



**KEMUDAHAN KESELAMATAN
PEJALAN KAKI**

**PEMBAHAGI JALAN –
PEJALAN KAKI**

(Pedestrian Refuge Island)

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1. 70% kemacetan Midblock yang tinggi.
2. lebih dari 1000 kendaraan per jam di pejalan kaki apabila di persimpangan kendaraan yang melaju 40 km/jam.

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- WHY DID THE CHICKEN CROSS THE ROAD ?
- Illustration of a chicken crossing the road. A speech bubble from the chicken asks, "WHY DID THE CHICKEN CROSS THE ROAD?". The chicken is shown in two positions: standing on the grassy bank and lying flat on the road. A white line on the road indicates the crossing point. A small red object is on the grass. A signpost is visible in the background.

1.0 PENGENALAN

4. Pedestrian Refuge Island....

= *crossing island*

= *center island*

= median refuge area

= *pedestrian island*

= median slow point

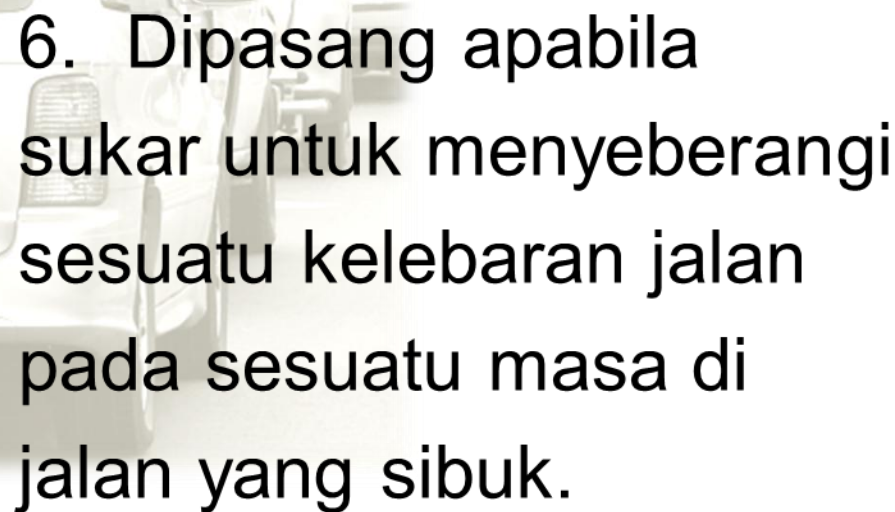
= lintasan terlindung



...pulau di persimpangan @ di blok pertengahan yang memisahkan pejalan kaki yang melintasi jalan dengan kendaraan bermotor.

1.0 PENGENALAN

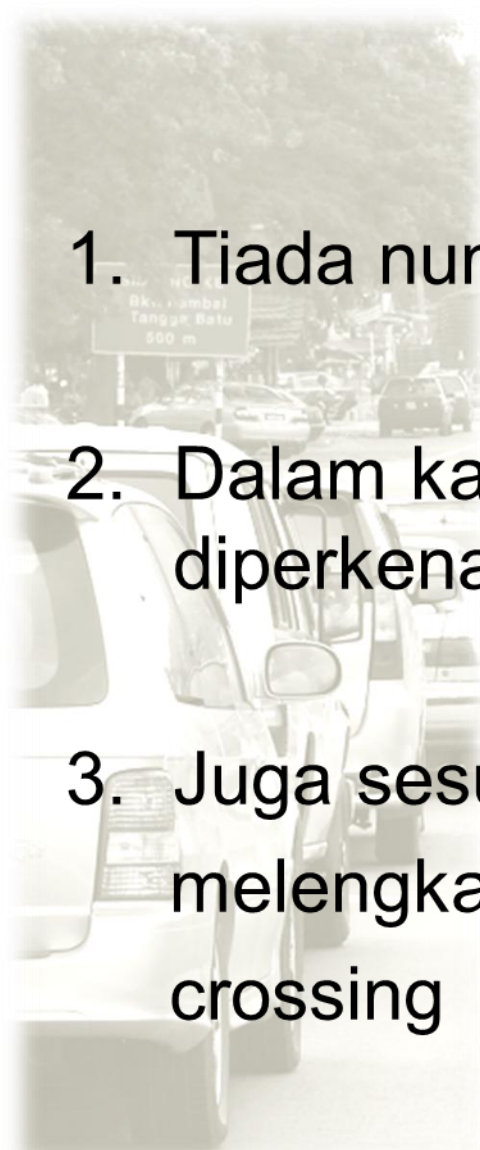
5. Seksyen lebih lebar di Jaluran Median dimana pejalan kaki atau penunggang basikal secara relatifnya dapat berdiri dengan selamat di tengah jalan.



6. Dipasang apabila
sukar untuk menyeberangi
sesuatu kelebaran jalan
pada sesuatu masa di
jalan yang sibuk.



2.0 KRITERIA

- 
1. Tiada nur
 2. Dalam ka
diperkena
 3. Juga ses
melengka
crossing



2.0 KRITERIA

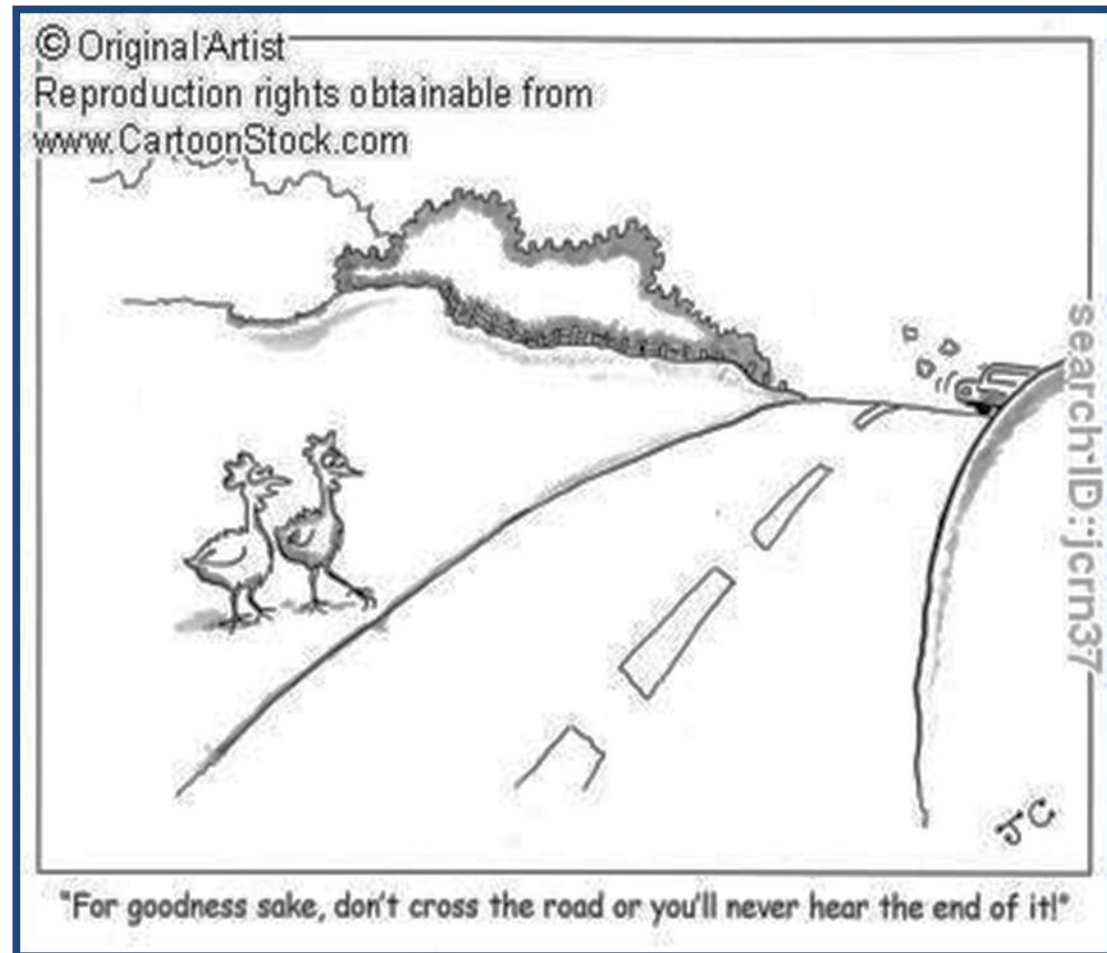
4. Setiap kes adalah berdasarkan merit ;

- ◆ Isipadu trafik,
- ◆ Bilangan pejalan kaki,
- ◆ Jenis pejalan kaki (cth: kanak-kanak, orang tua)
- ◆ Halaju trafik,
- ◆ Jarak penglihatan,
- ◆ Lebar jalan untuk diseberangi,
- ◆ Ia beroperasi sehala @ dua-hala, dll...

2.0 KRITERIA

4. Contoh justifikasi ;

- ◆ Pejalan kaki sukar dapatkan 'safe gap' dalam trafik



3.0 APLIKASI

1. Kelebaran pulau ;

- ◆ Desirable ; 2.4 m – 3.0 m
- ◆ Minimum ; 1.8 m
(adanya keperluan untuk kerusi roda)
- ◆ Absolute minimum ; 1 m

2. Kelebaran laluan utama ;

- ◆ $< 3.0 \text{ m} @ > 3.7 \text{ m}$; kelebaran diantaranya blh menyebabkan konflik (vehicle & cycle)
- ◆ Di lokasi halaju kenderaan dgn $V85 \text{ km/j} < 50 \text{ km/j}$; boleh disempitkan lagi sehingga 3.0 m

3.0 APLIKASI

3. Lanskap @ low growing shrubs

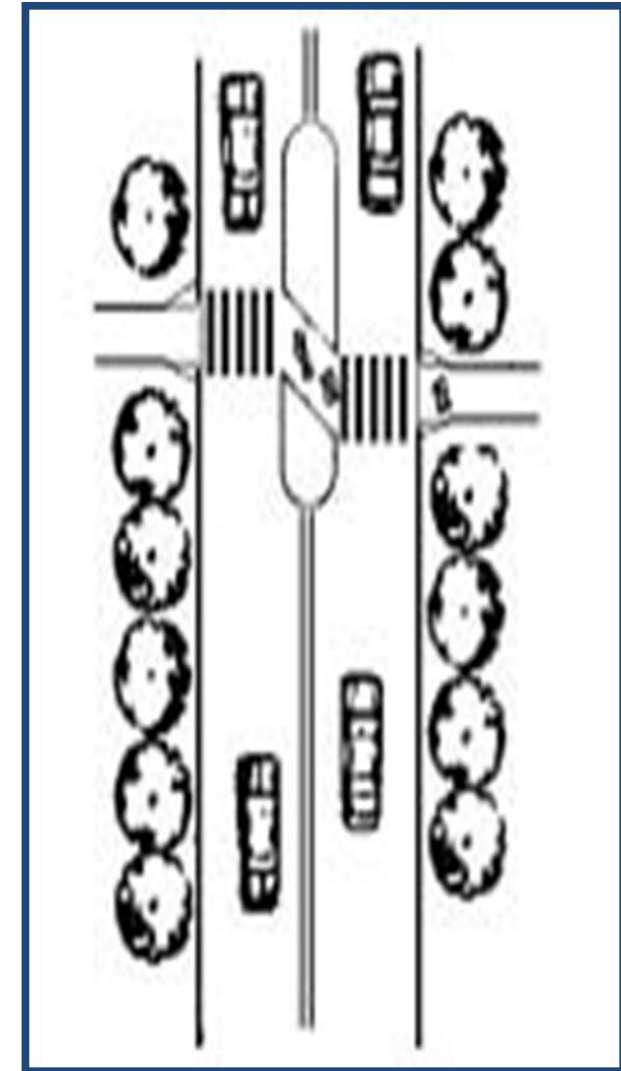
- ◆ Impaknya sebagai traffic calming,
- ◆ TIDAK menghalang penglihatan pemandu/pejalan kaki



3.0 APLIKASI

4. Fizikal median : Curb ramps @ full cut-throughs
5. Jika lebar untuk menyeberang $> 18.2\text{m}$;
 - ◆ Perlu ada push button di median (signalized mid-block crossings)
6. Kawasan lindungan dengan kedudukan bersudut/sendeng juga perlu dipertimbangkan; (mengarah ke arah aliran trafik yang bertentangan) ;
contoh :samb.

3.0 APLIKASI



3.0 APLIKASI

7. Lampu jalan ; untuk pencahayaan

8. Painted median ; dipanjangkan dengan barrier line (minimum 30 m)

9. Papan tanda dipasang lebih awal dari kawasan terlindung itu

4.0 NISBAH KOS & FAEDAH

1. Anggaran kos ; Medium
2. Pengurangan kecelakaan ; 40-60%

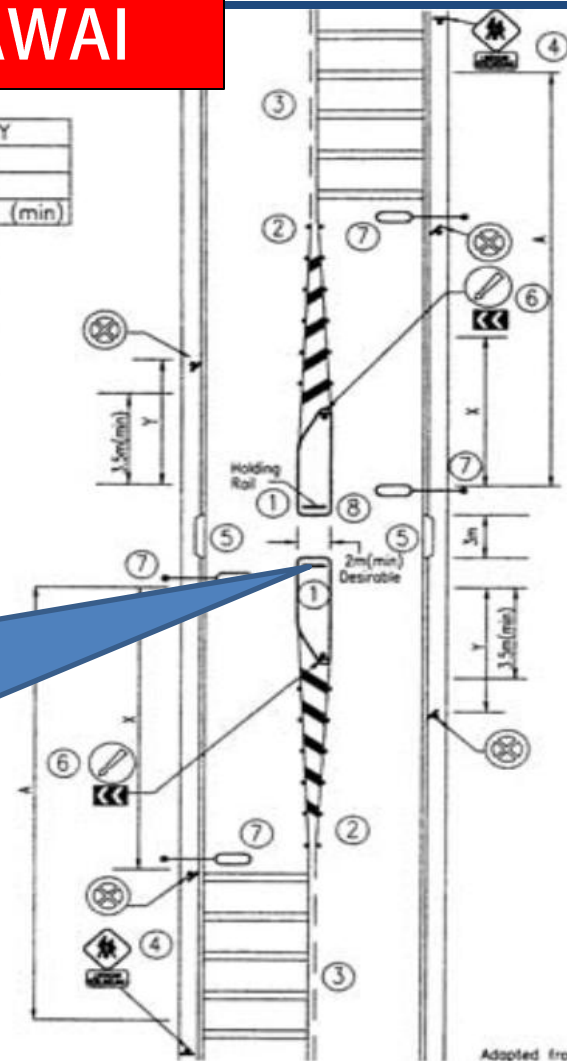
5.0 LUKISAN PIAWAI

Nota Teknik Jalan 18/87
Figure 2 : Uncontrolled pedestrian crossing with refuge island



	X	Y
Minimum	9m	3m
Desirable	12m	5m
Near school	18m	9m (min)

V85 km/j	A m
<75	80-120
75-90	120-180



Adapted from AS1742 Pt 10

KERBS MAY BE PAINTED WHITE.

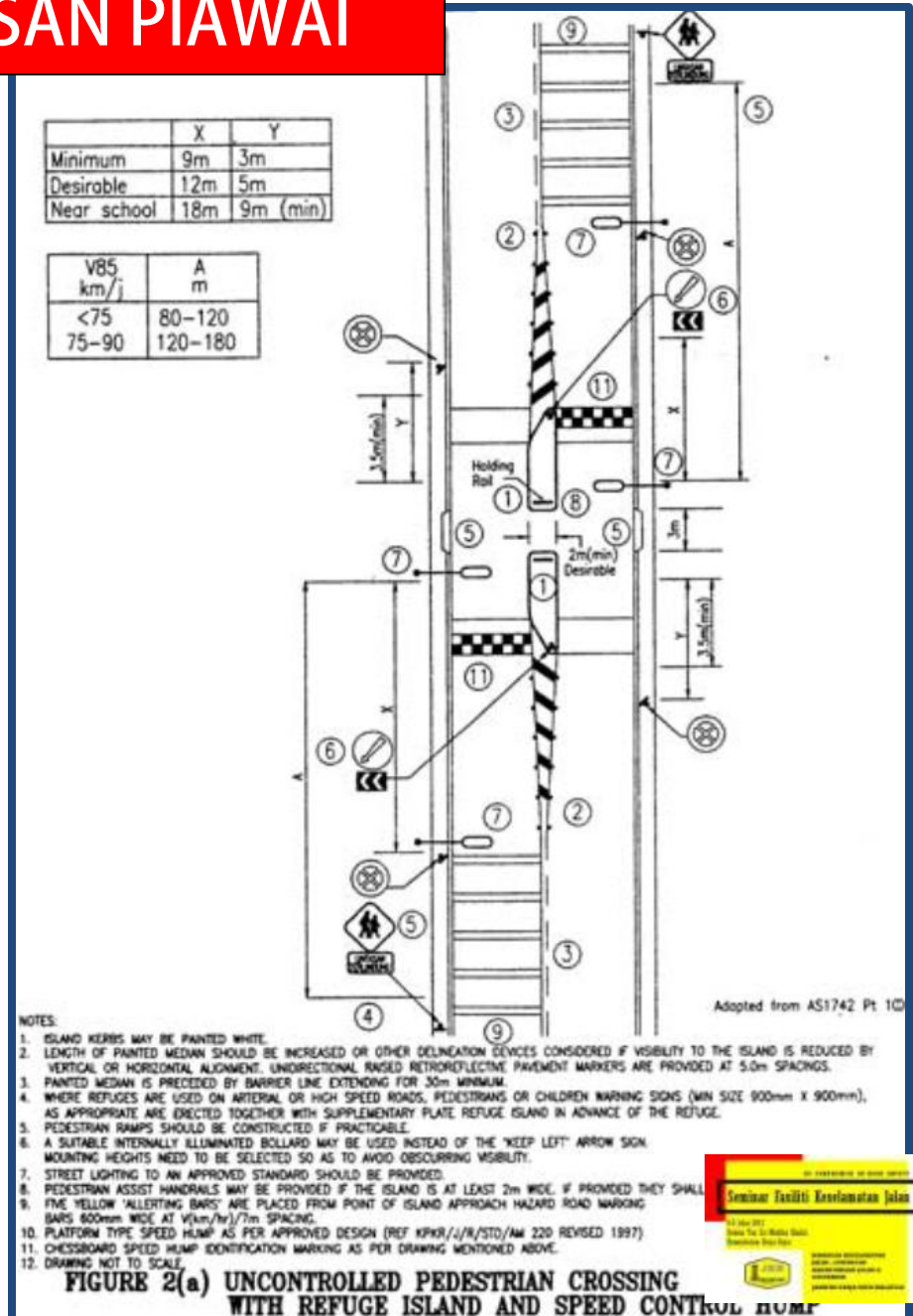
IF A PAINTED MEDIAN SHOULD BE INCREASED OR OTHER DELINEATION DEVICES CONSIDERED IF VISIBILITY TO THE ISLAND IS REDUCED BY VERTICAL OR HORIZONTAL ALIGNMENT. UNIDIRECTIONAL RAISED RETROREFLECTIVE PAVEMENT MARKERS ARE PROVIDED AT 5.0m SPACINGS.

- PAINTED MEDIAN IS PRECEDED BY BARRIER LINE EXTENDING FOR 30m MINIMUM.
- WHERE REFUGES ARE USED ON ARTERIAL OR HIGH SPEED ROADS, PEDESTRIANS OR CHILDREN WARNING SIGNS (MIN SIZE 900mm X 900mm), AS APPROPRIATE ARE ERECTED TOGETHER WITH SUPPLEMENTARY PLATE UNTIL LANTAN TERLUNJUNG IN ADVANCE OF THE CROSSING.
- PEDESTRIAN RAMP SHOULD BE CONSTRUCTED IF PRACTICABLE.
- A SUITABLE INTERNALLY ILLUMINATED BOLLARD MAY BE USED INSTEAD OF THE 'KEEP LEFT' ARROW SIGN. MOUNTING HEIGHTS NEED TO BE SELECTED SO AS TO AVOID OBSCURING VISIBILITY.
- STREET LIGHTING TO AN APPROVED STANDARD SHOULD BE PROVIDED.
- PEDESTRIAN ASSIST HANDRAILS MAY BE PROVIDED IF THE ISLAND IS AT LEAST 2m WIDE. IF PROVIDED THEY SHALL BE TO AN APPROVED STANDARD.
- DRAWING NOT TO SCALE.

FIGURE 2 UNCONTROLLED PEDESTRIAN CROSSING WITH

5.0 LUKISAN PIAWAI

Nota Teknik
Figure 2(a) :
pedestrian c
refuge island
control hump



5.0 LUKISAN PIAWAI

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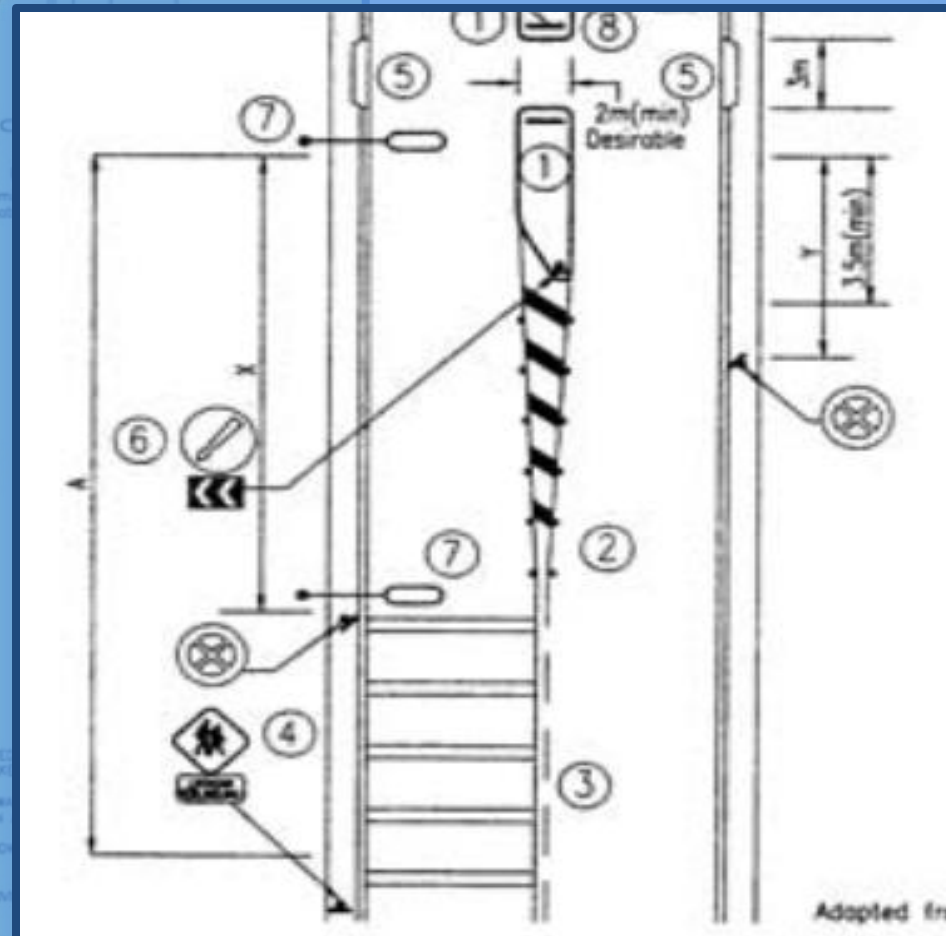
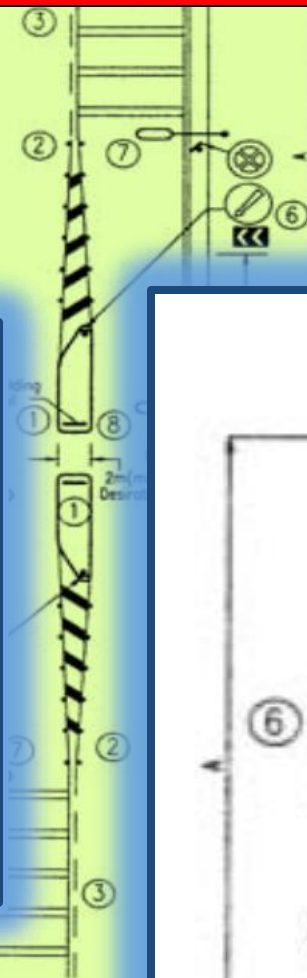
	X	Y
Minimum	9m	3m
Desirable	12m	5m
Near school	18m	9m (min)

V85 km/j	A m
<75	80-120
75-90	120-180

NOTES:

- ISLAND KERBS MAY BE PAINTED WHITE.
- LENGTH OF PAINTED MEDIAN SHOULD BE INCREASED OR OTHER DELINEATION DEVICES CONSIDERED FOR VERTICAL OR HORIZONTAL ALIGNMENT. UNIDIRECTIONAL RAISED RETROREFLECTIVE PAVEMENT MARKINGS SHOULD BE USED.
- PAINTED MEDIAN IS PRECEDED BY BARRIER LINE EXTENDING FOR 30m MINIMUM.
- WHERE REFUGES ARE USED ON ARTERIAL OR HIGH SPEED ROADS, PEDESTRIANS OR CHILDREN MUST NOT CROSS THE ROAD AS APPROPRIATE ARE ERECTED TOGETHER WITH SUPPLEMENTARY PLATE LINTASAN TERLINDUNG.
- PEDESTRIAN RAMPS SHOULD BE CONSTRUCTED IF PRACTICABLE.
- A SUITABLE INTERNALLY ILLUMINATED BOLLARD MAY BE USED INSTEAD OF THE 'KEEP LEFT' ARROW SIGN.
- STREET LIGHTING TO AN APPROVED STANDARD SHOULD BE PROVIDED.
- PEDESTRIAN ASSIST HANDRAILS MAY BE PROVIDED IF THE ISLAND IS AT LEAST 2m WIDE, IF PROVIDED.
- DRAWING NOT TO SCALE.

FIGURE 2 UNCONTROLLED PEDESTRIAN CROSSING WITH REFUGE ISLAND.



6.0 CONTOH APLIKASI

Lintasan terlindung
dengan speed hump



Lintasan terlindung di
susur simpang



6.0 CONTOH APLIKASI



Lintasan terlindung
konkrit pasang siap
(di patenkan)

6.0 CONTOH APLIKASI



Lintasan terlindung
di mid-block



7.0 KESIMPULAN

Pedestrian refuge islands should be placed where there is a demand from pedestrians to cross and it must be clearly visible to traffic during both day and night.

With medium cost incurred, pedestrian safety increased & fatalities reduce....by

40 – 60 % ...!!!

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- **Safer Roads**
 - **Safer Vehicles**
 - **Safer People**

Sekian.....



Terima kasih...