

5. PUBLIC TRANSPORTATION TERMINAL MEDIUM-TERM DEVELOPMENT PLAN

5.1 Selection of the Priority Projects

Public transportation terminals are indispensable facilities in ensuring the effectiveness and convenience of the public transport network configuration. Since existing terminal areas were identified as a serious traffic bottleneck in the Metro Manila urban transportation system, the need for terminal development has been recognized in order to eradicate traffic congestion.

All transportation nodes and terminals, including bus stops and jeepney loading/unloading places, should be carefully designed to ensure the smooth and safe flow of general road traffic and the effectiveness of public transport operation.

The priority terminal projects for the Medium-Term Development Plan can be justified as the project which are:

- a) which are required to examine a development strategy and can be incorporated with urban development;
- b) which are planned on the high priority rail-based transport system;
- c) which are expected to have large volumes of demand; and
- d) which will be a reference of other terminals in the long-term development program.

Figure 5.1 shows the location of major terminals, which are expected to play an important role in the proposed medium-term rail-based public transportation system development plan. The features of the major terminals are summarized in Table 5.1.

For the priority projects, the following five (5) terminals or terminal areas are selected:

- 1) Recto
- 2) Cubao
- 3) Masinag
- 4) Baclaran
- 5) Alabang

FIGURE 5.1
LOCATION OF THE MAJOR TERMINALS

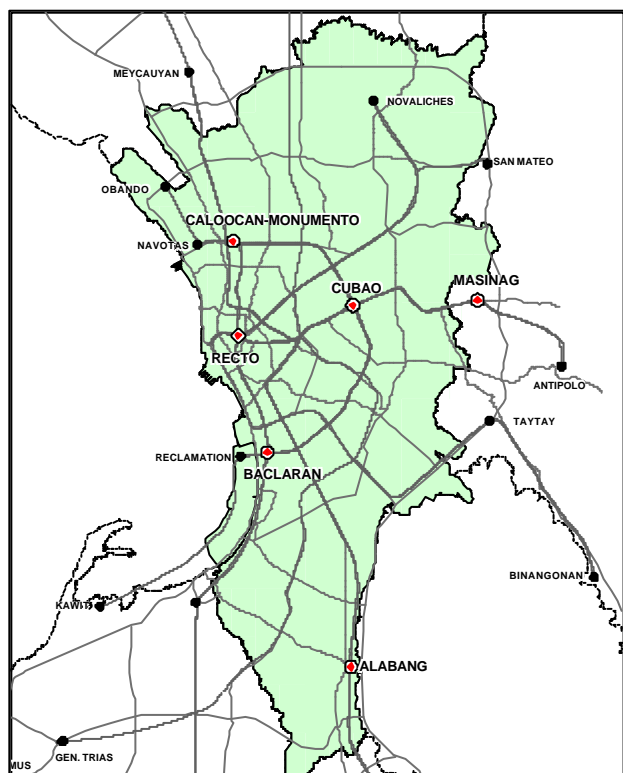


TABLE 5.1
MAJOR PUBLIC TRANSPORTATION TERMINALS ON THE PROPOSED RAIL-BASED PUBLIC TRANSPORTATION SYSTEM

	Classification	Location	Mode Interface	Major Development Issues	Remarks
⊙	Metro Manila Integrated Transportation Node Area Development Program	Recto	LRT 1 (Existing) LRT 2 and 4 Inter-urban Bus Metro Bus	- Interface between LRT 1, 2 and 4 - Access between LRT stations and Bus Terminals - Integration of Bus Terminals - Improvement of pedestrian environment	JUMSUT Study
⊙		Baclaran	LRT 1 (Existing) MRT (Under Construction) LRT 1 Extension (Line 6) Inter-urban Bus Metro Bus Jeepney	- Interface between MRT, LRT 1 and Extension line. - Access between LRT stations and Bus Terminals - Integration of Bus and Jeepney Terminals - Improvement of pedestrian facilities - Street vendors - Urban redevelopment (Mix landuse)	All issues in the existing Urban Center Transportation nodes are included.
⊙		Cubao	MRT (Under Construction) LRT 2 (under construction) Inter-urban Bus Metro Bus, Jeepney	- Interface between MRT and LRT 2 - Access between LRT stations and Bus Terminals - Integration of Bus Terminals - Improvement of pedestrian facilities	JUMSUT Study
	Metro Manila New Urban Center	Queson/EDSA	MRT (Under Construction) LRT 4	- Interface between MRT and LRT4 - Improvement of pedestrian facilities	
	Metro Manila New Town Center	Quirino Hway	LRT 4 Metro Bus, Jeepney	- Feeder access (Bus, Jeepney, Tricycle) - Park and Ride, Kiss and Ride - Large volume of commuter traffic from suburban	JUMSUT Study
⊙		Masinag	LRT 2 (under construction) Metro Bus, Jeepney	- Feeder access (Bus, Jeepney, Tricycle) - Park and Ride, Kiss and Ride - Large volume of commuter traffic from suburban	Transfer of commuter traffic from road to rail
	Major Urban Center	Bacoor	LRT 1 Extension (Line 6) Inter-urban Bus Jeepney, Tricycle	- Feeder access (Bus, Jeepney, Tricycle) - Access between Inter-urban Bus and LRT - Coordination with Major Urban Center development	
⊙		Alabang	MCX Inter-urban Bus Jeepney, Tricycle	- Feeder access (Bus, Jeepney, Tricycle) - Access between Inter-urban Bus and LRT - Access from regional roads - Coordination with Major Urban Center development	Interface of the inter-Urban transportation network including road, rail and bus.
	Minor Urban Center	Muntinlupa	MCX Jeepney, Tricycle	- Feeder access (Bus, Jeepney, Tricycle) - Coordination with Minor Urban Center development	
		Imus	LRT 1 Extension Jeepney, Tricycle	- Feeder access (Bus, Jeepney, Tricycle) - Coordination with Minor Urban Center development	

⊙Proposed Priority Projects

Recto, Cubao and Baclaran represent the terminals located in the CBD, showing distinct urban structure. Masinag and Alabang are located in the suburban areas. The former is a bed town and the latter is a satellite town.

These five terminals are expected to handle a large demand of transfer passengers from rail to rail, and from road to rail-based public transportation modes.

5.2 Basic Guidelines for the Plan Preparation

In order to prepare an effective development plan, it is important to make its development goals and issues clear. The individual goals and issues will be discussed in the following section, together with the basic guidelines and considerations.

The overall goal of terminal development is to provide the users better accessibility and reliability of the public transportation system. In addition, terminals are meant to encourage the usage of the public transport modes and, subsequently, to improve the urban environment.

For better accessibility at the terminals, there are two (2) types of passenger flows. One is from rail to rail; the other is between rail and road-based transport modes.

a) Accessibility on the rail-based public transportation network

Pedestrian space of sufficient width and safety should be provided, such as pedestrian decks and underpass facilities.

b) Linkages between rail-based and road-based public transport modes

Access and space for the road transport modes should be provided, preferably adjacent to the rail-based transport stations.

To achieve these goals, the improvement of accessibility alone will not be sufficient. Another significant issue is:

c) Coordination with urban development and economic activities

In particular, existing large-scale commercial complex and urban redevelopment potential areas will be carefully examined to maximize the impact from terminal development.

In spite of the recognition of the need for terminal development, which has been discussed since 1980's, there are some reasons hindering the smooth implementation of the projects, such as the following:

- i) Difficulty in coordination and obtaining consensus among many organizations and agencies involved not only in the construction stage, but also in the operation and management;
- ii) Difficulty in land acquisition and compensation in urbanized or prime areas, inducing high project cost and conflict of the interest among landowners; and
- iii) No governmental organization initiating or leading the implementation of the projects.

Based on experience, to accomplish a smooth implementation of the terminal projects, the following should be considered in the preparation of the development plan:

- 1) Utilize existing facilities effectively;
- 2) Minimize the initial investment cost;
- 3) Maximize the development impact; and
- 4) Coordinate with other authorized projects.

5.3 Planning Goals and Issues for the Priority Projects

Taking into account the proposed rail-based public transport network system and existing land use, the planning goals and issues for each priority project have been examined and are summarized in Table 5.2. The major points are described below.

5.3.1 Recto

a) Background

The Recto area is located at the center of Metro Manila and is part of the old Manila town, which functions as a major commercial and business center. Major arterial systems such as Quezon Avenue (R-7) and Aurora Boulevard (R-6) start from this area, as well as LRT Line 1 which runs from north to south (refer to Figure 5.2a).

Many urban and inter-urban bus routes also originate from the area. In addition to the existing transport systems, the LRT Line 2 and Line 4 are planned and are expected to enhance accessibility in the area (refer to Figure 5.2b).

The existing land use in the area is typically represented by the old commercial buildings along Recto Street and the old prison compound, as well as the squatters' area along the prison compound. The present urban environment, including its security and hygienic conditions, has deteriorated, causing the reduction of commercial activities in the area.

Future convenience and better public transport accessibility are expected to revitalize the economy and improve the living environment in the area.

b) Planning Goal

Considering the advantage of the drastic improvements on the rail-based public transportation system in the metropolitan area, the main planning goal is to stimulate the economic revitalization and improve the urban environment in the old town.

c) Planning Issues

Resettlement of the squatters living in and around the old prison compound will be the most significant issue. Special attention from the national government will be needed. The distance between the existing Line 1 D. Jose Station and Line 2 Recto Station is causing inconvenience to the transferring passengers. This can be reduced by having

an exclusive pedestrian linkage between these stations. Improvement of the unpleasant condition of existing jeepney and bus terminals will also be an effective measure to provide overall safety, comfort and amenity to public transport users. The proposed terminals and related facilities should be provided with sufficient capacity in line with future traffic demand.

5.3.2 Cubao

a) Background

The Cubao area is one of the major transportation focal points in Metro Manila. A major radial road, Aurora Boulevard, and the busiest circumferential road, EDSA, cross at this point (refer to Figure 5.3a). With the grade separation structure between the two arteries, there is a daily occurrence of serious traffic congestion and a large volume of pedestrians overflows from the sidewalk.

The two rail-based transportation systems, namely LRT Line 3 and Line 2, are currently under construction along EDSA and Aurora Boulevard, respectively (refer to Figure 5.3b). The two LRT lines will play the same roles as the two arteries, as radial and circumferential transport routes. A large volume of passengers from suburban areas using the radial route LRT Line 2 will be distributed to the EDSA corridor areas by Line 3.

The corner area of the two arteries is developed for commercial and entertainment facilities, such as the Farmers Plaza, Araneta Center, etc.

b) Planning Goal

With an effective linkage between rail-based transportation radial line and circumferential line, and to enhance the network configuration of the public transportation system, the usage of the public transportation system will be encouraged.

c) Planning Issues

There is quite a distance between Line 3 and Line 2 stations, approximately 500 meters. Minimizing the distance resistance on the commuter trips will be a significant issue. Safety and comfort are not only for the new transit system, but also vital to improve the existing jeepney and tricycle terminals, which are not in good condition.

Although the two LRT lines will be running north to south and east to east in the area, the jeepneys and tricycles will still serve as the convenient access to the hinterland. Integrating the public transport system and the large-scale commercial development, the Araneta Commercial Center is expected to increase the usage of, and at the same time cooperate with the implementation of the project.

5.3.3 Masinag

a) Background

The Santolan and Masinag areas are located east of Metro Manila and, with the many housing development projects in the areas, serve as bed towns of the metropolis. The expansion of the urban areas now is further extended to the Antipolo area. LRT Line 2 is now under construction, aiming to provide a strong public transport linkage between the bed towns and the urban center. Proposed new highway development projects will encourage urban expansion and further increase traffic demand.

Large volumes of commuter traffic are concentrated along Marcos Highway and Marikina Avenue, inducing serious traffic congestion. LRT Line 2 is expected to ease this traffic congestion. Low density and widely spread housing development in the area would ensure sufficient accessibility and will encourage the usage of the LRT.

b) Planning Goal

With the wider accessibility and efficiency of the rail-based transport system in the low-density suburban residential area, usage of the public transport system can be increased and can eradicate road traffic congestion. Subsequently, the living environment and quality of life in the suburban areas can be improved.

c) Planning Issues

Housing development in the suburban areas is normally dispersed. People living in these areas will need another transport mode to get to the LRT stations. Provision of the feeder transportation system will, therefore, be required to improve the accessibility between LRT stations and housing development areas. In order to support the future TDM (traffic demand management) policy, park-and-ride and kiss-

and-ride facilities for private vehicle users should be considered.

It is also important to provide a public transport linkage from the station at the end of the LRT line to the next suburban center, such as the Antipolo urban center. In this case, the rail-based public transport system can cover a large hinterland and increase its efficiency.

The existing terminus stations such as Baclaran and Monumento on LRT Line 1, are examples of not providing the appropriate terminal facilities and should be avoided.

5.3.4 Baclaran

a) Background

The LRT Line 1 South Terminal is presently located in this area (refer to Figure 5.5a). A large volume of LRT passengers is transferred to other road-based public transport modes such as jeepneys and buses, whose terminals are scattered in the area. Due to insufficient sidewalks and the proliferation of sidewalk vendors, the pedestrians overflow and traffic function of the road network in the area is almost paralyzed.

The land use pattern of this area is mixed usage, including commercial area from the LRT station to Roxas Boulevard and the entertainment buildings along EDSA. High-density residential areas, of low to medium-income houses, can be observed in the surrounding areas.

MMUTIS proposed the extension projects of the LRT system (refer to Figure 5.5b). These include the existing LRT Line 1 (Line 6) and Line 3 which is now under construction, so that three LRT lines will be passing through the Baclaran area.

Accessibility to this area will be increased tremendously. Aside from its favorable impact, however, the construction of the new LRT lines would also induce adverse impacts. For example, these LRT lines will cover all skylines over the arteries and the LRT passengers will just pass through, from LRT to LRT, without touching on-ground facilities where commercial activities are presently busy.

b) Planning Goal

With the great advantages obtained from the three LRT lines, it will encourage urban economic activities and provide a better urban environment.

c) Planning Issues

Provision of sufficient accessibility between the three LRT lines, particularly for transfer passengers, will be a key issue. Aside from the estimated large volume of transfer passengers between the stations, a huge demand of passengers is expected from Line 6 to road-based public transport system going to the Metro Manila CBD area and vice versa, because of the limited capacity of LRT Line 1.

With the completion of the LRT network, the number of pedestrians presently passing through the Baclaran commercial area may be reduced, affecting economic activities in the area.

5.3.5 Alabang

a) Background

The expansion of urbanization from Metro Manila is more prominent in the southern area. Together with this aggressive urbanization, the population in Alabang has been rapidly increasing and large-scale township development has been undertaken. Alabang has become a major urban center in the Metro Manila region.

The PNR railway line crosses from north to south in the center of Alabang town (refer to Figure 5.6a). However, this rail transport system has not yet functioned for the commuters. The commuters use buses or jeepneys to go to/from the Metro Manila urban center. Most of the bus and jeepney terminals utilize the road space under or at-grade along the South Super Highway. Therefore, commercial facilities such as shopping malls, fastfood restaurants and retail shops are located mainly along this highway.

The PNR Alabang Station presently has only one platform. Even an access road from arterial has not been provided and passengers have to get to the platform through the railroad. Without proper facilities, it is difficult to expect commuters to use the rail-based transportation system.

There was a proposal for the development of the railway system using the existing PNR line and to provide better railway commuter service (MCX) (refer to Figure 5.6b).

b) Planning Goal

Based on the efficient linkages provided by the rail-based public transport system between Metro Manila and the Alabang Urban Center, the economic activities can be stimulated in the urban center and increase the potential for urban redevelopment aiming at a desirable urban environment.

c) Planning Issues

Existing jeepney and bus terminals are scattered along South Super Highway, and pedestrian linkages to the railway stations should be carefully designed. In order to ensure user convenience, direct interface between rail and road transport systems at the station area will be needed. Moreover, the development of transport-related facilities should be coordinated with urban development to maximize the impact of the construction of railway station on urban economic activities, particularly on commerce.

5.4 Proposed Development Plans

5.4.1 Recto

Three stations for LRT Line 1, Line 2 and Line 4 will be located independently. Line 2 Recto Station is planned on C.M.Recto Street and Line 4 Recto Station will be located at the old bilibid prison area. Based on the future LRT construction program, the development of the terminal and its related facilities can be undertaken in two phases. The first priority is a corridor development between Line 1 and Line 2. The second phase will be the overall integration of all LRT lines and modern bus and jeepney terminals in the PFA redevelopment area.

Figure 5.2c shows the phase 1 projects for the medium-term plan. The major components in this phase are pedestrian deck and jeepney transit mall for the smooth and safe movement of the public transport users. Before the construction of the facilities, resettlement of the squatters has to be resolved.

The proposed bus and jeepney terminals facing Line 2 station are expected to provide space for existing buses and jeepneys parking on the roads, if the resettlement would be carried out smoothly.

For the phase 2 projects, reference can be made to the development plan prepared in the JUMSUT study.

TABLE 5.2
PLANNING GOALS AND ISSUES FOR THE PRIORITY PROJECTS

Terminal	Planning Goal	Planning Issues	Remarks
Recto	Based on the accessibility expanded by the rail-based public transportation systems, to revitalize the economic activities and to modernize urban facilities in the old town center including transportation terminals.	(Related Project) - PEA Redevelopment Project and JUMSUT - MMUTIP (road and intersection improvement) (Issues) - Pedestrian accessibility between LRT stations - Improvement of inadequate conditions on existing jeepney and bus loading and unloading areas	Resettlement of the squatters LRT Line 1 & 2 & 4
Cubao	Provide strong linkage between Radial route (Line 4) and circumferential route (Line 3), so that efficiency of the network configuration is enhanced.	(Related Project) - MMUTIP (road and intersection improvement, etc) (Issues) - Pedestrian accessibility between LRT stations - Improvement of inadequate condition on existing jeepney and bus loading and unloading areas - Cooperation with large-scale development (Araneta) - Eradicate traffic congestion on EDSA /Aurora Blvd.	LRT Line 2 & 3 Cost sharing with the developer
Masinag	Expansion of the LRT service coverage in the suburban residential area, subsequently encourage the usage of rail-based public transportation system	(Issues) - Public transport linkage between rail and road-based systems to hinterland. - Consideration to the private vehicle users. - Large land area required	LRT Line 2
Baclaran	As a south gate of the Metro Manila CBD, to provide better accessibility on public transport system between suburban line and intra-CBD lines, as well as improve urban environment coordinating present mixed land use pattern with large favorable impact obtained from the LRT projects.	(Related Project) - MMUTIP (road and intersection improvement, etc) (Issues) - Location of the LRT station - Pedestrian accessibility between LRT stations - Minimize adverse impacts from the LRT projects - Visualize the impact on urban development	LRT Line 1 & 3 & 6
Alabang	To stimulate the construction of Rail Station Urban Center appropriate to the satellite town of Alabang based on heavy rail transit system development projects. Reliability on the usage of transit system is indispensable factor for the urban center.	(Related Project) - MMUTIP (road and intersection improvement, etc) - Filinvest Corporate City Development Project (Issues) - Land acquisition and compensation for station square - Efficient linkages to the existing jeepney and bus terminals - Provision of safe and comfortable pedestrian space in the linkages - Visualize the impact on urban development	MCX

5.4.2 Cubao

To provide safe and uninterrupted pedestrian flows, a 300-meter long pedestrian deck is proposed (see Figure 5.3c). The pedestrian deck will connect not only to LRT stations, but also to the major commercial or entertainment buildings in the Araneta Commercial Center.

With the completion of the LRT lines, demand for jeepneys will be decreased; However, the jeepneys will still be the major transport mode that will serve the hinterland which the LRT will not cover. The existing space for jeepneys will continue to be utilized in order to minimize construction costs.

The jeepneys and tricycles in the area west of EDSA are operated on the existing road space. MMUTRIP is proposing jeepney and tricycle routes on the existing road network in the area. MMUTIS intends to strengthen this further by providing an appropriate space in front of the Line 3 station.

Beside the pedestrian deck, improvement of the sidewalk is proposed for the pedestrians to and from the commercial and office buildings, aiming to improve the overall pedestrian environment in the area.

5.4.3 Masinag

The required area for the proposed terminal (Station Square) accommodating the buses and jeepneys loading and unloading area, park-and-ride and kiss-and-ride facilities, as well as amenity space is estimated to be at least 70,000 sq. m., as shown in Figure 5.4.

Along the Marcos Highway from Santolan to Masinag (intersection of Marcos and Sumulong Highways), most of the adjacent land were developed for commercial buildings or factories. However, some vacant land for the proposed terminal can be found in the Masinag area before the junction.

Due to the distance between the proposed terminal and the intersection, it is important to provide an effective traffic management at the intersection to avoid congestion.

5.4.4 Baclaran

Accessibility for transfer between the three LRT lines will depend upon the locations of the LRT stations. The best location for Line 6 station will be proposed at the middle, between Line 3 (new station) and Line 1 (South Terminal) on Quirino Avenue as shown in Figure 5.5c.

Construction of a pedestrian deck for the large volume of transfer passengers is being proposed, using available space to avoid the existing commercial building and Church. New bus and jeepney terminals should also be proposed to provide an alternative transport mode for LRT users, as well as to avoid traffic congestion on the arterial network due to the uncontrolled loading and unloading operation in the road area.

Regarding the economic enhancement, urban redevelopment will be proposed to make the area more attractive and interesting. This will include the construction of new commercial buildings and adjustment of the landscape with an appropriate local road system.

5.4.5 Alabang

The proposed development plan aimed at providing accessibility from rail-based public transport to road-based transport is shown in Figure 5.6c. There are two major components included. First is the development of the Station Square, and the second is the construction of pedestrian facilities including sidewalk and underpass. The pedestrian network is planned to link not only the terminals, but also major commercial buildings.

For the crossing of the South Super Highway, underground pedestrian pass is being proposed, due to insufficient clearance under the viaduct of South Super Highway for a pedestrian over bridge. As underground pedestrians sometimes have problems on safety, security and maintenance, the proper management of the underpass will be required.

The area surrounding the existing PNR station is used mainly for middle to low-class residential housing, except for the roadside. However, once the railway will start to operate, there will be a lot of passengers up and down the area. The living environment will be disturbed, but commercial business opportunities will increase tremendously. Therefore, in the area along the future major walkways, urban renewal or redevelopment may be proposed to stimulate commercial activities. In addition, other areas adjoining the station also are recommended to promote the changes from residential to commercial or business land use.

5.5 Project Cost

Table 5.3 presents the estimated development cost of the proposed terminal facilities. The total development cost amounts to 1.1 billion pesos.

TABLE 5.3
DEVELOPMENT COST OF PROPOSED TERMINAL FACILITIES

Unit: P1,000

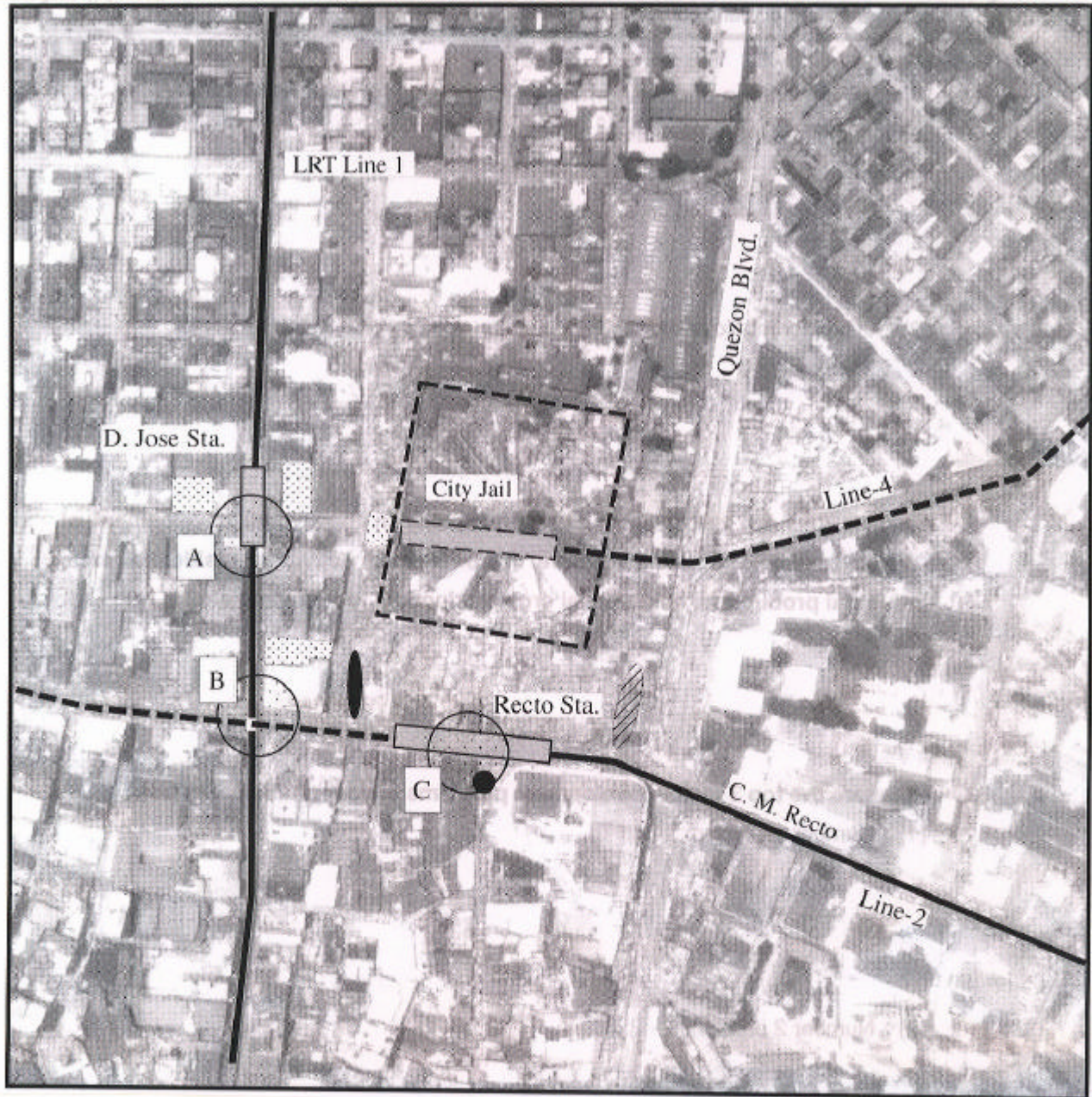
	Unit	Quantity	A	B	Total
RECTO					
Pedestrian Deck	m	310	36,270	6,400	42,670
Jeepney Transit Mall	m	240	3,590	0	3,590
Station Square	Sq.m	7,000	5,820	56,000	61,820
Sub-Total			45,680	62,400	108,080
CUBAO					
Pedestrian Deck	m	530	37,210	0	37,210
Jeepney Transit Mall	m	335	4,390	0	4,390
Sidewalk & Landscape	m	545	960	0	960
Station Square	Sq.m	6,600	5,490	180,000	185,490
Sub-Total			48,050	180,000	228,050
MASINAG					
Station Square	Sq.m	6,600	5,490	18,000	23,490
Sub-Total			5,490	18,000	23,490
BACLARAN					
Pedestrian Deck	m	320	35,370	76,800	112,170
Bus Terminal	Sq.m	4,060	3,380	162,400	165,780
Jeepney Terminal	Sq.m	5,400	4,500	216,000	220,500
Sub-Total			43,250	455,200	498,450
ALABANG					
Pedestrian Underpass	m	510	55,030	0	55,030
Pedestrian Mall	m	300	200	12,000	12,200
Sidewalk & Landscape	m	990	33,960	0	33,960
Station Square	Sq.m	3,500	2,910	105,000	107,910
Terminal Expansion	Sq.m	8,600	7,150	33,000	40,150
Sub-Total			99,250	150,000	249,250
TOTAL			241,720	865,600	1,107,320
% Share			22%	78%	100%

Notes:


A: Construction

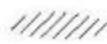
B: Land Acquisition and Compensation

FIGURE 5.2A
RECTO: EXISTING TRANSPORT FACILITIES AND CONDITION



LEGEND

 Bus Terminal (Provincial)

 Jeepney Terminal

 Pedicab Terminal

A Critical Junction

- Poor lighting
- Line-1 D. Jose Station
- Merge of jeepneys, buses, pedestrians, LRT passengers
- Poor pedestrian facilities
- Poor drainage

B Critical Junction

- Poor lighting
- Jeepney routes merging
- Sidewalk obstructions

C Signalized intersection

- Interface of left-and U-turning vehicles with jeepney loading/unloading at station

FIGURE 5.2C

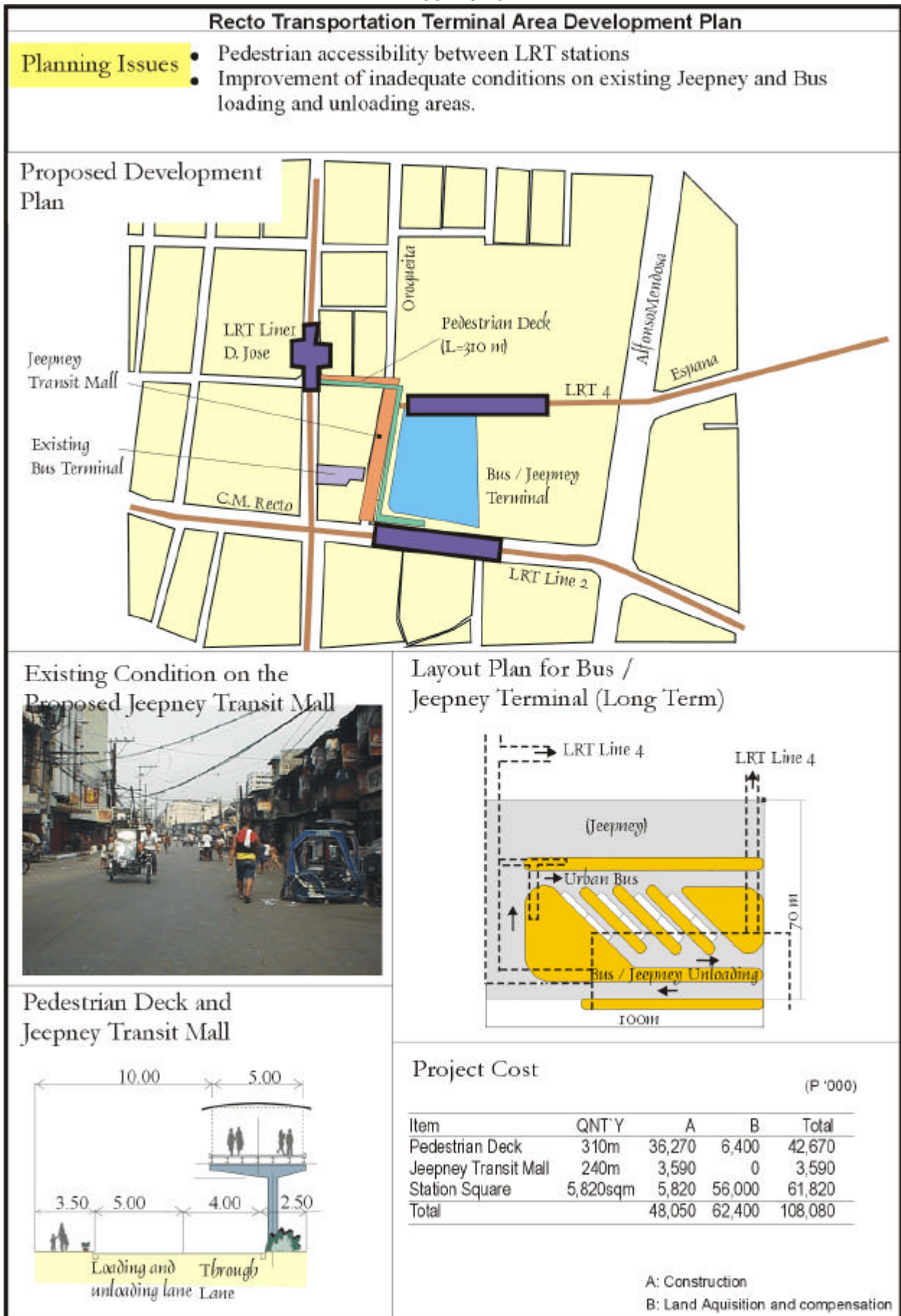


FIGURE 5.3A
CUBAO: EXISTING TRANSPORT FACILITIES AND CONDITION



LEGEND






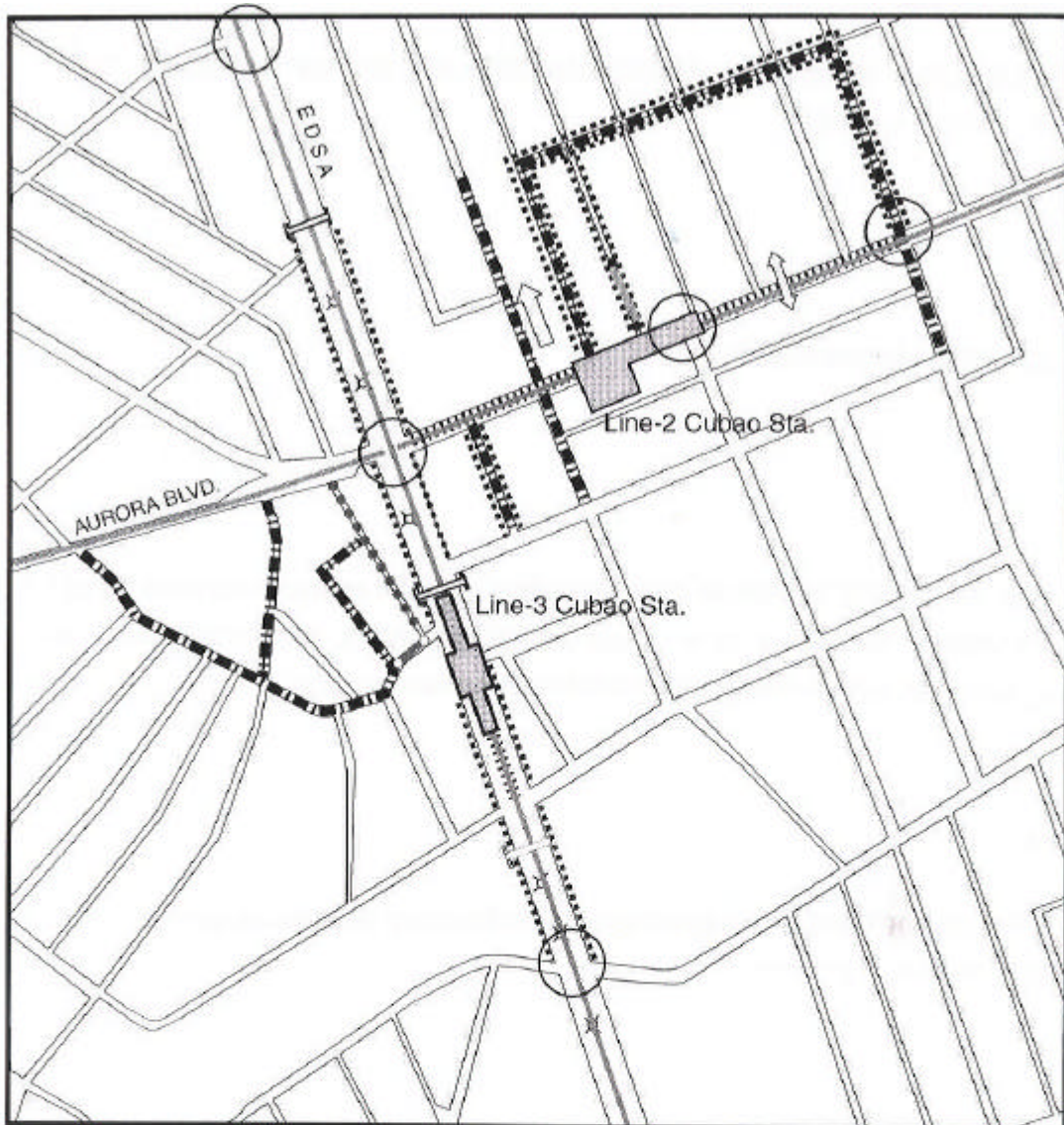
- | | |
|---|--|
| <ul style="list-style-type: none">  Bus Terminal  Jeepney Terminal  Tricycle Terminal  Pedestrian Overpass  Long intersection delay due to heavy jeepney interface and indiscriminate loading and unloading | <ul style="list-style-type: none"> A <ul style="list-style-type: none"> ● Major Interface of public transports/private vehicles/pedestrians ● Indiscriminate public transport loading/unloading ● Poor sidewalk (sidewalk and street vendors) ● Waiting passengers overflow on street B <ul style="list-style-type: none"> ● Heavy commercial market activities (sidewalks and street vendors) ● Heavy jeepney/tricycle/pedestrian interface C <ul style="list-style-type: none"> ● Line-3 Cubao Station ● Heavy pedestrian/public transport interface ● Interface of pedestrian traffic at station stairs and sidewalk ● Street and sidewalk vendors |
|---|--|

FIGURE 5.3B
CUBAO: PROPOSED IMPROVEMENT PROJECT BY MMURTRIP



Scale 1/10,000

LEGEND

Road Improvement	■ ■ ■ ■ ■ ■ ■ ■	Tricycle & Pedestrian only road (Pinatubo)	● ● ● ● ● ● ● ●
Sidewalk Improvement		
Pedestrian barrier (median)		Signalized pedestrian crossing	↔
Pedestrian segment	~~~~~	One way segment (north direction) of Anapolis from Aurora Blvd. (Jeepney terminal)	←
Bollards	•		
Additional lighting	⊕	Existing Pedestrian Bridge	⌈
Replacement of traffic signal	○		

FIGURE 5.3C

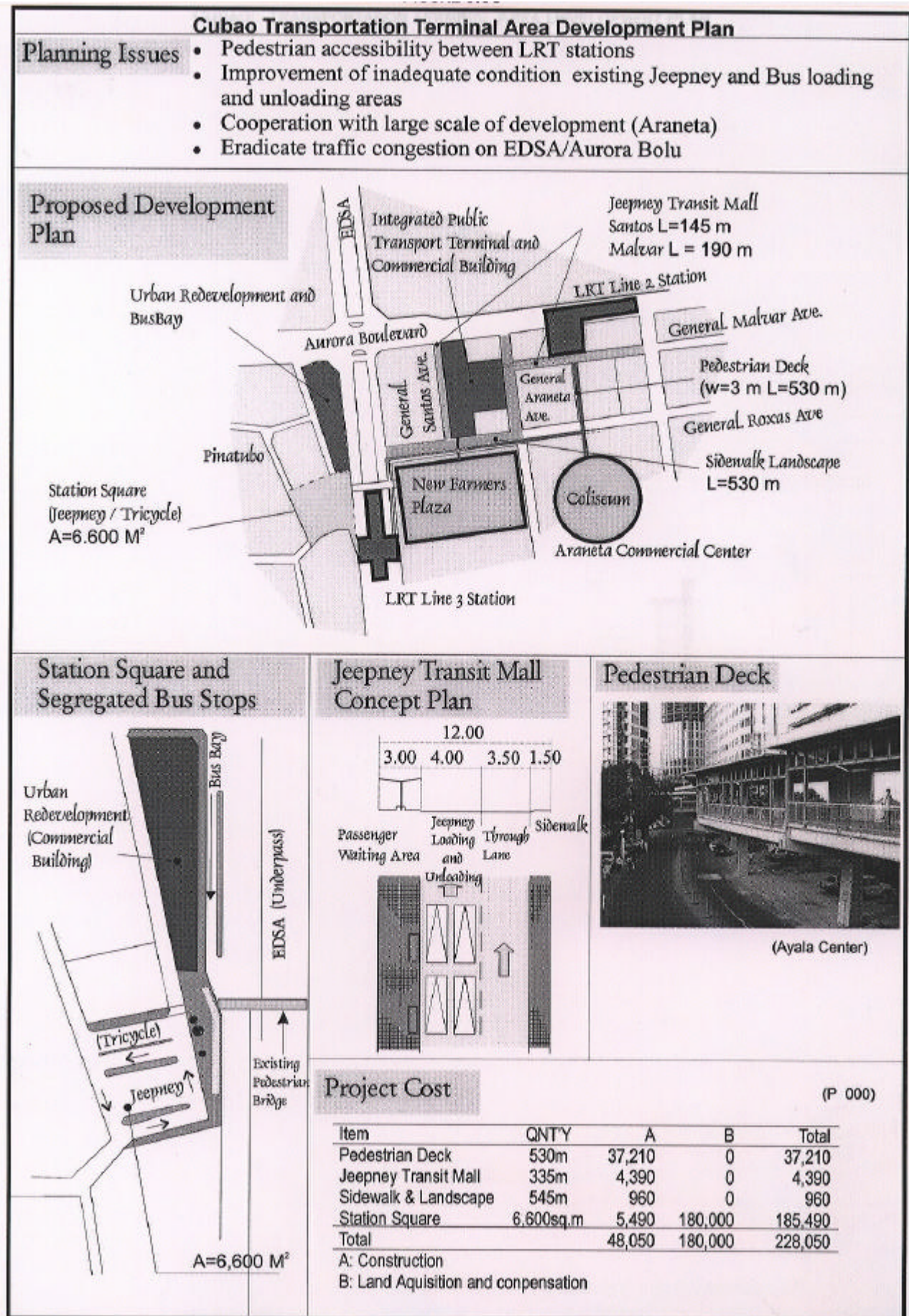


FIGURE 5.4

