



MOVEMENT PATTERNS OF COMMUTERLINE USERS IN THE MEDAN CITY TRAIN STATION AREA BASED ON TRANSIT-ORIENTED DEVELOPMENT CONCEPT

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ABSTRACT

At the time of this research, Medan City was threatened with gridlock, a situation where the number of vehicles exceeds the available road capacity. To prevent the gridlock happens, Medan Train Station (Medan ts.) area as the central activity of Medan City, will be developed into an area based on the Transit-Oriented Development (TOD) concept by adding Light Rail Transit (LRT) and Bus Rapid Transit (BRT). The addition is hoped to encourage walking and public transportation usage for visitors in Medan ts. area. This study aims to determine and map the movement patterns of commuterline users, in this case, Medan-Binjai line which is the only line available, as the basis for the application of the concept of TOD in the Medan ts. area. The research used observation and interview as the methods. The results of the study showed that the majority of commuterline users of the Medan ts. relied on paratransit when heading or leaving the station than walking. This can be seen from 70% of users (weekday) and 83,3% of users (weekends) using paratransit when heading to the station, and 86,6% of users (weekday) and 66,6% of users (weekends) using paratransit when leaving the station.

Keywords:

Train station, Transit-oriented development, Commuterline, User movement patterns, Transportation mode choices

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1. Introduction

Medan is the third-largest city in Indonesia after Jakarta and Surabaya. The development of urban areas and rapid population growth is one of the factors that make the city of Medan occupy that position. Over time, limited land cannot accommodate all the changes that take place. This can be seen from the problems that occur in the city of Medan. One of the problems is traffic jams in the city streets of Medan caused by too many private vehicles.

At present, the growth of private vehicles continues to increase without being matched by the availability of roads. So it is predicted that a gridlock phenomenon will occur where the number of vehicles exceeds the available road. Medan city government plans to change the downtown area into an area with the concept of Transit-Oriented Development (TOD) with the aim of avoiding this phenomenon. The TOD concept is broadly a concept where various types of land available in an area are integrated with public transportation to develop mixed-use land that is dense around the main public transportation transit point (Holling et al., 2007).

Based on Calthrope (1993), the TOD concept has two typologies of development area based on the scale, location, and mode of public transportation, namely Urban TOD and Neighborhood TOD. Urban TOD is a TOD concept

that is located in the center of a large-scale city with the main public transportation mode, which is the railroad. In contrast, Neighborhood TOD is located in a residential area, generally small-scale with the main transportation mode Bus Rapid Transit (BRT). Based on the typology of the development area above, the Medan downtown area meets the criteria for the Urban TOD concept, especially in the area around the Medan City station.

One of the criteria that indicates the concept of Urban TOD is running well can be seen from the aspects contained in the concept of pedestrian movement patterns that are met on the pedestrian paths available around the station area.

2. Literature Review

2.1 Transit-Oriented Development

The concept of Transit-Oriented Development (TOD) is the activity of moving a person from the origin to the destination by changing transit modes at certain transit points to other transit points with a walking distance between origin, transit point, and destination as far as 2000ft (600m). In some places, achievement between points on foot depends on several factors such as topography, climate, and a continuous travel system (Calthrope, 1993).

In tropical countries like Indonesia, which generally have a higher temperature, this will affect the comfort of pedestrians. The optimal distance of someone walking comfortably in Indonesia is ±400 meters. As for someone carrying goods, it will still be comfortable if the distance is not more than ±300 meters (Indraswara, 2007).

Broadly speaking, there are five basic points in determining an area as a TOD concept area.

- **Density**
Density is the number of units (people, vegetation, occupancy, building area) in a certain area. The density varies depending on the scope of the area used in the calculation. The level of population density depends on the number of households (family units) with the density of residential units (Forsyth, 2003).
- **Diversity**
Diversity requires TOD to have mixed land uses, combining commercial, residential, office, and other land uses together (The American Planning Community in Chen, 2010).
- **Design**
Based on Southworth (2005), in the TOD design principle, the physical design of an area is designed to encourage people to prefer walking, reducing the use of motorized vehicles, and using the transit system. The design principles in TOD lead to the establishment of a pedestrian-friendly environment or quality walkability of the area (design for walkability). Conditions that encourage people to want to walk, including:
 - proximity,
 - pedestrian path connectivity,
 - quality of pedestrian paths,
 - diversity of land uses within the scope of pedestrian paths,
 - comfort and safety in walking on a pedestrian network, and
 - quality of components in the pedestrian network.
- **Distance to Transit**
The principle of distance to the transit point in the TOD basically aims to optimize accessibility (the shortest path) of the dwelling or place of work to the transit point (train station or bus stop). Basically, the principle of distance to transit includes proximity (Ogra et al., 2014).
- **Destination Accessibility**
Destination accessibility is the process of users accessing a destination from a transit point to the surrounding activity centers. Accessibility from the transit station to the intermodal interchange (feeder) is also an important consideration for the ease of achieving locations outside the TOD area (outside the walkable distance) of the transit station (Chen, 2010).

2.2 User Movement Patterns

In the public transportation system, the element of movement on foot becomes the most important aspect as a means of connecting intermodal transport with one another (Fruin, 1979). By planning a good movement pattern, other aspects of regional development will be

positively affected such as land use and activity, land density, and regional security (Llewelyn et al., 2007).

The trip is formed because of the activities carried out not in the residence so that the pattern of land use distribution of a city will greatly affect patterns of human movement. Based on the purpose of the trip, human movement patterns can be classified into 5 types as explained in the following Table 1.

Table 1. Classification of Human Travel Intentions

Activity	Classifications
Economy: • Looking for a living (selling goods or services) • Obtain/buy goods or services	• To/from work. • Related to work. • To/from shops and exits for personal use. • Related to shopping or personal business.
Social: • Creating and maintaining personal relationships.	• To/from the meeting place, not the house. • To/from the meeting place, not the house.
Education: • The process of teaching and learning activities.	• To/from school or campus or other educational facilities.
Recreation and Entertainment	• To and from recreation areas. • Travel and ride related to recreation.
Culture	• To/from places of worship. • Non-entertainment trips to and from cultural areas and political gatherings.

Source: Tamin (2000)

2.3 Intermodal

Understanding intermodal is the process of movement of people or goods by using two or more types of modes in a series of well-connected travel arrangements (Jones, 2000). Intermodal itself is divided into two types, namely:

- **Motorized Vehicle**
Modes of transportation are engined with two separate categories, namely public transportation (city buses, engine rickshaws, and online motorbike taxis) and private transportation (cars, motorbikes).
- **Non-motorized Vehicle**
Modes of transportation without using machines, such as bicycles, rickshaws, and walking.

3. Research Method

This type of research is a qualitative method. Research variables that use the three theories previously described, namely transit-oriented development, pedestrian movement patterns, and intermodal.

- **Transit-oriented development**
The parameters used are destination accessibility and distance to transit to find out the distance between origin, destination, and transit point.
- **User movement patterns**
The parameters used are the origin and destination points to know the purpose and origin of the user.
- **Intermodal**
The parameter used is the type of mode to determine the mode of transportation available in the area and used from the origin to the destination.

The area of the Medan city station is located on the border between Kesawan Village (West Medan) and Gang

Buntu (East Medan). Research limits for identification of origin, destination, and transit points and types of modes of transportation are within the area of Medan City Station with a radius of ±400 meters or ±10 minutes walk from the central point at Medan City Station to see the distribution of modes. The study focused on Medan City Station users, specifically commuter train users (Medan-Binjai commuter) at Medan City Station as research respondents.

Data collection was carried out in two stages, namely by observing the station area and interviewing commuter train users. The interview process was carried out at 2 different times, namely working days and holidays. The data are each taken from Medan-Binjai commuterline users in the morning and Binjai-Medan users in the afternoon.

4. Results and Discussions

Observations and interviews in this study were carried out based on TOD theory, movement patterns, and intermodal. The TOD theory uses the theory of Calthrope (1993) and Indraswara (2007) to map the origin and destination points that respondents reach through changing modes of transportation or walking comfortably within a certain distance. The pattern of movement is used to pay attention to the element of walking by the respondent as a means of liaising between one transportation and another based on the theory of Fruin (1979). The intermodal analysis follows the theory of Jones (2000) to see the use of modes in the movement of respondents in a series of trips.

The first stage in the study was to conduct initial observations of the station area. The main point in initial observation is to see the distribution of potential activity points as attractors (Figure 1).

And the choice of transportation modes used by commuter train users to go to or leave the station in the main coverage area of the station area (Figure 2).

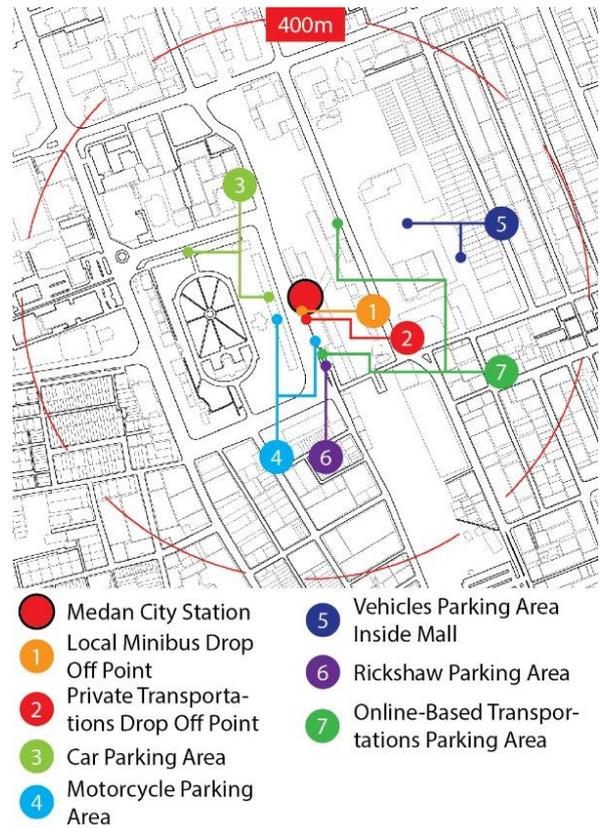


Figure 2. Vehicle Selection Points in the Area Around the Station (Initial Observation)

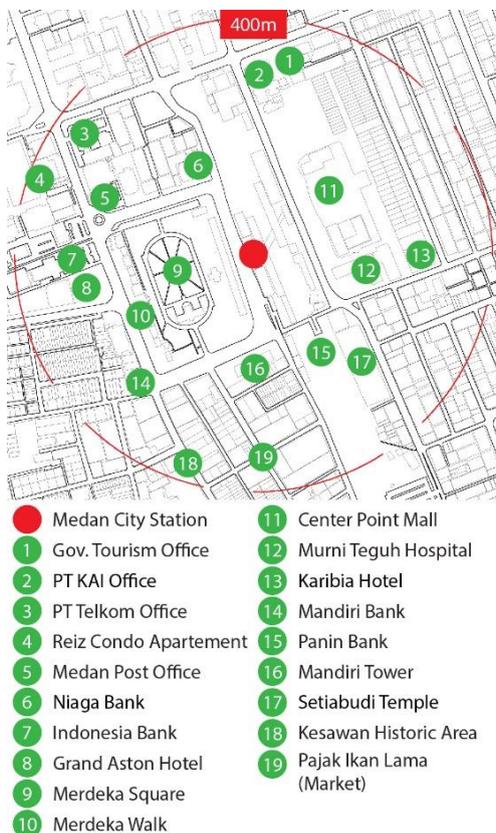


Figure 1. Station Area Activity Point (Initial Observation)

The second phase of the study was conducting interviews with Medan-Binjai PP commuterline users. The results of the study are broken down into various categories based on interview questions and research time.

4.1 Commuterline User Travel Purpose

The results of interviews with 120 respondents who traveled using commuterline with the Medan-Binjai route showed social purpose with a weekday ratio of 90% and weekends by 80%. Other respondents traveled for recreational purposes with a comparison of the percentage of a weekday at 10% and weekend at 20% (Table 2).

Table 2. Travel Purpose Medan-Binjai Route Users

Travel Purpose Category	Weekday (People)	Weekend (People)
Economy	0	0
Social	27	24
Education	0	0
Recreation	3	6
Culture	0	0

The purpose of the trip for commuterline users on the Binjai-Medan route is more varied. Visible differences in the interests of respondents on weekdays and weekends. As many as 53% of respondents were interviewed on weekdays, the purpose of the trip respondents using the Binjai-Medan commuterline was for economic purposes. The next interest with a percentage of 40% is education

and the remaining 7% is social (Table 3).

Unlike the weekday time, weekend time is dominated by people who traveled to Medan from Binjai with the intention of traveling for recreation. Significant differences can be seen from Table 3 where 63% of respondents on weekends have the purpose of travel for recreation, 20% for social, and 17% for economy.

Table 3. Travel Purpose Binjai-Medan Route Users

Travel Purpose Category	Weekday (People)	Weekend (People)
Economy	16	5
Social	2	6
Education	12	0
Recreation	0	19
Culture	0	0

4.2 Frequency of Commuterline User Travel

The frequency of commuterline respondent users on the Medan-Binjai route is between 0-4 times a month. The distribution can be seen in Table 3 where on weekdays, 13 out of 30 respondents traveled using the Medan-Binjai commuterline with a frequency of 2-3 times a month. Furthermore, 12 out of 30 respondents had a time-frequency of less than once a month, and 5 of the other 30 respondents had a frequency of time 1 time a week for traveling from Medan on the Medan-Binjai commuterline transportation mode.

The frequency of trips on weekends did not have a significant difference with weekday times. The difference can only be seen from the number of respondents in each time frequency. As many as 11 out of 30 respondents traveled using the Medan-Binjai line commuterline with a frequency of 2-3 times a month. Seventeen (17) respondents had a frequency of timeless than once a month, and 2 other respondents had a frequency of time of 1 time a week (Figure 3).

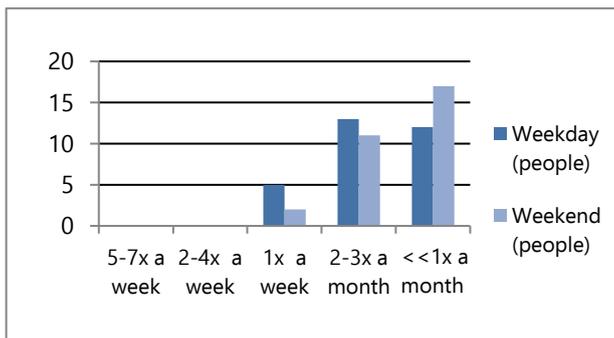


Figure 3. Travel Frequency of Medan-Binjai Route

The frequency of commuterline trip Binjai-Medan routes is significantly different from the commuterline Medan-Binjai line and more varied. Of the 30 respondents interviewed on weekdays, 11 respondents traveled from Medan to Binjai using commuterline with a frequency of 5-7 trips a week. Nine (9) of them had a frequency of 2-4 times a week, 4 respondents with a frequency of once a week, 4 respondents with a frequency of 2-3 times a month, and 2 others traveled to Binjai less than 1 time a month.

On weekends, out of 30 respondents interviewed, 3 respondents traveled from Medan to Binjai with a

frequency of travel time 2-4 times a week. Seven (7) respondents had a frequency of travel as much as 1 time a week. The frequency of trips on weekends is dominated by 2-3 times a week where there were 14 respondents interviewed. The other 6 respondents were commuterline line users of the Binjai-Medan line with a frequency of traveling less than once a month (Figure 4).

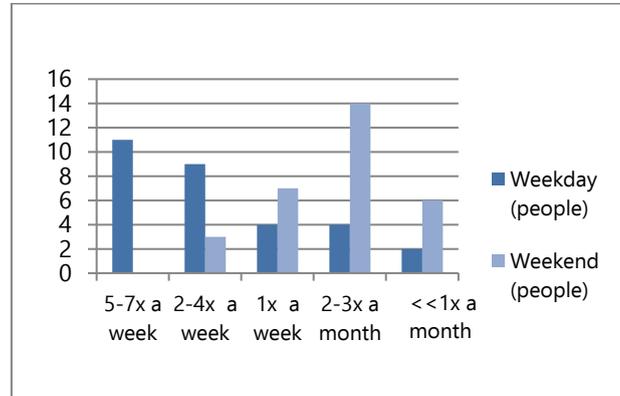


Figure 4. Travel Frequency of Binjai-Medan Route

The results of interviews regarding the frequency of commuterline users where for the Medan-Binjai travel route, there were no respondents who traveled actively between a time span of 2-7 times a week on weekdays and weekends. The difference is seen from the dominance of respondents on a weekday with travel frequency 2-3 times a month while on weekends with travel frequency less than 1 time a month and vice versa in the next sequence. These two times had the smallest outcome equation for respondents who travel with a frequency of once a week.

Travel frequency variations were seen in commuterline users of the Binjai Medan route where on a weekday, the highest frequency is 5-7 times a week while on weekends, the highest frequency is 2-3 times a month. Then on a weekday, the order of the frequency of commuter train users is 2-4 times a week, once a week, 2-3 times a week, and less than once a month. On weekends, the order of the frequency of commuter train users is 1 time a week, less than once a month, and the last is 2-4 times a week.

4.3 Origins and Destinations of Commuterline Users

Medan-Binjai commuterline users came from various regions in the city of Medan. When viewed from districts and certain places, the most origin points on weekdays came from Medan Selayang district, Medan Baru district, Medan Maimun district, Amplas bus station, and Center Point Mall with 3-4 respondents in each location. Other respondents were scattered from various regions, including Medan Sunggal district, Medan Petisah district, East Medan district, Mandala Perumnas, Medan Denai district, Medan Johor district, and Medan Area district with the calculation of each area containing 1-2 respondents (Figure 5).

The origin point of Medan-Binjai commuterline respondents on weekends also came from a variety of different regions. More than 5 respondents came from Medan Tembung district area. Furthermore, 3-4 of the 30 respondents interviewed were from the Medan Marelan district. In addition to the two districts, the distribution of

respondents' origin points was in Medan Baru district, Medan Sunggal district, Medan Selayang district, Medan Labuhan district, Percut Sei Tuan district, Medan Denai district, Medan Area district, and Tanjung Morawa district (Figure 6).

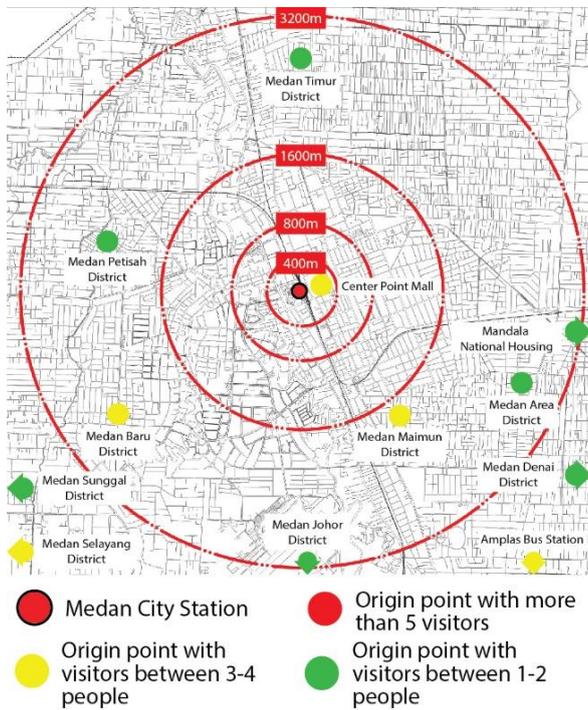


Figure 5. Commuterline User Origin Point (Weekdays)

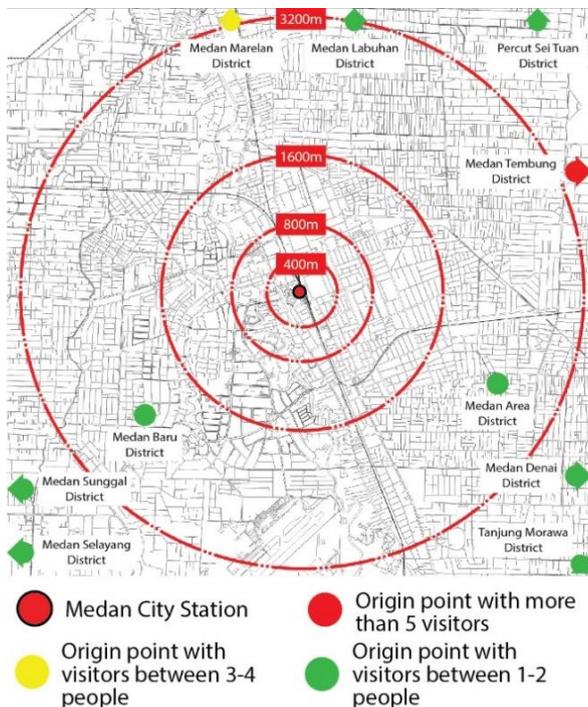


Figure 6. Commuterline User Origin Point (Weekends)

The origin point is divided into 4 radius categories from the smallest 400 meters, then the next 800 meters, 1600 meters, and the largest 3200 meters (Figure 5). The point of origin of the respondent on a weekday is divided into three distance classifications. One point of origin from 3 respondents was located within a 400-meter radius of the

station which is the distance someone walks comfortably in Indonesia. The five origin points of 17 respondents were in a radius of 1600-3200 meters from the station. Another 40 respondents came from eleven origin points which are in a radius above 3200 meters from the station. The distribution can be seen in Table 4.

Table 4. Travel Distance Range of Origin-Station

Travel Distance (Meter)	Weekday (People)	Weekend (People)
< 400m	3	0
400-800m	0	0
800-1600m	0	0
1600-3200m	12	5
> 3200m	15	25

The destination points visited by Binjai-Medan commuterline user respondents were divided into several locations. The four destinations visited by 3-4 respondents in each location were the Pajak Ikan Lama, Medan Central Market, as well as several students who continued their education at the Universitas Muhammadiyah Sumatera Utara (UMSU) and Universitas Islam Negeri Sumatera Utara (UIN-SU). Other destination points were scattered in Center Point Mall, Medan Selayang district, Medan Perjuangan district, Palangkaraya Market, Universitas Sumatera Utara (USU), and Universitas Negeri Medan (UNIMED) for students, and some office workers from various regions including Putri Hijau Street, M. T. Haryono Street, Pirngadi Hospital, Timor Street, and Irian Barat Street (Figure 7).

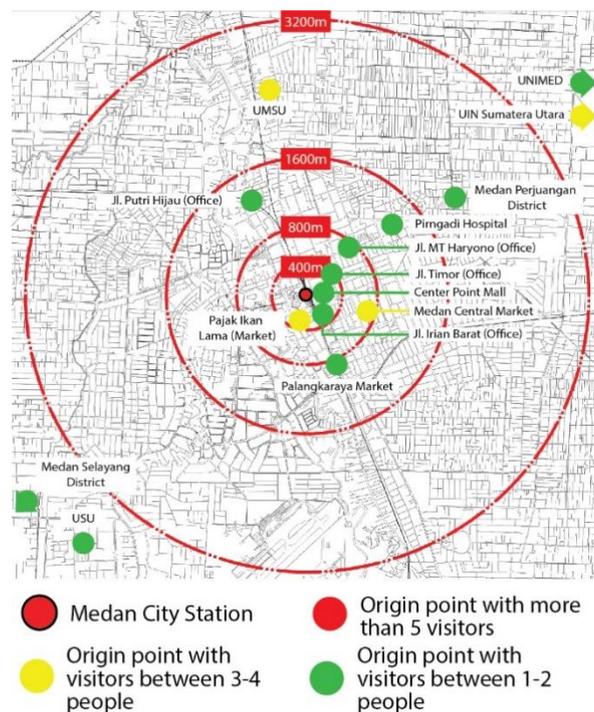


Figure 7. Commuterline User Destination Point (Weekdays)

Most of the respondent's destination points were entertainment venues or shopping centers on weekends, which can be seen in Figure 8 where some destination points were shopping centers. Most of the respondent's destination points are Center Point Mall and Thamrin Plaza. The second-largest shopping center is Medan Mall. Furthermore, the shopping centers that became the

respondent's destination point at the weekend were Medan Fair Plaza, Sun Plaza, Petisah Market, and Medan Central Market. As for some of the places of entertainment that became the respondent's destination point such as Merdeka Square and the bookstore located on Riau Street. Several other respondents made family visits by spreading the area in Medan Selayang district, Medan Marelan district, Tanjung Morawa district, and Medina Hospital.

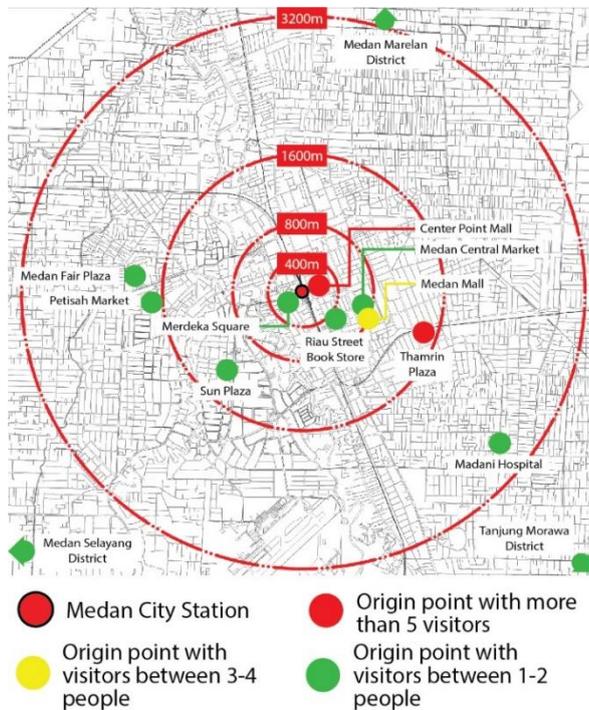


Figure 8. Commuterline User Destination Point (Weekends)

The division of the Binjai-Medan commuterline user travel distance from the station to the destination on weekdays and weekends can be seen in Table 5. The six destination points of the 15 respondents interviewed were within a 400-meter radius from the station. Three destination points of 9 respondents were at a distance of 400-800 meters from the station. The five destination points of 11 respondents were in a radius of 800-1600 meters from the station. The other 11 respondents had five destination points which have a distance of 1600-3200 meters from the station. The six destination points, which are located above 3200 meters from the station, are the destinations of 14 people from 60 respondents.

Table 5. Distance of Station-Destination Travel Radius

Travel Distance (Meter)	Weekday (People)	Weekend (People)
<<400m	7	8
400-800m	4	5
800-1600m	4	7
1600-3200m	5	6
>>3200m	10	4

The results of research on origin and destination points showed that commuterline users of the Medan-Binjai line and the Binjai-Medan line have some of the same locations. On weekdays and weekends, the dominant origin was at a distance of over 1600 meters from the station. The origin point that is within a 400-meter radius as a comfortable

walking distance in Indonesia is that there was only one location, Medan Center Point. Inversely proportional to the destination point, both weekday and weekend, the location of the dominant respondent's destination was at a distance below 800 meters from the station. This happened because most respondents on weekdays had destinations around the station so they chose commuterline as their transportation. Likewise, with weekend time, respondents chose commuterline as their transportation for recreation with destination points around the station.

4.4 Choices of Transportation Modes for Going to or Leaving the Station

The choice of vehicles going to or leaving the Medan city station has many types of transportation modes used by respondents. The local minibus was still the choice of people to travel within the city. As many as 30% of respondents on weekdays and 43% of respondents on weekends used the local minibus to Medan city station. The motorized rickshaw vehicle was still used by respondents to Medan city station, but it has a small percentage where only 3% for weekdays and 6% for the weekend. Furthermore, the vehicle that was currently being developed and widely used by respondents was online transportation seen from the large percentage of respondents in this vehicle where 37% of respondents on a weekday and 33% of respondents on weekends used online transportation to Medan city station. Other vehicles used by respondents are private transportation with an average percentage of 7% on weekdays and weekends. Enthusiastic community to walk in the city of Medan was still fairly low. As many as 23% of respondents on a weekday and 10% of respondents on weekends are still walking to Medan city station. Details of the division can be seen in Table 6.

Table 6. Choice of Transportation Modes to the Station

Transportation Modes	Weekday (People)	Weekend (People)
Local Minibus	9	13
Motorized Rickshaws	1	2
Online-based Transportations	11	10
Private Transportations	2	2
Walking	7	3

On weekdays, respondents who used local minibus to the station were respondents with origin from the Medan Petisah district, Medan Selayang district, Medan Baru district, Perumnas Mandala, and Medan Area district. Respondents who used online transportation were respondents from the origin point in the Medan Selayang district, East Medan district, Medan Maimun district, Medan Johor district, and Medan Denai district. Furthermore, some respondents who used private vehicles to the station came from the origin point in the Medan Sunggal district area. The respondents who still used the rickshaw transportation to the station came from the Medan Maimun district. This whole transportation could drop passengers right in front of the station entrance. The distribution of transportation usage and the location of the drop off point at the station can be seen in Figure 9.

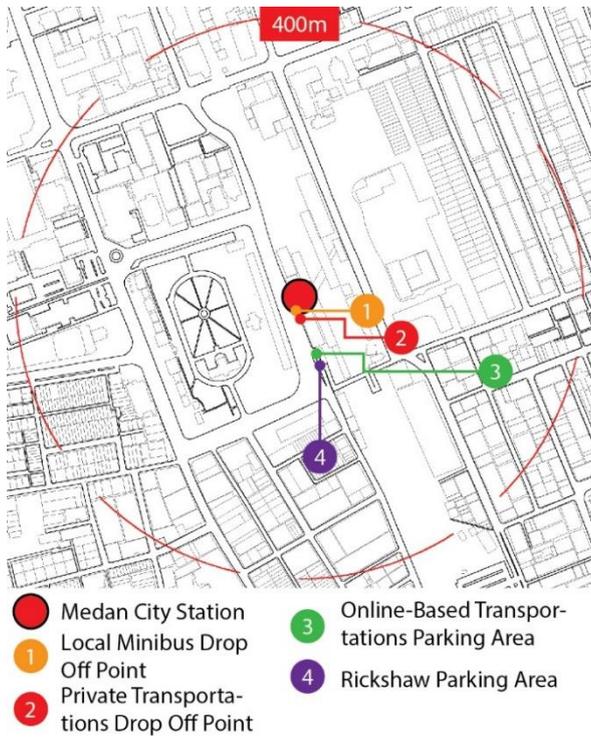


Figure 9. Transportation Mode Selection Point for Going to the Station (Weekdays)

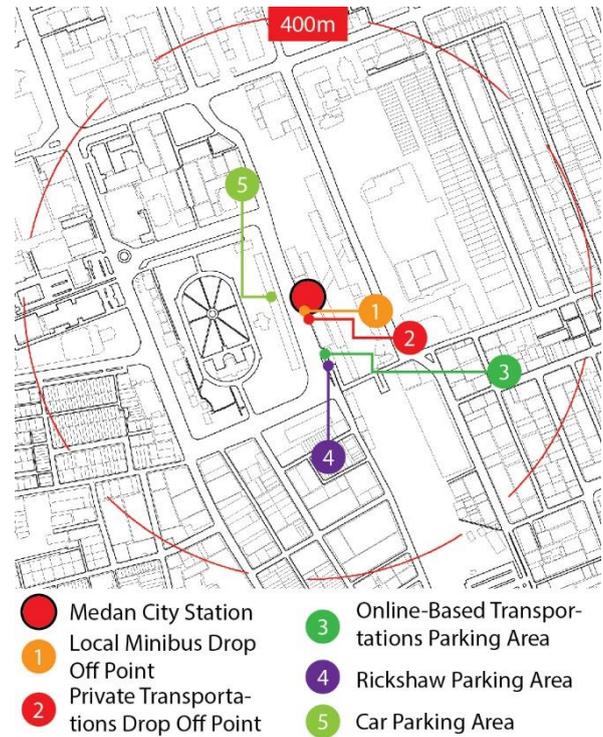


Figure 10. Transportation Mode Selection Point for Going to the Station (Weekends)

According to the results of interviews with respondents, several drop off points of a local minibus on the weekend to the station was in the area of Medan Baru district, Medan Labuhan district, Percut Sei Tuan district, Medan Tembung district, and Medan Area district. In addition, some respondents chose to use online transportation to the station with the origin point of Medan Subang district, Medan Selayang district, and Medan Denai district. Respondents with the origin point of Medan Marelan district chose to use private vehicles to reach the station and left their private vehicles in the parking lot provided by the station and continued their journey to the destination by commuterline. The rickshaw was still the transportation choice of one of the respondents from Medan Tembung district (Figure 10).

The choice of the respondent's vehicle when leaving the station did not look much different from the respondent who headed for the station. Most vehicles used by respondents when leaving the station to their destination in the city of Medan were public transportation with a percentage of share for weekdays as much as 53% and for weekends as much as 30%. Furthermore, respondents who used machine rickshaws for weekdays are 10% and weekends are 7%. Online transportation also included vehicles chosen by respondents by dividing the percentage of weekdays by 23% and weekends by 30%. Some respondents used private transportation when leaving the station and heading to their destination. 53% of the total respondents used private transportation with a share of 23% on weekdays and 30% on weekends. Not seen respondents who chose to walk to leave the station on weekdays, but 30% of respondents still chose to walk on weekends to their destination (Table 7).

Table 7. Choice of Transportation Modes Leaving the Station

Transportation Modes	Weekday (People)	Weekend (People)
Local Minibus	16	9
Motorized Rickshaws	3	2
Online-based Transportations	7	9
Private Transportations	4	1
Walking	0	9

The choice of a city transport vehicle to leave the station on weekdays is used by several students with destination points of Universitas Negeri Medan and Universitas Islam Negeri Sumatera Utara. In addition, the local minibus is also used by respondents with destination points at Pirngadi Hospital and Medan Central Market. Destination Medan Central Market which is located not too far from the station was also used by respondents with a choice of rickshaw vehicles. Unlike the case with students of the Universitas Sumatera Utara and Universitas Muhammadiyah Sumatera Utara who chose online transportation when leaving the station to the destination. Some office workers also chose online transportation with the distribution of office locations on Putri Hijau Street, JM. T. Haryono Street, and in Medan Perjuangan district. Another destination point of respondents who used online transportation was the Palangkaraya Market (Figure 11).

During the weekend, respondents with Medan Selayang district destinations chose to use the local minibus to the destination. Some respondents who would go shopping or recreation to Petisah Market, Medan Fair Plaza, and Medan Mall also chose local minibus to the destination. Private vehicles were chosen by one of the respondents with a destination point in Medan Marelan district. The respondents still chose rickshaw from the station to the Central Market. Online transportation was the choice most respondents used to leave the station with the destination

Sun Plaza, Medina Hospital, Thamrin Plaza, and Tanjung Morawa district (Figure 12).

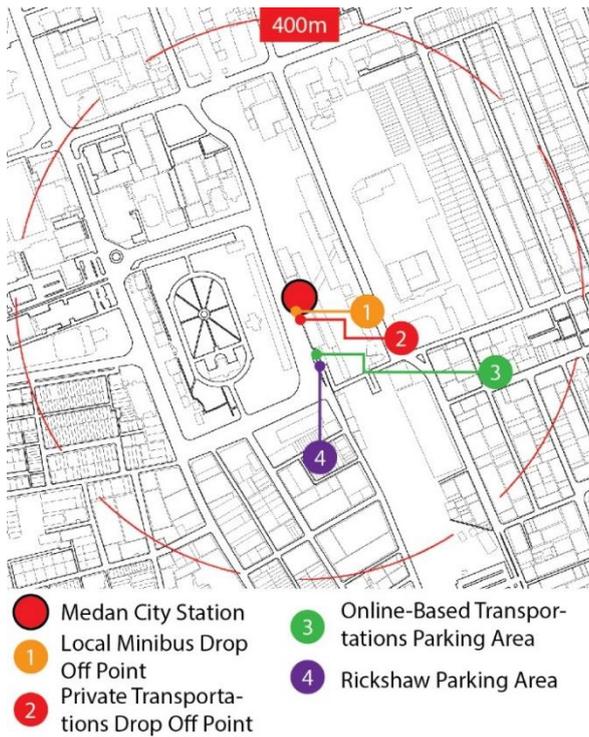


Figure 11. Transportation Mode Selection Point Leaving the Station (Weekdays)

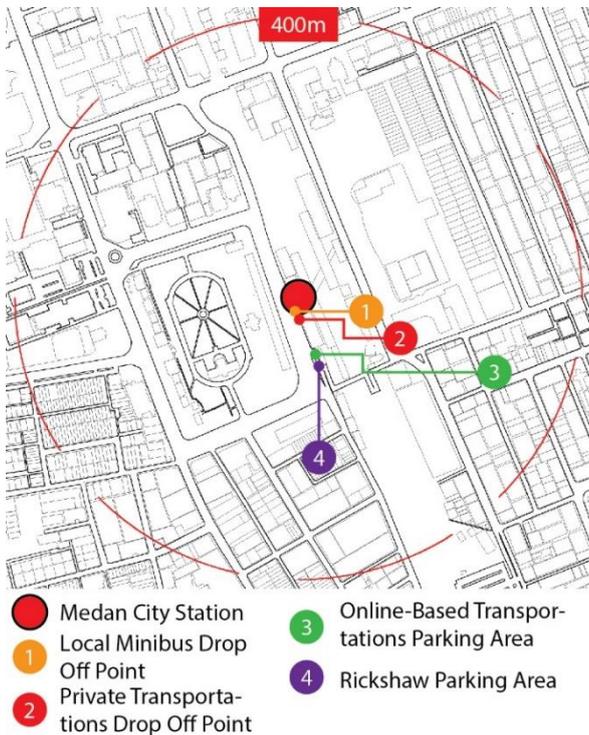


Figure 12. Transportation Mode Selection Point Leaving the Station (Weekends)

The primary catchment area is a comfortable limit for someone to walk where in this study, a radius of 400 meters was taken from the Medan city station as the central point. On a weekday, some respondents chose to walk from the station to the destination. The most frequent destination for respondents walking from the station was Center Point Mall. Outside of the convenience category of facilities available, the location of the Center Point Mall, which coincides behind the station and the crossing bridge, was the respondent's choice to walk. Aside from Center Point Mall, Pajak Ikan Lama was also one of the destinations that could be reached on foot from the station. Some respondents who wanted to shop chose to walk to or leave the station. Other destinations covered by respondents by walking were respondents who worked in the station's surrounding offices, namely in Irian Barat Street and Timor Street (Figure 13).

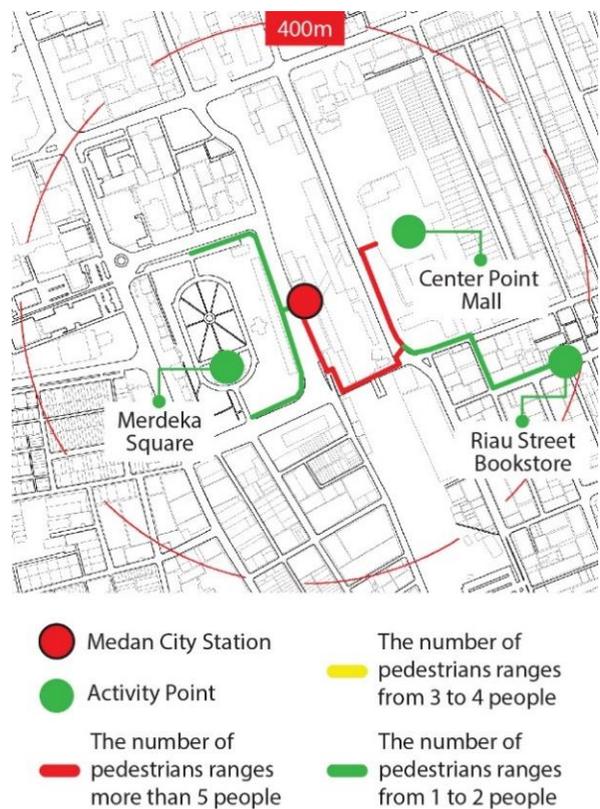


Figure 13. Pedestrian Paths (Weekdays)

Generally, Binjai-Medan commuterline users on weekends aim for recreation in the city of Medan. As seen in Figure 14 where there were three points that could be reached by respondents on foot was a place of recreation. As with weekdays, the most destination that respondents went on foot from the station was Center Point Mall. Two other destinations that were frequently visited by respondents at the weekend were Merdeka Square and the bookstore on Riau Street.

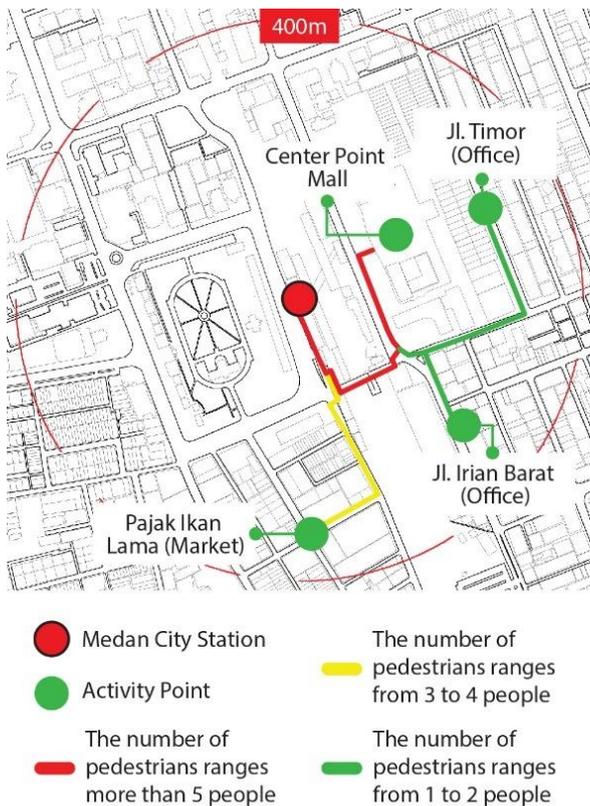


Figure 14. Pedestrian Paths (Weekends)

5. Conclusion

Transit-Oriented Development will be formed with a pattern of human movement supported by available intermodal. The focus of this study is to look at the movement patterns of Medan-Binjai commuterline users and the modes of transportation used when heading to or leaving the station.

Medan-Binjai commuterline users come from various backgrounds. Each user has their own travel intentions. The purpose of the commuterline respondent users' Medan-Binjai route was dominated by social needs with a percentage for weekdays at 90% and weekends at 80%. At the same time, other respondents traveled with a view to recreation both on a weekday and weekend. It is different from the commuterline user respondents in the Binjai-Medan route, where for weekday is dominated by respondents with the intention of traveling for economic factors, followed by education, and the other is for social purposes. Respondents who travel on weekends generally have the purpose of travel for recreation, and a small portion is for economic and social purposes.

The frequency of commuterline users has a time variation, from active users with frequencies 5-7 times a week to non-active users with frequencies less than 1 time a month. Commuterline user respondents in the Medan-Binjai route on weekdays have the most travel frequency of 2-3 times a month, then some with a frequency of less than 1 time a month. Inversely proportional to respondents

traveling on weekends, where most respondents travel with a frequency of less than 1 time a month and some others with a frequency of 2-3 times a month. A small proportion of respondents, both weekday and weekend, travel with a frequency of 1 time a week.

Some of the transportations often used are the local minibus, online transportation, private transportation, rickshaws, and walking to reachable destinations. The origin and destination points come from various regions. But of the many destination points, Center Point Mall is the destination most frequently visited by commuterline users both on weekdays and weekends with a distance of 150 m from the station. Center Point Mall is also the first choice for commuterline users for interest or just as a recreational need because of its comfortable and complete place and easy access for pedestrians.

The completeness of facilities for the convenience of transportation access, especially the availability of pedestrian paths, is expected to increase the movement patterns of commuterline users in the transit city-based terrain railway station area.

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