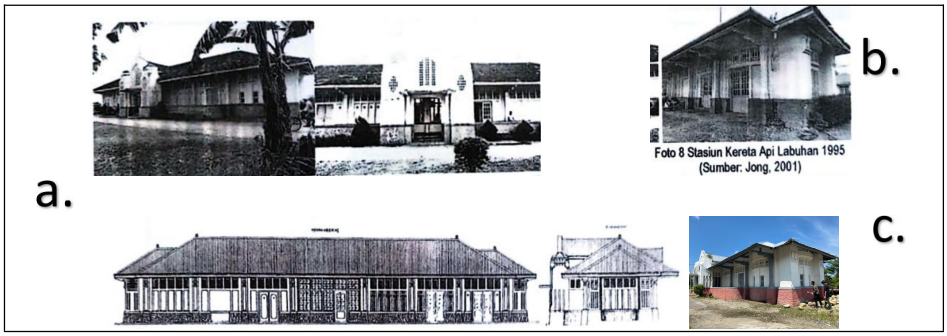

Figure 2. a.) Photo of Labuan Station DSM 1919; (*Source: Jong, 2001)* b.) Photo of Labuan Station DSM 1995; (*Source: Jong, 2001*) c.) Photo of Labuan Station DSM 2023; (*Source: Personal Observation*)

Post Modern architecture is an architectural style that often combines traditional elements in modern innovation, resulting in buildings that showcase cultural heritage buildings while exploring new ideas. In this case, the characteristics of Post-Modern architecture that reflect respect for cultural heritage will be relevant in the design of Labuan Station.

ith a carefully planned strategy to design and preserve Labuan Station, it is hoped that the design of Labuan Station will meet the needs of prospective train passengers. Along with that, it is hoped that Labuan Station will become a symbol of proud attraction for the city of Labuan Medan so that it becomes one of the icons in the city of Medan, especially Labuan.

2. Literature Study

2.1 Train Station

A. Definition of Train Station

Several definitions of train stations are presented by various sources as follows:

a. According to the Great Dictionary of the Indonesian Language, a train station is defined as a location used to wait for train passengers and other related facilities; also as a stopping place and other functions.

b. According to (Undang-Undang Nomor 23 Tahun 2007 tentang perkeretaapian), A station is a point where passengers can get on and off using train transportation.

c. Warpani explained that the station is a place where passengers and goods using the train transportation mode gather. In addition, the station also serves as a control center and train traffic management, as well as a location for train and locomotive maintenance. Although the station is the starting and ending point of the train journey, it is not the destination or the actual starting point of the journey.

2.2 Preservation of Cultural Heritage

According to (Undang-undang no. 11 tahun 2010), Objects, buildings or structures can be proposed as Cultural Heritage Objects, Cultural Heritage Buildings or Cultural Heritage Structures if they meet the following criteria:

a. aged 50 (fifty) years or more;

b. representing a style period of at least 50 (fifty) years;

c. having special meaning for history, science, education, religion, and/or culture; and

d. having cultural value for strengthening the nation's personality.

(Undang-Undang Nomor 11 Tahun 2010 tentang Cagar Budaya) explains a series of protection steps that include Rescue, Security, Zoning, Maintenance, and Restoration of Cultural Heritage.

• Rescue refers to efforts to prevent or overcome damage, destruction or extinction of Cultural Heritage.• Pengamanan mencakup tindakan untuk menjaga dan menghindari Cagar Budaya dari ancaman atau gangguan.

• Zoning involves establishing spatial boundaries for Cultural Heritage Sites and Cultural Heritage Areas according to needs.

• Maintenance aims to maintain and care for the physical condition of Cultural Heritage so that it is maintained.

• Restoration is an action to repair the physical condition of damaged Cultural Heritage Objects, Cultural Heritage Buildings, and Cultural Heritage Structures, by maintaining the authenticity of the materials, form, layout, and construction techniques, to extend their life.

2.3 Post Modern Architecture

Charles Jencks, an architect who first introduced the term post-modernism in an architectural context, outlined four definitions of postmodernism in his work entitled "The Language of Post-modern Architecture" in 1977.

- Postmodernism is defined as a school of thought or attitude associated with popular culture or critical theory, which tends to be relative, rejects universality, and is nihilistic.
- In addition, Jencks sees postmodernism as a school of thought or philosophy that challenges Western rationalism and science in the 20th century.
- In the context of sociology, postmodernism is interpreted as a movement that marks an increase in economic services, the role of mass media, interdependence in the global economy, and changes in people's consumption patterns.
- Jencks also defines postmodernism as a reaction to the failure of modern architecture, which is characterized by a loss of identity of place, boredom in form, and the dominance of efficiency, mass production, and industrialization

.The design concepts contained in post-modern architecture are as follows:

- Representation

  The concept of representation is very important in architecture. The origin of this concept comes from the idea put forward by Klotz, who describes architecture as a work of fiction or imagination. Architecture is seen as a representation of other concepts that go beyond its physical form, including the dimension of language where the use of metaphor in architecture is common.
- The "Both And" Approach and the Hybrid Concept

  The "Both And" approach is a concept introduced by Venturi, which combines opposing elements into one whole to create a new identity. Meanwhile, the hybrid approach is a method of creating something by combining traditional patterns with modern techniques and materials. In other words, this approach combines traditional forms with advanced technology.
- Architectural Contextuality

  Postmodern is known as an architecture that is responsive to the local context, both in terms of the physical environment and the urban. According to

Jencks, postmodernist architects emphasize that their buildings are sourced from and appropriate to their place. To achieve diversity in architectural language, postmodern architecture respects the local uniqueness of each place. This uniqueness includes the physical aspects of the environment and the social culture of the community, including the history attached to it.

- Respecting Memory and History

  According to Kurokawa, postmodern architecture acknowledges and pays attention to memory and past history. Charles Jencks also stated that postmodernist architects fight for their buildings based on history or tend to pay attention to history as a source of inspiration.

3. Method

The methods used in this study are: 1.) Field Review, where the author conducts observations to the site and its surroundings in order to optimize the author in revitalizing the train station, 2) Literature review related to service standardization at train stations and the application of post-modern architectural concepts in revitalizing cultural heritage buildings. 3.) Comparative study, where the author makes comparisons between stations that have been built or buildings with the same theme approach to help the author in considering the design to be applied.

4. Result and Discustion

4.1.Project Description

1. Site location and dimensions

The location of this research is Pekan Labun, Medan, North Sumatra. The land area to be used is 17,500m2. The land is rectangular in shape with the sides extending to the north.

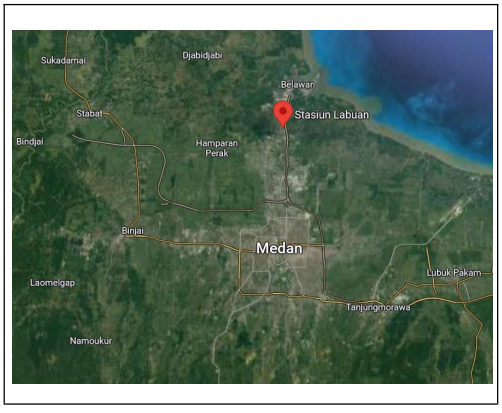

Figure 3. Medan city map (*Source: Google earth, 2023)*

2. Site boundaries

- North: To the north, the site borders residential areas and some vegetation.
- South: To the south, the site borders a residential area.
- East: In the east the site borders the Belawan ditch and mangrove forest.

- West: To the east it borders the road, Medan Labuan Hospital, and residential areas.

Figure 4. Medan city map (*Source: Personal data processing*)

3. Context and Connectivity

Figure 5. Spatial Pattern of Site Area (*Source: Medan RTDR 2015-2030*)

Referring to the 2015-2030 Medan City RDTR, this area is included in the railway boundary line (cultivation) with land ownership by the Directorate General of Railways (DJKA).

Table 1. Medan City Spatial Structure Plan

No	Service Center	Functions	Service area

A	City Service Center in the City Center	• Center for trade/business activities;	Medan City, Medan Polonia District, Medan Baru District, Medan Petisah District, Medan Timur District, Medan Barat District, Medan Kota District; North Sumatra Province International
B	City Service Center in the	• Center for provincial and city government services and activities;	Northern Medan City; North Sumatra Province Regional
1	North	• Center for economic services.	Medan Belawan District
2	City service sub center	• Center for regional trade and service activities	Medan Labuhan District
3	Medan Belawan	• Center for transportation services;	Medan Marelan District; Deli Serdang Regency
4	City service sub center	• Center for socio-cultural activities;	Medan Perjuangan District and Medan Tembung District
5	Medan Labuhan	• Center for industrial activities	Medan Area District, Medan Kota District, Medan Denai District, Medan Amplas District
6	City service sub center	• Center for marine transportation services, centers for loading and unloading and import-export activities, centers for industrial activities, and centers for fisheries activities	Medan Deli District, Medan Timur District, Medan Barat District
7	Medan Marelan	• Center for trade and trade activities Transportation service centers;	Medan Tuntungan District, Medan Baru District, Medan Selayang District, Medan Johor District
8	City service sub center	• Center for health services	Medan Helvetia District, Medan Petisah District,

(Source: RTBL Medan Labuhan Chinatown Area)

4.2 Programing

1. Space Requirements Analysis

Table 2. Analysis of Activities and Space Requirements

No.	Activity Actors	Type of activity	Space Requirements
1.	Station Master	- Parking vehicles - Organizing activities at the station - Signing documents - Meetings and discussions - Entertaining guests - rest, prayer, eating (Ishoma) - Sanitation	Parking area Open area Stationmaster room Multipurpose room Stationmaster room Prayer room canteen Bathroom / toilet
2.	Train Travel Officer	- Vehicle parking - Supervising train travel activities - Arranging train departures - Meetings / discussions - Ishoma - Sanitation	Parking area PPKA room PPKA room, platform Multipurpose room Prayer room canteen Bathroom / toilet
3.	Head of Service	-Vehicle parking - Directing staff - Supervising services at the station - Meetings/discussions - Breaks - Sanitation	Parking area Staff room Service office room Multipurpose room Prayer room canteen Bathroom
4.	Ticket Sales Coordinator	- Vehicle parking - coordinating counter staff - Summarizing ticket sales - Ishoma - Sanitation	Parking area Ticket reservation room Service office room Prayer room canteen Bathroom

5.	Counter Officer	Vehicle parking - Serving ticket sales and reservations - Serving ticket cancellations - Lunch - Sanitation	Parking area Ticket counter room Ticket counter room Prayer room canteen Bathroom
6.	cleaning service	-- Vehicle parking - Preparing cleaning equipment - Cleaning the station room - Maintaining the cleanliness of the station - Ishoma - Sanitation	Parking area Cleaning equipment room All station rooms Mobile Prayer room canteen Bathroom
7.	Security	- Vehicle parking - Maintaining station security - Monitoring station conditions via CCTV - Security patrol - Ishoma - Sanitation	Parking area Guard post CCTV room Mobile Prayer room, canteen Bathroom
8.	Train Crew	- Arriving or Getting Off the Train - Preparing for the next train journey - Departing - Resting - Sanitation	UPT Crew Room Platform, Train Train Prayer room, canteen Bathroom
9.	Station Visitors		
	- Visitors Come	- Parking vehicles	Parking area Hall

		- Entering the station	Counter
		- Buying tickets	Counter
		- Printing tickets	Public waiting room
		- Waiting in line at the ticket counter	Special waiting room for passengers
		- Waiting for the arrival of the train	
		- Buying food and drinks	Restaurant
		- Buying souvenirs	Retail
		- Buying necessities	Supermarket
		- Lunch break	Prayer room, canteen
		- Sanitation	Bathroom
	- Visitors getting off the train	- Get off the train	Pero
		- Enter the station	Arrival waiting room
		- Wait for the person to pick you up	Public transport stop area
		- Wait for public transportation	Restaurant
		- Buy food and drink	Retail
		- Buy souvenirs	Prayer room, canteen
		- Rest	Bathroom
		- Sanitation	
10	Pekerja Restaurant, Cafe, Coffee Shop Workers	- Parking vehicles	Ordering/cashier room
		- Serving customers	Kitchen
		- Making customer orders	Food warehouse
		- Checking food stock	Servants room
		- Recording restaurant income and expenses	Prayer room, canteen
		- Lunch break	Bathroom
		- Sanitation	
	Buyer	-Order food and drinks	- Ordering/cashier area

		- Eat and drink - Pay for the order	Restaurant dining area Cashier
11.	retail employee	- Vehicle parking - Serving buyers - Storing merchandise stock - Recording store income and expenses - Breaking fast - Sanitation	Parking area Retail Warehousing materials Cashier Prayer room, canteen Bathroom
	Buyer	- Shopping - Paying	Retail Cashier

(Source: Author 2023)

2. Space Requirements Details

Table 3. Details of Space Requirements

No.	Room Name	Stand Room Size (m2)	Space Requirements (m2)	Placement On New Design
	OPERATIONAL ROOM			
1.	Station Master Room	24	30	Placed in the new station
2.	Deputy Station Master Room	15	15	Placed in the new station
3.	PPKA Room	18	18	Placed in the new station
4.	PAP Room	4	4	Placed in the new station
5.	Finance Room	20	20	Placed in the new station
6.	Multipurpose Room	100	100	Placed in the new station
7.	Equipment Room	16	16	Placed in the new station
8.	TRAIN Crew UPT Room	24	24	Placed in the new station
9.	TRAIN Crew Rest Room	30	30	Placed in the new station
10.	Security Officer Room	15	15	Placed in the new station
11.	Cleaning Officer Room	9	9	Placed in the new station
12.	Hall Room	250	250	Placed in the new station
13.	Counter Room	25	25	Placed in the new station
14.	Information Service Room	15	15	Placed in the new station

15.	VIP Waiting Room	-	90	Placed at existing stations
16.	Executive Waiting Room	90	90	Placed in the new station
17.	Public Waiting Room	600	600	Placed in the new station
18.	Health Service Room	25	25	Placed in the new station
19.	Toilet	54	54	Placed in the new station
20.	Prayer Room	49	49	Placed in the new station
21.	Breastfeeding Room	20	20	Placed in the new station
	SUPPORTING FACILITIES			
22.	Restaurant	-	200	Placed in the new station
23.	Cafe	-	150	Placed in the new station
24.	Coffee Shop	-	100	Placed in the new station
25.	Retail Shops	-	50	Placed in the new station
26.	ATM	-	20	
	UTILITY			
27.	Pantry	-	10	Placed in the new station
28.	OB Room	-	10	Placed in the new station
29.	Generator Room	-	50	Placed in the new station
30..	M.E.E	-	20	Placed in the new station
31.	A.H.U	-	50	Placed in the new station
32.	WAREHOUSE	-	50	Placed in the new station

(Source: Author 2023)

Table 4. Minimum standards for vehicle parking at railway stations

No.	Vehicle Type	**Station Class**		
		Big	**Medium**	**Small**
1.	Private Car	200	100	20
2.	Taxi	20	10	5
3.	Motorcycle	300	150	100

(Source: Author 2023)

Table 5. Parking Space Size Analysis

No.	User	Capacity	Analysis	Space Requirements

1.	Officer vehicle parking	Capacity 50 people Car 40% = 20 Motorcycle 60% = 30	Car (5x3.5)20= 350 m2 Motorcycle (1x2)30= 60 m2 Circulation 70%= 287 m2 Total: 679 m2	679 m2
2.	Visitor vehicle parking	Car 150 Motorcycle 150	Car (5x3.5)100= 1750 m2 Motorcycle (1x2)150=300 m2 Circulation 70% = 1435 m2 Total: 3485 m2	3485 m2

(Source: Author 2023)

4.3 Massing and schematic design

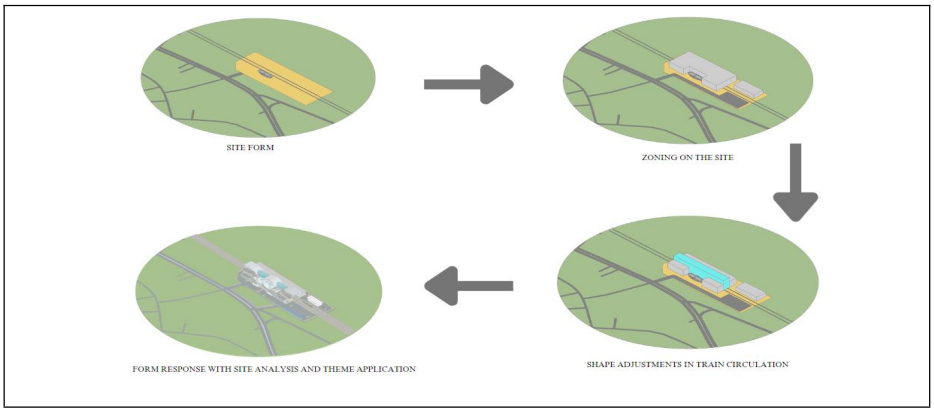

Figure 6. Transformation of Stadium Shape (*Source: Author, 2023*)

The transformation of the shape of the train station design results is based on several main considerations. First, the division of the main function zoning with utilities creates a building with two separate masses. The condition of the railroad tracks in the middle of the location has an impact on the difference in the height of the building roof and the depth of the foundation to be used. Thus, train circulation can be adjusted to the established standards.

Furthermore, the shape of the building adjusts to the results of the analysis at the location by implementing natural lighting and ventilation as much as possible. This aims to increase energy efficiency and comfort for station users. The application of the architectural theme also shows a significant influence on

the building facade and the selection of materials used in the design of the new station. The materials chosen not only consider aesthetic aspects, but also function and sustainability, in accordance with the architectural concept being carried.

With this approach, it is hoped that the design of the new station can meet operational needs while maintaining existing historical and aesthetic values. In addition, this transformation also aims to create a better public space, which can support social interaction and improve the quality of the environment around the station.

Figure 7. Final Design of the Station (*Source: Author, 2023*)

4.4 Theme Implementation

The "Both And" Approach and the Hybrid Concept

The combination of different forms between old buildings and new buildings produces a new blend of forms. The form of the new building is designed as contrasting as possible with the new building to show the presence of the old building on the building facade. The materials used are also very different so that the old building will appear more solid because it uses old material

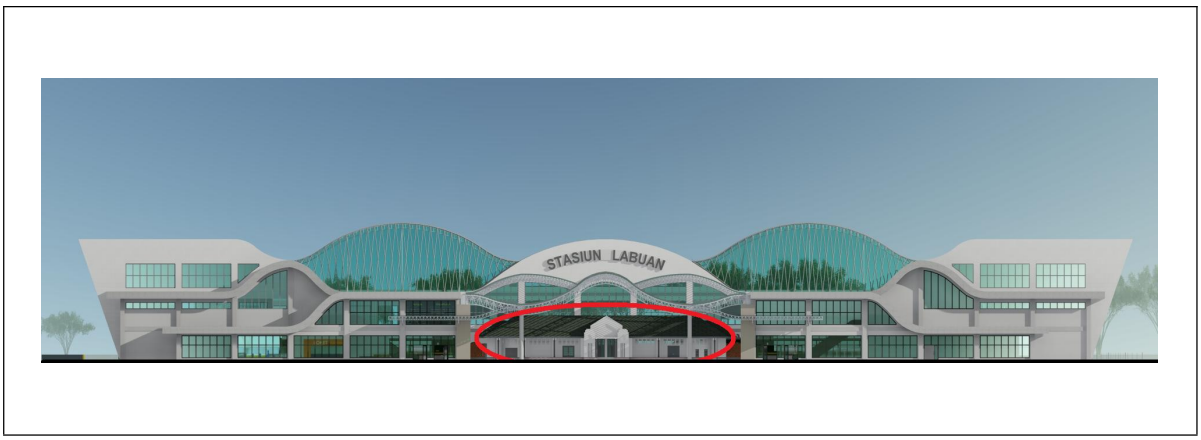

Figure 8. New Design Facade *(Source: Author, 2023)*

Combining traditional patterns with modern techniques and materials. On the building facade, patterns such as Malay cloth motifs can be seen using more modern materials shown on the platform sky-light and terrace structure.

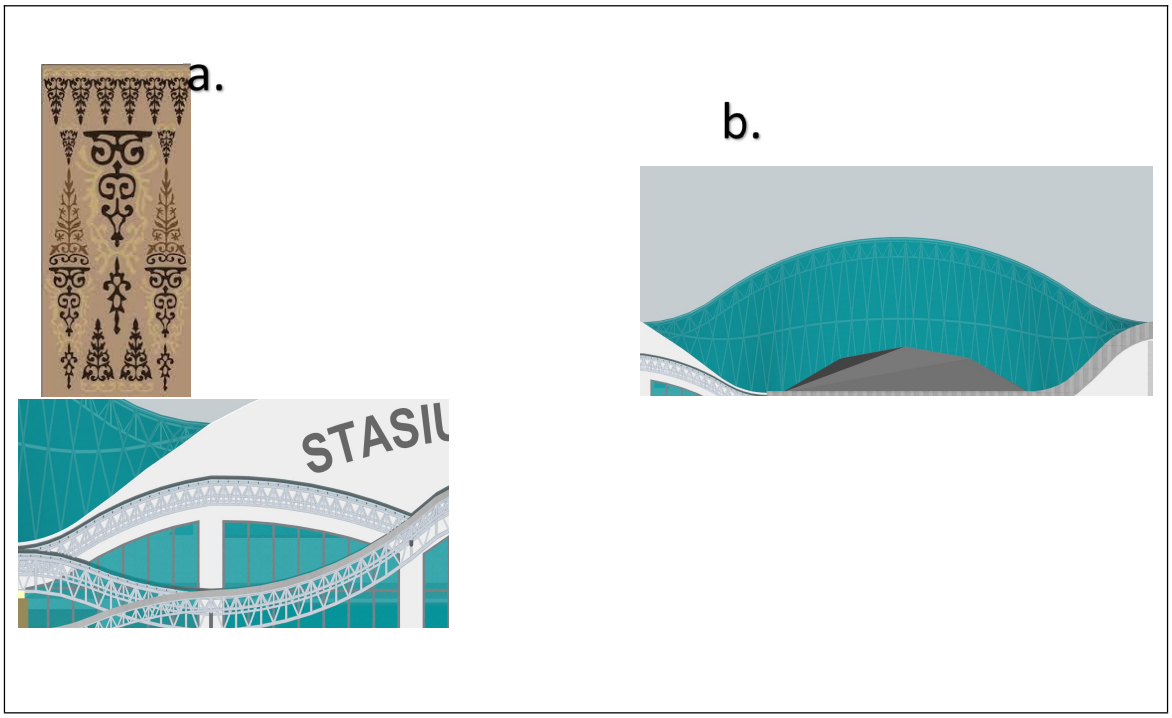

Figure 9. a.) Malay Fabric Motif *(Source: google, 2023)* b.) Facade Detail *(Source: Author, 2023)*

5. Consclusion

The revitalization of Labuan Train Station in Medan aims to improve the quality of the station so that it is suitable for operating again in transporting passengers. The determination of new functions is adjusted to the minimum service standards and space requirements standards that have been set by the relevant authorities.

The existing station, which is a cultural heritage, must be preserved in this design even though it undergoes a form adaptation that requires partial demolition. Changes to the existing form are needed to improve circulation on the station platform, which will have a positive impact on passenger efficiency and comfort.

The selection of the Post-Modern architectural theme is an important aspect in the design of this new station building. Post-Modern architecture has a concept to appreciate cultural values in its application, so that its application to new buildings will support efforts to preserve cultural heritage.

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