

Table 4.1.45 Consideration for local access of R.E.Martadinata Flyover

(1) Local access at current condition		(2) Local access after improvement	
<ul style="list-style-type: none"> Currently free movement in the area of bus terminal although there is no appropriate crossing. Movement of pedestrian is limited alongside of the road and no appropriate crossing facility for across the road. 	<ul style="list-style-type: none"> Local access will not significantly change after construction of new flyover. Movement of pedestrians within the integrated bus terminal will be secured after the improvement. 	<ul style="list-style-type: none"> Local access will be secured under the flyover after the improvement. Safe crossing will be secured under the flyover after the improvement. 	<ul style="list-style-type: none"> Local access will be secured under the flyover after the improvement. Safe crossing will be secured under the flyover after the improvement.

Source: JICA Survey Team

(3) Sulawesi

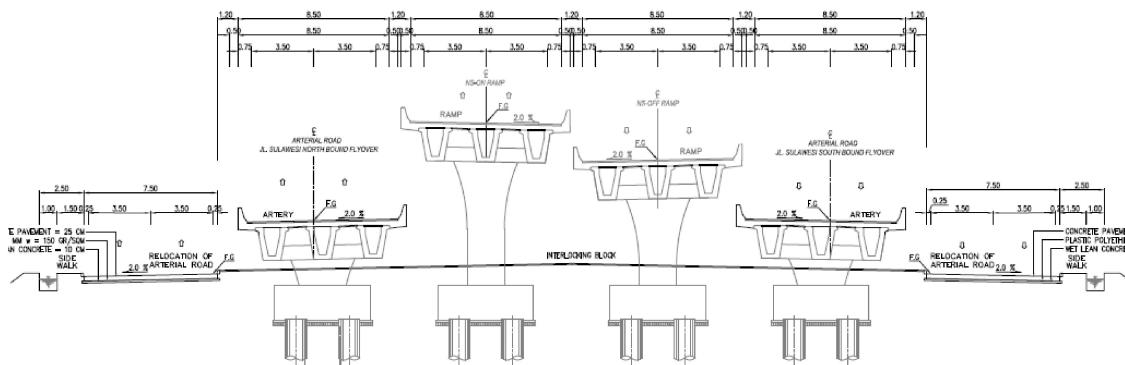
1) Concept of suitable improvement

Like R.E. Martadinata, a flyover, which is the result of detailed design, is adopted as the suitable improvement upon the result of comparative study as shown in Table 4.1.46

Note that the construction of NS link of TgPA parallel to the flyover has already started this year.

2) Cross section

The flyover between TgPA and the frontage road has 2 lanes on each bound. The typical cross section is shown in Figure 4.1.34.

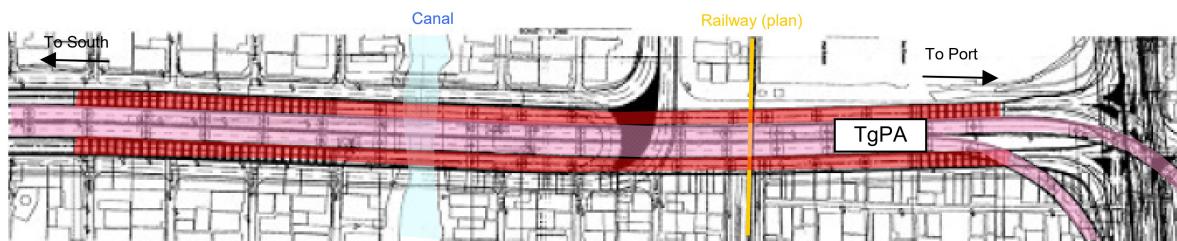


Source: Drawing of Tanjung Priok Access Road

Figure 4.1.34 Typical Cross Section of Sulawesi Flyover

3) Plan and profile

The flyover is located between the TgPA and frontage road in parallel and overpasses the existing intersection and proposed railway line to Tanjung Priok Port. The land for the flyover has already been acquired by the TgPA Project.



Source: Drawing of Tanjung Priok Access Road

Figure 4.1.35 Plan of Sulawesi Flyover

4) Other consideration

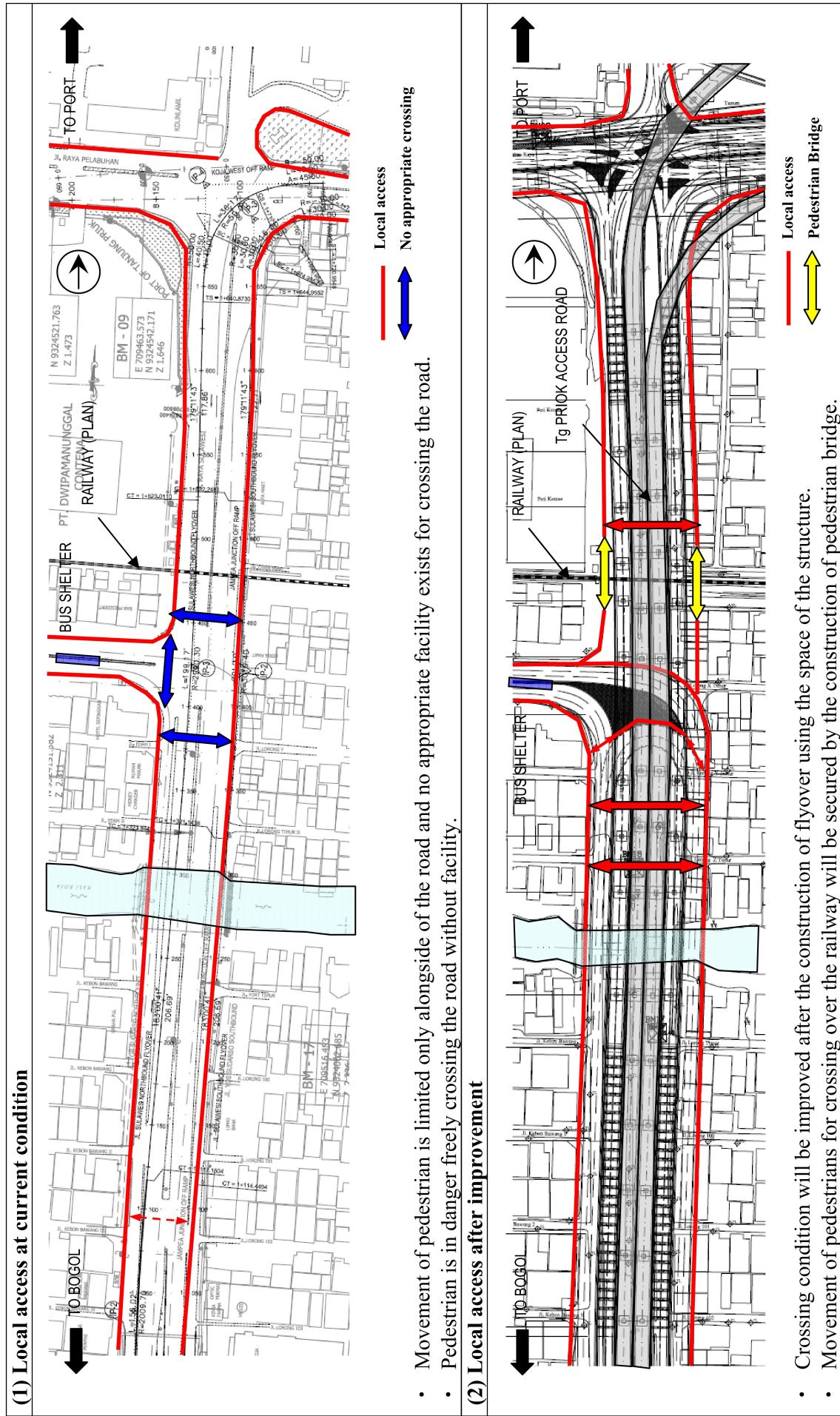
The construction of the NS link of TgPA except for the flyover has already started in 2011. The design of the flyover needs to be adjusted with the design of TgPA if there are any changes.

For the local access and pedestrian movements, it will not be significantly changed after the improvement. Above all, the crossing conditions will be improved in terms of safety by using the space under the structure of flyover. The number of the crossing traffic at grade will also be reduced that would be safer than that of current conditions. Table 4.1.47 shows the results of comparative study to examine the change of local access and pedestrian movements after the improvement.

Table 4.1.46 Comparison of Alternatives for Sulawesi Intersection

(confidential)

Table 4.1.47 Consideration for local access of Sulawesi Flyover



Source: JICA Survey Team

- Crossing condition will be improved after the construction of flyover using the space of the structure.
- Movement of pedestrians for crossing over the railway will be secured by the construction of pedestrian bridge.

(4) Kuningan

1) Concept of suitable improvement

The comparative study was conducted to select the suitable improvement whether to adopt flyover or underpass as shown in Table 4.1.49. As the result, a continuous underpass along Jl. Rasuna Said which was recommended by Feasibility Study was selected to mitigate the traffic congestion at two intersections, Kuningan and Mampang (See Table 4.1.48). The section of at-grade intersections are covered by slab deck while the top of section between the intersections keeps to be open for the reduction of the construction cost.

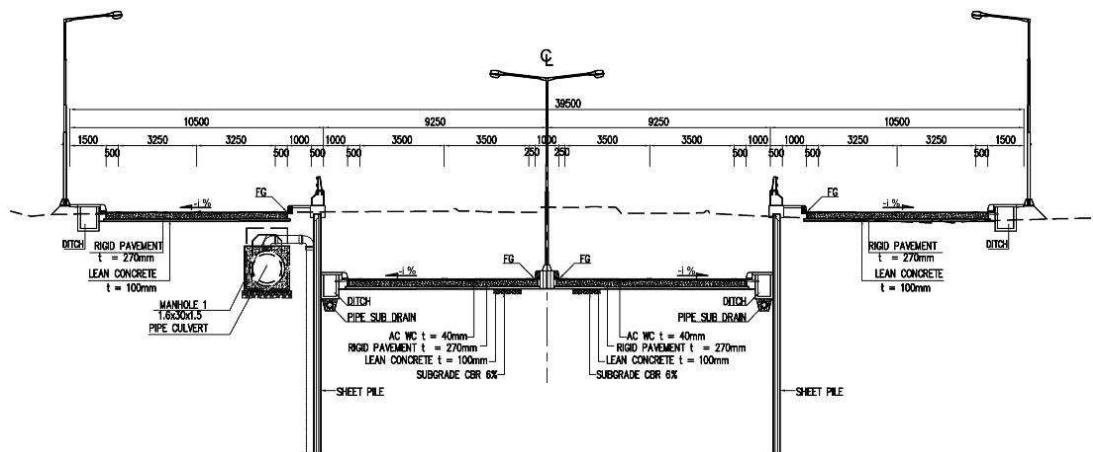
Table 4.1.48 Comparison of Alternatives for Kuningan Intersection

	Alt.1	Alt.2
Outline	Single underpass for 1 intersection (Jl. Gatot Subroto)	Continuous underpass for both intersections
Structure	Underpass (650m)	Underpass (1km)
Positive Impacts	<ul style="list-style-type: none"> The through traffic on Jl.Rasuna Said is isolated from the intersection of Jl. Gatot Subroto by the underpass. 	<ul style="list-style-type: none"> The through traffic on Jl.Rasuna Said is isolated from 2 intersections by the underpass.
Negative Impacts	<ul style="list-style-type: none"> It is too short (less than 100m) to accommodate the turn traffic between the end of underpass and Mampang Intersection. 	<ul style="list-style-type: none"> Enough capacity on the frontage road between 2 intersections needs to be secured due to many traffic demands for turning at Mampang Intersection.
Existing study result		Recommended (F/S)
Construction Cost	Low	High
Construction Period	Short	Long
EIA Scheme	UKL/UPL	AMDAL
Land Acquisition	A few	More than Alt.1 (Along Jl. Mampang Prapatan)
Evaluation		+

Source: JICA Survey Team

2) Cross section

In order to minimize the land acquisition along the road, 4 lanes should be applied for the underpass section. The frontage roads have 2 lanes both sides. The typical cross section is shown in Figure 4.1.36.

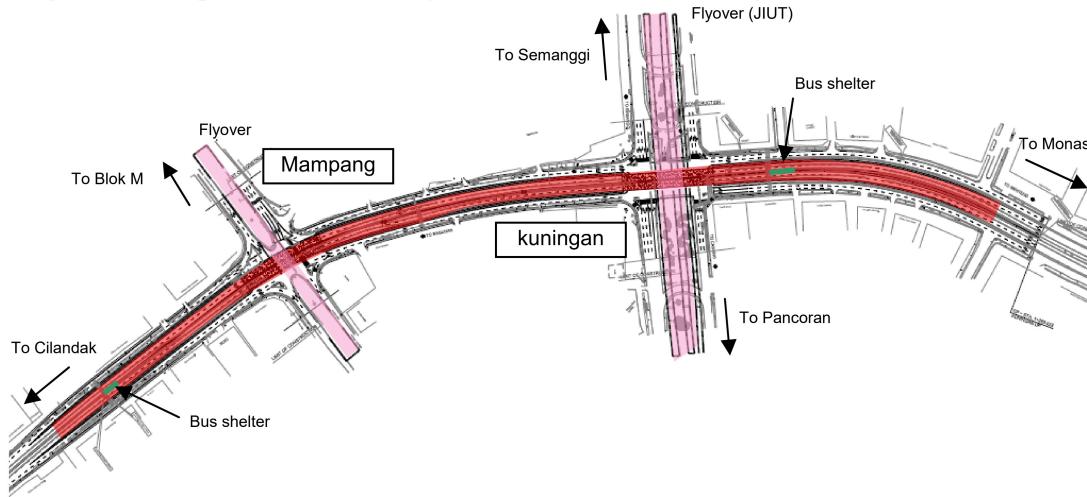


Source: JICA Survey Team

Figure 4.1.36 Typical Cross Section of Kuningan

3) Plan and profile

The horizontal alignment basically follows the existing road. For the vertical alignment, a 5% gradient is applied on both ends of the underpass section to minimize the structure length. Land acquisition is necessary for the entire section along Jl. Rasuna Said.



Source: JICA Survey Team

Figure 4.1.37 Plan of Kuninagan Underpass

4) Other considerations

a) Busway and shelter

The busway will remain on the inside lanes of the underpass but it will not be an exclusive lane because there are only a total of 4-lanes. It is necessary to relocate two bus shelters which are currently located on the north of Kuningan Intersection and on the south of Mampang Intersection.

b) Intersection

The configuration and the number of lanes are to be studied and decided to secure the necessary traffic movement after the construction of the underpass.

c) Drainage

To drain the water from the underpass, tank reservoirs and pump facilities should be provided near the sag points.

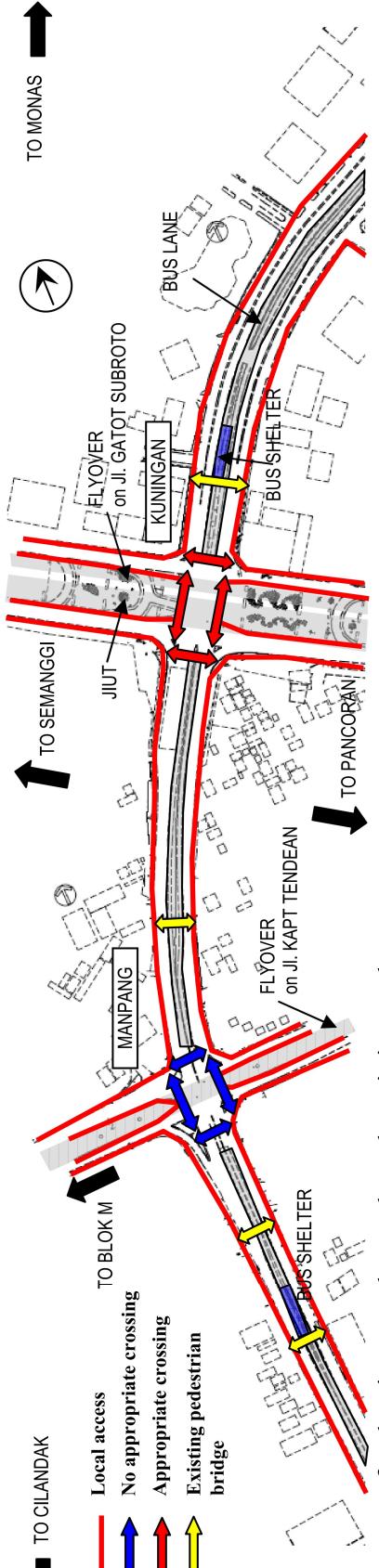
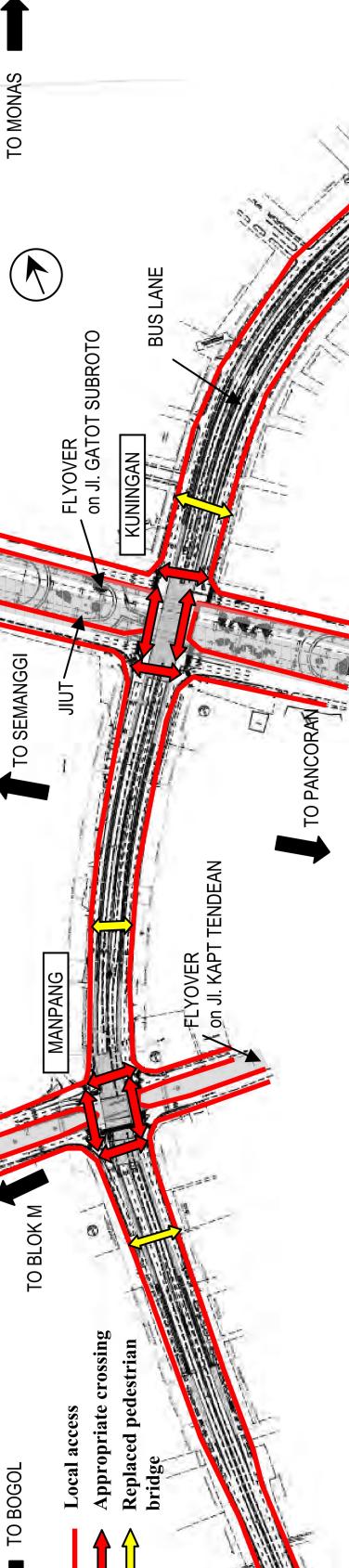
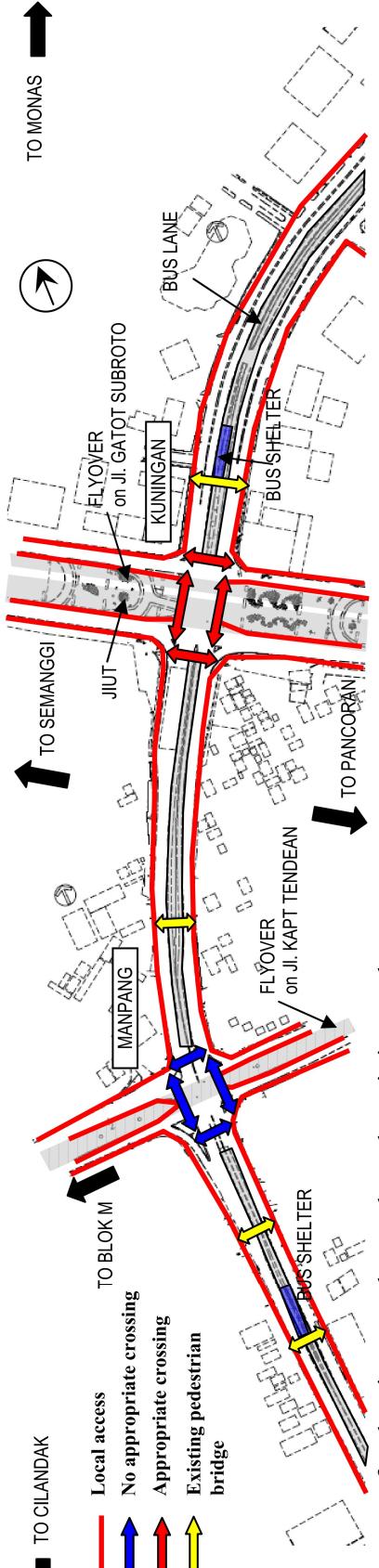
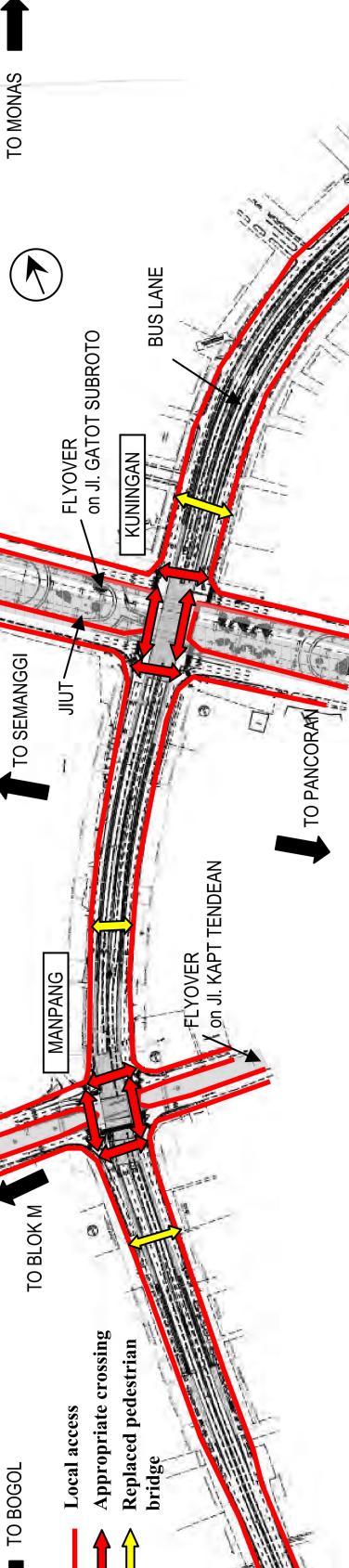
d) Local access and pedestrian movements

The comparative study has been carried out to examine the change of local access and pedestrian movements after the improvement as shown in Table 4.1.50.

Table 4.1.49 Comparison of Alternatives for Kuningan and Manpang Intersections

(confidential)

Table 4.1.50 Consideration for local access of Kuningan Underpass

(1) Local access at current condition		(2) Local access after improvement	
TO CILANDAK	TO MONAS	TO SEMANGGI	TO MONAS
Local access	No appropriate crossing	Local access	Appropriate crossing
Appropriate crossing	Existing pedestrian bridge	Appropriate crossing	Replaced pedestrian bridge
Existing pedestrian bridge			
			
<ul style="list-style-type: none"> Movement of pedestrians are almost along the existing road. Possible crossings are limited at several existing pedestrian bridges and the zebra zone at the intersections. 		<ul style="list-style-type: none"> The road will be divided by the continuous underpass however the possible crossing will be secured at the area of intersections and pedestrian bridges as same as the current conditions. Existing pedestrian bridges will be replaced or extended to cross over the full width of new underpass including the frontage road. Bus lane will be shifted into the underpass and the bus shelter near intersection should be replaced to the outside of underpass. 	

Source: JICA Survey Team

(5) Pancoran

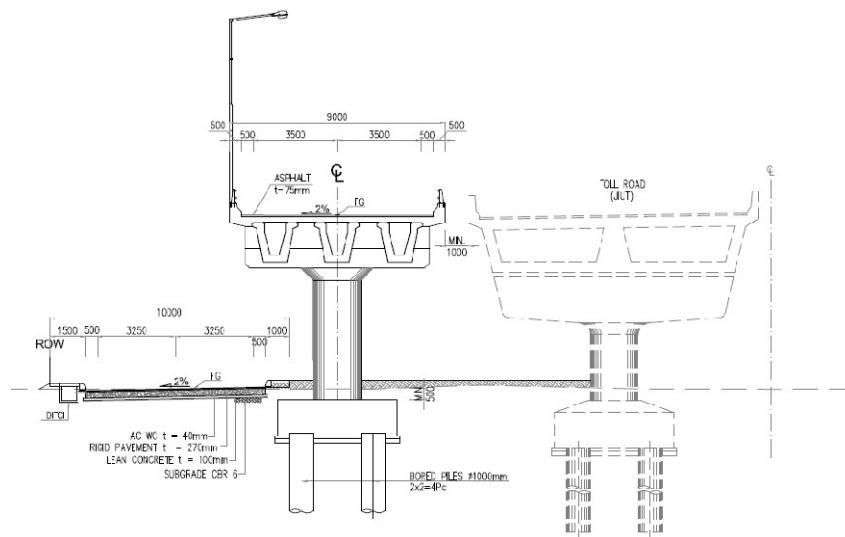
1) Concept of suitable improvement

The comparative study was conducted to select the suitable improvement whether to adopt the flyover or the underpass as shown in Table 4.1.51. As the results, a 2-lane flyover for east bound along Jl. Gatot Subroto on the south side is suitable. Alternatively, the underpass on Jl. Gatot Subroto is envisaged however it is more costly and needs longer construction period than flyover because of the existing channel across near the intersection, which makes the length of underpass longer.

To secure the accessibility to the Toll Road, a two lane on-ramp way is provided from the intersection between the flyover and Jl. Gatot Subroto. The frontage road on the east side of the intersection would be located under the flyover to avoid land acquisition.

2) Cross section

The flyover has 2-lanes one way for the west bound. To avoid land acquisition, the frontage road should be located under the flyover. The typical cross section is shown in Figure 4.1.38.



Source: JICA Survey Team

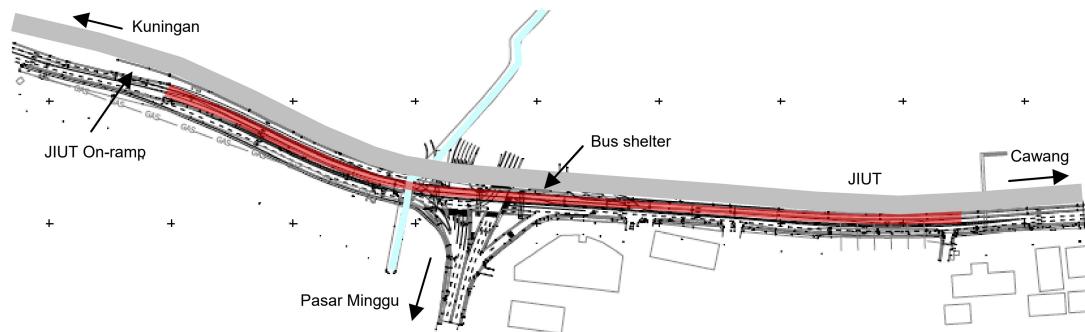
Figure 4.1.38 Typical Cross Section of Pancoran Flyover

3) Plan and profile

The horizontal alignment of the flyover is set along the JIUT on the south side. The at-grade road for the toll gate is provided between the flyover and JIUT on the west side of the intersection to keep the accessibility from the intersection to the toll gate as the traffic on the flyover can not enter the toll gate directly.

The frontage road is located under the flyover on the east side of the intersection to avoid land acquisition of commercial buildings near the intersection. Therefore, the flyover length reaches about 630m.

In order to secure the vertical clearance for the frontage road on the east side of the intersection, a gentle slope is applied on the flyover.



Source: JICA Survey Team

Figure 4.1.39 Plan of Pancoran Flyover

4) Other considerations

a) Bus way

The bus shelter currently located under JIUT needs to be relocated in accordance with the new flyover. It needs to be considered to lift the busway and shelter onto the flyover if it is not suitable to shift them at grade level.

b) Toll road

A part of the 6 inner toll roads planned by DKI is designed to pass near Pancoran intersection. It is necessary to coordinate with the plan of this road to avoid structural and operational conflicts.

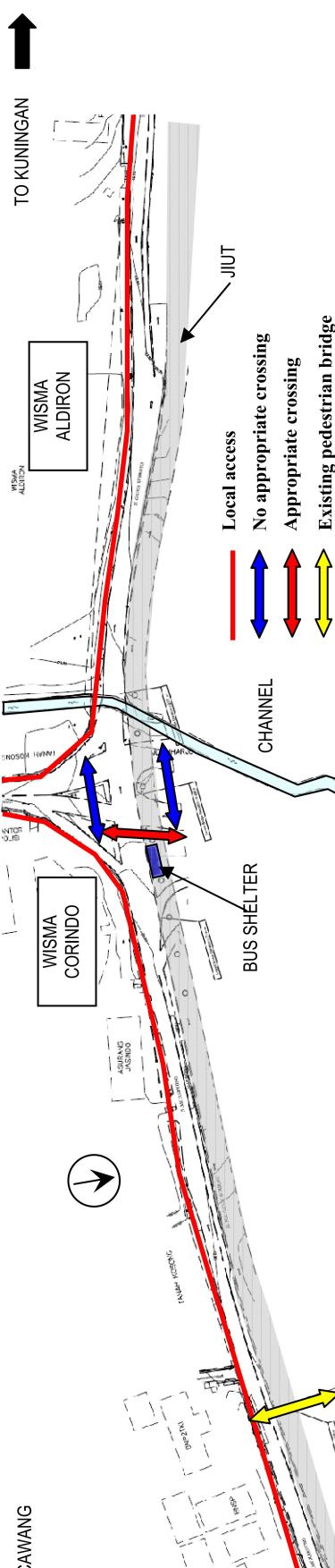
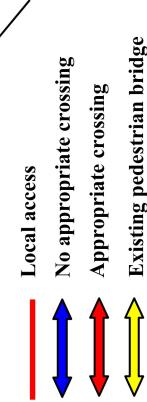
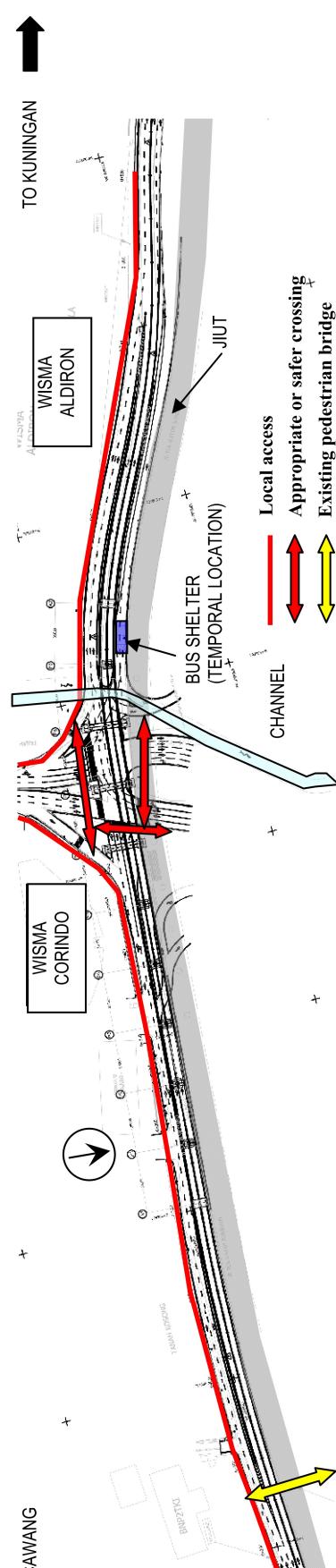
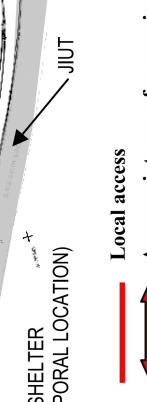
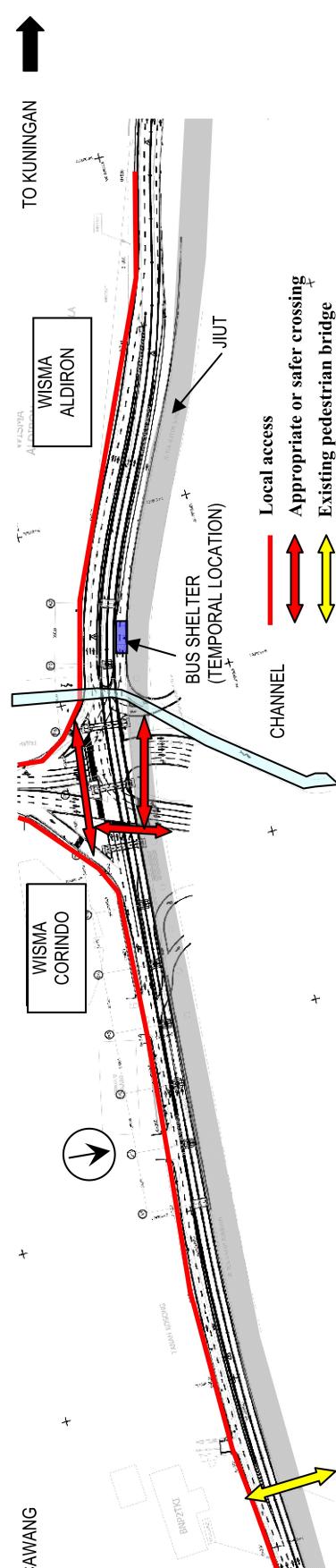
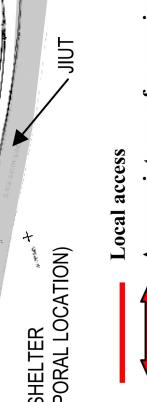
c) Local access and pedestrian movements

The comparative study has been carried out to examine the change of local access and pedestrian movements after the improvement as shown in Table 4.1.52.

Table 4.1.51 Comparison of Alternatives for Pacoran Intersection

(confidential)

Table 4.1.52 Consideration for local access of Pancoran Flyover

(1) Local access at current condition	
	 <ul style="list-style-type: none"> Movement of pedestrians is almost along the existing road. Possible crossing are limited at an existing pedestrian bridge and the zebra zone at the intersections.
	 <ul style="list-style-type: none"> Local access will not significantly change after construction of new flyover. Crossing condition will be improved after the construction of flyover using the space of the structure. Bus shelter and bus lane should be alternatively shifted onto new flyover.
(2) Local access after improvement	
	 <ul style="list-style-type: none"> Local access will not significantly change after construction of new flyover. Crossing condition will be improved after the construction of flyover using the space of the structure. Bus shelter and bus lane should be alternatively shifted onto new flyover.

Source: JICA Survey Team

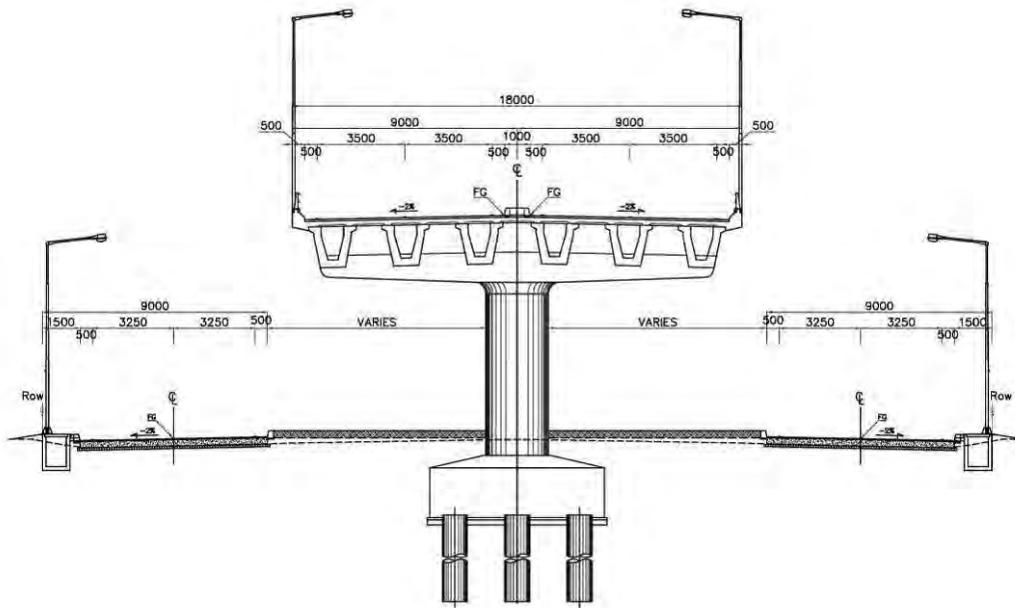
(6) Pinang Baris

1) Concept of suitable improvement

The comparative study was conducted to select the suitable improvement whether to adopt the flyover or the underpass as shown in Table 4.1.53. As the results, a 4-lane flyover is to be constructed along Jl. Sudirman which carries the main traffic.

2) Cross section

The cross section is composed of a 4-lane of flyover and 2-lane frontage roads on both sides. The total width would be 38m. The typical cross section is shown in Figure 4.1.40.

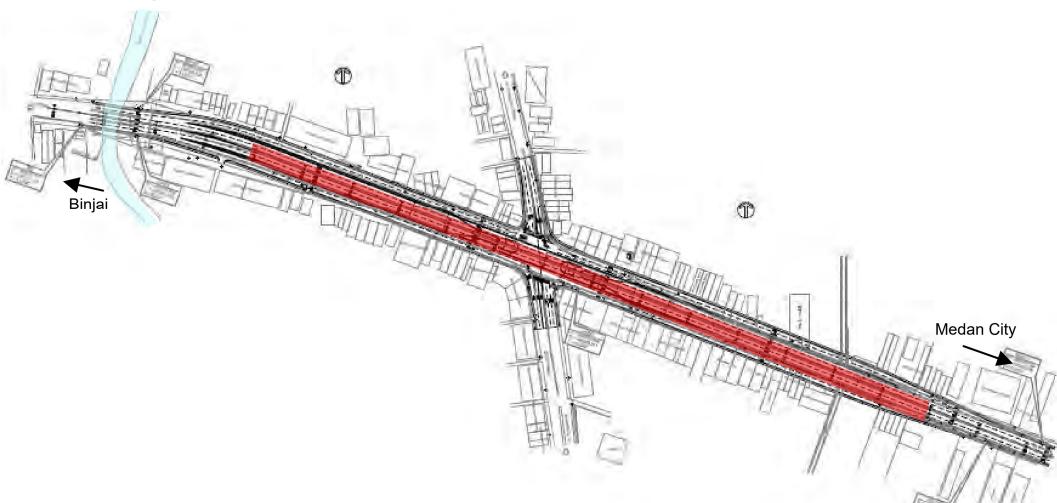


Source: JICA Survey Team

Figure 4.1.40 Typical Cross Section of Pinang Baris Flyover

3) Plan and profile

The horizontal alignment of the flyover is straight along Jl. Sudirman. For the vertical alignment, a 5% gradient is applied on both ends of the overpass section to reduce the structure length.



Source: JICA Survey Team

Figure 4.1.41 Plan of Pinang Baris Flyover

4) Other considerations

As the proposed road width is wider than the existing road, the land acquisition and resettlement will be required necessarily.

For the local access and pedestrian movements, it will not be significantly changed after the improvement. Above all, the crossing conditions will be improved in terms of safety by using the space under the structure of flyover. The number of the crossing traffic at grade will also be reduced that would be safer than that of current conditions. Table 4.1.54 shows the results of comparative study to examine the change of local access and pedestrian movements after the improvement.