Pedestrian Safety

1

Phillip Jordan, Road Safety International

Objectives of this presentation



- to outline some essential things to consider in CAREC road projects that can assist vulnerable road users
- to open discussion about what your organisation can do/should do to assist pedestrian safety as part of a Road Safety Action Plan



Why should we be concerned for pedestrian safety?

Why should we be concerned for pedestrian safety?



Why should we be concerned for pedestrian safety?

Please show me your pedestrian licence!

- Pedestrians are the largest group of road users
- They need no licence to be a pedestrian
- Very mobile
- All ages
- Very vulnerable serious injuries if struck
- 15 -50% of all road fatalities (depending on city, nation)
- About 400,000 pedestrians killed worldwide per annum

Pedestrians were here first – before the motor vehicle



If you and your organisation doesn't provide facilities to assist pedestrian safety - who will?



Pedestrians come in all shapes, sizes, races, ages and types



Pedestrians come in all shapes, sizes, races, ages and types





IF YOU DO NOT LIKE CRASHES, TURN AWAY NOW.....



You have a challenging task:

Many pedestrians

All ages

Some maybe effected by drugs, medications or alcohol

Walking along and across roads – day and night

Do you want to help them and make them safer?

Then you must start by putting yourself into their shoes!

What facilities do we have at our disposal to help pedestrians?

	Overpass	Pedestrian Operated Signals	Pedestrian Crossing (with flashing lights)	Pedestrian Crossing (without flashing lights)	Flagged School Crossing	Pedestrian Refuge
Primary Arterial	0	•	х	х	0 +	0
Secondary Arterial	0	•	0	х	0	0
Collector	X	0	0	o	•	•
Local Road	*	ż	o =	o =	0	0

- Most likely to be appropriate
- May be an appropriate treatment
- X Inappropriate treatment
- Pedestrian devices should not be needed
- Flagged school crossings are sometimes used on low volume primary arterials especially in rural areas
- Pedestrian crossings (zebra crossings) may be appropriate in a local shopping centre

While you need to think of all groups of pedestrians – crash data tells us there are <u>THREE</u> groups at greatest risk.....



Three groups of pedestrians most at risk:

- senior citizens 19% of pedestrian fatalities are over 65 years
- young 20% of pedestrian fatalities are aged 4-12 years
- intoxicated 43% of night time pedestrian fatalities ≥ 0.15% BAC
-plus the disabled



young - 20% of pedestrian fatalities are aged 4-12 years





intoxicated - 43% of adult male pedestrian fatalities ≥ 0.15% BAC in my State (Victoria). What % in your country?



How safe are the disabled in your city?

How safe are the disabled in your city?

Weter No Part

AB 6281 9

There are only three basic pedestrian strategies...





<u>Segregation</u> – freeways, malls

<u>Separation</u> – in time or in space

Integration – where vehicles and pedestrians "share" the road







<u>Separation</u> – in time



Are countdown signals good for pedestrians? Are they also safe?

HE BY

Are countdown signals good for pedestrians? Are they also safe?

PHILIPS

ART

4000

Smart-теледі 42PFT5609/6

110 940

15AL

1411

COBIN

БАЛАЛАР

ДЕТСКОЕ

0% - 3

CYT

молочное

ТАҒАМЫ

ПИТАНИЕ

0% - ка

ЕЛГЕН

ы танда

упке

02

www.sulpak.kz








Pelican Crossings

- What is a Pelican Crossing?
- Do you have any?

WHEN FLASHING GIVE WAY TO PEDESTRIANS



Pelican Crossing

If the crossing goes straight accross the road (even when there is a central refuge) treat it as a single crossing

If the crossing is staggered treat it as two separate crossings.



Flashing Amber Phase

Puffin Crossings



Do you have any?



Puffin Crossings



Do you have any?



Toucan Crossings









Separation in space (grade separation)

- Most pedestrians dislike grade separation unless it saves them time/distance.
- If grade separation is a possibility, or essential, people usually prefer an overpass. If you must have a subway, encourage one that has a straight through view – for personnel safety

00000000

177 8 May 404

1.6

and in the second second

.....

 itesaahhhhhh ahhaahhhhhhhhhhhhhhhh







العلوللد العلوللد



















Reality! What do you want to do to reduce pedestrian trauma? How will you do it?

Integration - vehicles and pedestrians "share" the road





Signalised intersections offer scope to assist pedestrians

112-2-2

Signalised intersections offer scope to assist pedestrians

Signal hardware

- Provide pedestrian displays
- Provide pedestrian push buttons so they can call up their phase even with no motor vehicles present
- Ensure any conflicting drivers CAN see the pedestrians (clear away all obstructions)

Signal phasing and software

- Generally run pedestrians with parallel traffic
- Give adequate clearance time based on road width and a walking speed of about 1.5m/sec.
- Consider an early start for the peds if there is a lot of turning traffic
- Audio-tactile devices benefit disabled pedestrians

Civil works

- Dropped kerbs and DDA tiles
- Obvious and clear pedestrian paths
- All-weather footpaths leading to/from the intersection
- Street lighting
- No obstructions along footpaths



Use pedestrian push buttons to allow pedestrians to call up their phase

Elderly citizens in Singapore can "tap" their public transport card to increase their WALK time



When auditing.....

Always visit the site, and make sure you put yourself in the shoes of the pedestrian!

- Will they be able to safely cross the road?
- Will they be able to safely walk along the road
- Will there be a complete "path" for pedestrians
- Will it be obvious? Continuous?
- Will signals provide for pedestrians? Disabled?
- Will islands be large enough to store pedestrians?
- Look beyond the scheme don't miss any group of road users





Detailed design stage audit – Ovi Shifu

What will you say about pedestrians in the audit of this proposed duplication of a national highway



Village of Ovi Shifu
Village of Ovi Shifu

Safety concerns (also "big" issues)

- High speeds through village of Ovi Shivu
- Bus/taxi stops in rural areas how will we provide safely for pedestrians?
- Roadside hazards clear zones not used
- Intersection layouts
- U turn designs

Look for "big" safety issues, question generic design issues

High speeds through Ovi Shivu

- Vehicle speeds will increase
- The central median will assist pedestrians to stage their crossings
- But high speeds will allow no tolerance for errors
- Impacts above 40km/h are almost always fatal for the pedestrian



Options to reduce speeds (for pedestrian safety) in Ovi Shivu

- Do nothing, only use speed restriction signs
- Police enforcement
- Electronic enforcement via overhead cameras, radars
- Traffic calming gateway signs, 40km/h speed limit, flat topped road humps



Recommendations to reduce speeds through Ovi Shifu

- 1. Gateway signs and 40km/h speed limit
- 2. 1.6m wide paved median (with no barrier) to serve as a pedestrian refuge through the village
- 3. Flat topped road humps at 100m centres approx.
- 4. A pedestrian bridge <u>may</u> be installed near the southern end of the village to serve (mainly) school children. The audit team has no objections to this but believes it will be unlikely to assist many pedestrians despite its high cost.

ALL AGREED



This type of refuge island will be used in Ovi Shivu, together with road humps at 100m centres This flat topped road hump is similar to the type proposed for use in Ovi Shibu at 100m centres

Recommendation for speeding through Ovi Shifu



There is no objection to the proposed pedestrian overpass in Ovi Shivu (but it is unlikely to offer much service to the pedestrians of the village). It will not assist the disabled, or those with loads. It may assist school children <u>if</u> they are required to use it by teachers/parents. It will have 32 steps up and 32 steps down.

It is not to be a substitute for traffic calming through the village.

Pedestrians – they are vulnerable and they deserve your attention to their safety during road safety audits and crash investigations



- Remember to stand back and consider the big picture.
- Walk the site.
- Put yourself in the shoes of the road users

I look forward to your questions