CAREC “ROAD SAFETY ENGINEERING” ONLINE WORKSHOP

HOMEWORK (2) - ROAD SAFETY AUDIT

A road safety audit is an examination of a future road project by an independent, experienced team of auditors, that leads to a road safety audit report. An audit focusses on road safety issues only. It is not critical of any part of a design except where safety may be compromised, nor is it an opportunity to be critical of the designer. The audit team should try to imagine the finished road through the eyes of the future road users.

A set of drawings for a major highway duplication and rehabilitation project is attached. Approval has been given by the Bank to use this large and interesting project as a learning experience. You are to undertake a detailed design stage road safety audit of a small section of the project.

A few photographs of the *existing route* are attached. They are your “site inspection” and they show the general alignment of the route, the abutting development, and some of the road users. Only. Please be clear – you are *not* commenting on the safety of the existing highway, you are auditing the design drawings for the proposed new duplicated highway.

You are undertaking a detailed design stage audit.

1. examine 5-6 of the design drawings. There are many, as this is a large project. But your time is limited so its best to focus on a small number of drawings and comment on the safety issues you find in those.
2. use any audit checklists (from your own national RSA manual, the African Development Bank RSA manual or the CAREC RSA manual) to assist you.
3. Write a short, sharp, accurate 1–2-page road safety audit report with a clear recommendation for each safety concern you find.

Please upload your audit report (in English if possible) by 5pm tomorrow Turkmenistan time.

Feedback will be given at the beginning of Module 6 on Thursday 28th April; all reports will be assessed, and results sent to participants as soon as possible, and within a few days of the end of the workshop.

**SOME PROJECT DETAILS**

The project involves the duplication/rehabilitation of 33km of CAREC highway through flat and undulating terrain. Driving is on the right side of the road. The existing highway carriers about 20,000 vpd (AADT) of which about 4,000 are trucks and buses. Speeds in towns are about 60-70kmh and in the rural areas about 90-100kmh.

Traffic lanes = 3.5m wide

Inner shoulder = 0.5m

Outer shoulder – 3.2m (1.5m paved, 1.7 unpaved)

Design speed = 120kmh (80kmh in hill sections)

The project includes:

* Duplication of the highway along the existing alignment (2 lanes per carriageway).
* Rehabilitation of the old highway as the new northbound carriageway.
* Rehabilitation of the old Tubek interchange near Km 10.5.
* Various other road safety enhancements.
* New culverts/ several bridges to be replaced/duplicated.
* A new pedestrian overpass in the village of Ovi Shivu (near Km 6+500).

The project begins at the edge of the capital city and continues through mostly rural land until Km 33. In that length it passes through one village (Ovi Shivu near Km 6.5).

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*There is a pedestrian overpass proposed in Ovi Shivu to serve a school on the eastern side of the highway. As an auditor, ask if it will offer a safe and efficient service to the pedestrians of the village. Think of the disabled, or those with loads. It will have 32 steps up and 32 steps down. It is located to serve school children. If you believe there will be safety issues, what can you recommend that will be safer?*

You have limited time for this homework. There are too many drawings to look at all of them in the detail needed. It is not possible to inspect the route – the photos will help but remember that you are not “auditing” these photos!

* This is a detailed design stage audit.
* Work with a colleague if you have one nearby – two pairs of eyes are better than one! But no problems if you work on your own.
* I prefer that you report accurately and clearly 3, 4 or 5 road safety concerns rather than listing a dozen or more safety issues in unclear ways.
* State where the issue is located (drawing number, or Km), what it is, and why you believe it is a safety concern.
* Give it a risk – high, medium, low.
* Give a clear recommendation for the designer/Project Manager to consider.
* *DO NOT* make comments about the existing highway. Audit the drawings only!

There are no right or wrong answers. Remember – you are a problem finder. Focus on that.

Make any assumptions you need, and state these in your report.

**Phillip Jordan**

**April 2022**

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| IMG_4671 | IMG_4682 |
| IMG_4704 | IMG_4721 |
| IMG_4724 | IMG_4736 |
| IMG_4742 | IMG_4771 |

PHOTOGRAPHS OF THE EXISTING ROUTE. THESE GIVE AN IDEA OF THE EXISTING ALIGNMENT

AND TOPOGRAPHY – ONLY!