

**ASIAN HIGHWAY DESIGN STANDARD FOR
ROAD SAFETY
18 September 2017**

RESPONSE TO COMMENTS FROM MEMBER COUNTRIES RECEIVED DURING AND AFTER THE MEETING ON 30-31 AUGUST 2017

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1. Issues clarified during the meeting at UNESCAP on 30 and 31 August 2017

1.1 Issues clarified on Design Standard

(30 August 2017)

- Need for escape ramps (Vietnam)
- Adequacy of median width 1-5m (Bangladesh)
- Use of “nearside” and “offside” (Bhutan)

1.2 Issues Clarified on Design Guidelines

(31 August 2017)

- Spacing of laybys (Bangladesh)
- Anti-glare screens (Pakistan)
- Raised pavement markers and delineation for adverse weather (Pakistan)

2. Comments received during the meeting at UNESCAP on 30 and 31 August 2017

Source	Comments	Responses	Actions	
			Design Standards	Design Guidelines
Malaysia	More consideration of Asian conditions should be incorporated.	Agreed. The design standard and guidelines already covered this as much as possible in all the topics.	Further review will be conducted to identify any further topics or contents e.g. motorcycle rain shelters.	Further review will be conducted to identify any further topics or contents e.g. motorcycle rain shelters.
Turkey	Use the wording “if deemed appropriate” instead of “as appropriate”.	Accepted.	Amend all relevant texts.	Generally not affected.
Bangladesh	Bypass is not preferred as they result in another linear development. Benefits quoted by some countries especially for access-controlled bypasses.	Bypass is still recommended with reminder of potential negative effects.	Minor revision with need for access control.	Minor revision with need for access control and reminder of potential negative effects.
Bangladesh	Bus facilities along the Asian Highway need to	Agreed. Additional considerations for bus	Requirements for bus stops will be	Further requirements for bus stops will be

	take into account convenience for users and problems of positioning near intersections.	stops on high speed roads and protection for waiting bus passengers.	incorporated.	incorporated.
Bangladesh	Trees within clear zone.	Minimum of 3m from the edge of carriageway in conjunction with minimum horizontal clearance from paved shoulder. Speeds should be limited to 70km/h or less.	Addition of short sentence.	Already covered but minor adjustments will be made.
Bangladesh	Consideration may be given to a longitudinal roadside water reservoir within the Right of Way (ROW). Road surface runoff water can be drained into these pits which indirectly discourage the road side illegal encroachment.	Comment is noted but more information and practical examples are needed.	No change.	No change at this stage.
iRAP	Nature of road may change over time and re-classification may be necessary.	Agreed.	This will be Incorporated.	No adjustment.
Bhutan/Myanmar	Road safety aspects of drainage should be covered.	Emphasis on risk of ponding and aquaplaning Avoidance of flat gradient at transition 0.5% longitudinal fall for kerbed roads	Addition of short paragraph.	Addition of recommendations.
Pakistan	Raised pavement markers should not be provided in the transverse position at intersections.	Agreed. Already covered in Design Guidelines.	Minor revision for clarification.	Already covered.
Pakistan	U-turn Facilities should be included in the design standards.	Agreed. Already covered in Design Guidelines.	Incorporated	Already covered
Armenia	Enforcement cameras are very effective.	Agreed, but it is considered that Annex IV is restricted to road infrastructure.	No change.	No change.
iRAP	Intersections on Class I roads need regulations.	Agreed. Priority intersections and crossroads on Class I roads should be subject to stringent conditions of speeds, traffic volume and visibility.	This will be incorporated.	Already covered

iRAP	Precautions for pedestrian priority crossings (zebra crossings).	The design guidelines already contain recommendations on the suitability of these crossings for different road classes and traffic conditions.	The texts will further emphasize the precautions for providing zebra crossings i.e. drivers expecting to stop, reduced traffic speeds and limited number of traffic lanes.	Already covered. Some refinements will be made.
Turkey	Need for effective treatments for Class I roads traversing villages and towns.	Agreed. The design standard and guidelines already covered this issue: Bypass Strong visual treatments Transformation as urban streets	No changes.	No changes.
Singapore	Inclusion of hoods and louvres to prevent drivers misinterpreting traffic signals for other traffic streams .	Agreed. The design standard and guidelines already covered these possibilities.	No changes.	No changes.
Singapore/Malaysia	Rain shelters for motorcyclists.	Agreed. Further information to be sought from Singapore and Malaysia.	No changes.	This will be incorporated into texts.
Nepal	Need for glossary.	Agreed.	This will be incorporated.	This will be incorporated.
Bangladesh	Need for community participation.	Agreed.	This will be incorporated.	Minor additions.

3. Comments received from China

(inclusive of items raised during meeting at UNESCAP on 30 and 31 August 2017)

Source	Comments	Response	Action	
			Design Standard	Design Guidelines
China	Consideration should be given to differences of countries and regional circumstances	Agreed. Consideration has been given. Further review will be conducted for adequacy.	The contents will be reviewed and appended if necessary.	The contents will be reviewed and appended if necessary.
China	Rumble strips may have problems of ice formation.	Agreed to add this consideration. Rumble strips also include audio-tactile line markings which do not have this problem. This point will be clarified.	Updating will be incorporated.	Updating will be incorporated.
China	Selection of safety barrier types should include vehicle fleets in different countries. This should address weight, technical parameters and international cross-border traffic.	Agreed to further incorporate these considerations.	Updating will be incorporated.	Updating will be incorporated.
China	Retain only MASH and append standard of China for vehicle restraint systems.	The design guidelines will specify the use of MASH. However, existing provisions and provisions already tested to NCHRP 350 may continue to be used. Considerations and advantages of Chinese standards will be suitably incorporated.	These standards are not quoted. No change will be necessary.	Updating will be incorporated.
China	The values of roadside clear zone (e.g. 5-10m as specified in the design standard) and median clear zone (e.g. 15m as specified) should be unified, and should be determined by member countries according to design speed, traffic volume and horizontal curve radii.	The width of median clear zones is given in Diagram 4.3.3.1 of the design guidelines. A wider median clear zone is specified due to the harm of crossover head-on collisions. The precise width of clear zone will not be specified in the design standards but will be given in the design guidelines.	The contents will be reviewed and updated if necessary.	The contents will be reviewed and updated if necessary.
China	It is recommended to	Agreed. This is in line	The contents will be	The contents will be

	provide segregation facilities if median clear zones on non-access-controlled Class I roads do not satisfy requirements. Median safety barriers may be provided according to needs.	with the document.	reviewed and updated if necessary.	reviewed and updated if necessary.
China	Appropriate wording for various degree of requirements should be adopted in the standards.	Agreed to further clarify the wording. In principle the standards will only have "shall"(mandatory), "should"(recommendations unless there is a strong reason not to follow) and "may"(optional). "Must" is not used. Additionally. Wording in the form of "desirably" or "preferably" is also used.	1.Explanation of wording will be incorporated. 2.The use of different wording will be reviewed and updated if necessary.	The use of different wording will be reviewed and updated if necessary. This document is a guideline and the word "shall" will not be adopted.
China	Sag curve within horizontal curve should not be avoided as this accords with the principle for alignment design.	This will be reviewed.	This is not quoted. No change will be necessary.	This will be reviewed.