

## **Paybar Ali Shawnim**

Article written in support of membership upgrading .

Sept. ۲۰۱۱

# **Roads and Traffic Management in Sulaymany and its Suburban Areas**

**( A Critical review on Geometric Design of the Roads & their associated components including Visible Road Markings and Traffic Signs & Signals )**

This is part of my bigger on going research on the above topic , a research with a critical eye to find out weak points , with proper recommendations so far as I reached, to bring them up to the attention of the related authorities to modify for Public and General benefits .

**Topics covered in this issue are :**

- **Peshraw Tunnel**
- **Road Super Elevation**
- **Emergency Vehicles & Cycling pathways**
- **Passageway across the main road to Rapareen area**

**Peshraw Tunnel : ( See photos at the end )**  
**( The Tunnel running through Azmir Mountain )**

Today, Having such a Long Tunnel in our mountainous regional area is appreciated, and seen as the State of Art Engineering Construction in view of the state of the rest of our existing Roads .

It is certainly the best achievement so far from the point of view of Regional Transportation Engineering, and thanks for the Department of Transportation for their good work .

But , from the Modern Tunnel Engineering point of view, it has got some deficiencies in the original design and in different other areas of some scale mentioned below ;

This tunnel is an Un Safe tunnel may lead to lots of troubles at any moment in the future ( the followings are some of the most important critical points ) ;

- Lack of Ventilation ( Fume & Exhaust Gases remains un cleared through the tunnel all the time while it is in moderate frequent use )
- Lack of means of Fire protection in case of Fire Out breaks .
- Lack of the means of any sort of Human Protection in case of any kind of Emergencies people driving through could face .
- Lack of proper Inside Lightning , only a few inappropriate naked bulbs are installed in a very Unprofessional manner scattered at the beginning and at some other places .

- Lack of Water Drainage , Danger of Water Seepage ( Water Leakage ) , water discharges through most of the joints of the lining concrete sections underlining the tunnel , now a days water can be seen flowing in little amounts on the ground all over through the tunnel .
- Lack of Pedestrian side walkways for Break down and Emergencies . and finally ,
- No proper Signs and Signals put as to driving guidance in advance , on entry /or inside the tunnel .

### **Recommendations ;**

Apart of Ventilation , Human Protection and Pedestrian Side walk ways , The rest of the points mentioned above can be embarked upon through simple installation works of which the Transportation Engineering Section is familiar with and can do .

As for those other points, e.g. Human Protection , The current Tunnel should have had another walk way tunnel constructed side by side parallel to the existing tunnel , used for many purposes such as for maintaining the current tunnel and for life saving ( Human Protection ) in case of emergencies such as fire out break or any sort of break down on the road . In deed , this means the construction of a new tunnel , tunneling works of a smaller scale than the current one , which needs new design and finance to get it done .

Ventilation problem can be sorted out in the way I have planned for within my research plans for rework ( a copy of which can be obtained by the related authority from my e-mail address mentioned at the end of this article ) .

### **Road Super Elevation :**

Roads leading through suburbs and to other towns which are mostly speedy roads in our mountainous region must comply with the Super Elevation requirements in their design on bends , which is worked out from a simple engineering procedure , See figure ( 1 ) , for this purpose , Road Designers can follow AASHTO Standard Code , but in fact they seem they did not, or otherwise , the implementing team failed to comply with . As examples ; the roads leading to Dokan , Koya , and to Hiran and Shaqlawa . ( More details can be obtained on request from my e-mail address given at the end of this article ) .

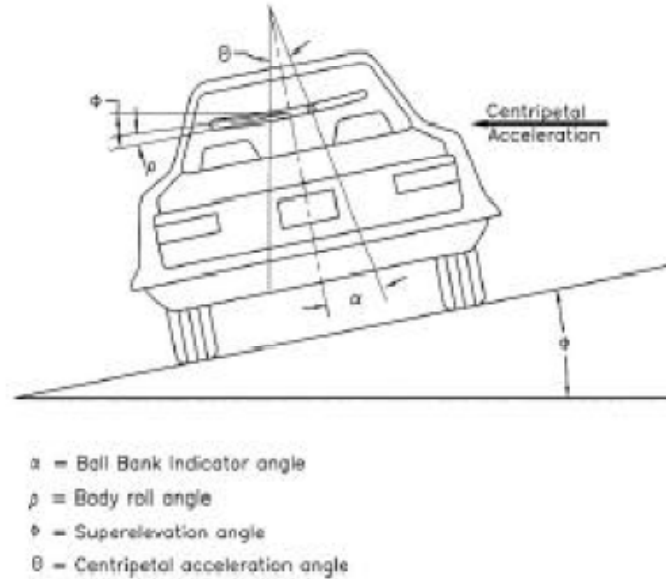


Figure ( 1 )

**Emergency Vehicles & Cycling pathways :**  
**( Roads visible Marking to use for this purpose )**

Divide up roads in to two lanes , 1<sup>st</sup> of which to be marked for Emergency Vehicles and Public Bus lane which in turn may be sub-divided into narrower Green colored lane for use by Cyclists & Motor Bike riders , and the 2<sup>nd</sup> for general use by vehicles in general . See figure ( 2, 3 & 4 ) . These types of marking have not been seen so far in our region and to set an example , The Emergency Hospital is situated within a set of very narrow roads all around in a crowded market area behind the Civil Court Building , Emergency Vehicles getting in and out of the place, should get through slow traffic of inappropriate roads having no design considerations for such cases .

Having the main roads divided up into two lanes , marked accordingly to distinguish between the Emergency Lane and the other, will help easing up on such cases as for the Hospital / or other E. Vehicles of say Police or Fire Extinguishing Brigades , equally, Cyclists and Bike riders can safely use it all the time .



**Plate 9.1** Cycle advance at traffic signals.

**Figure ( ۲ )**



**Plate 8.3** Off road cycle lane.

**Figure ( ۳ )**

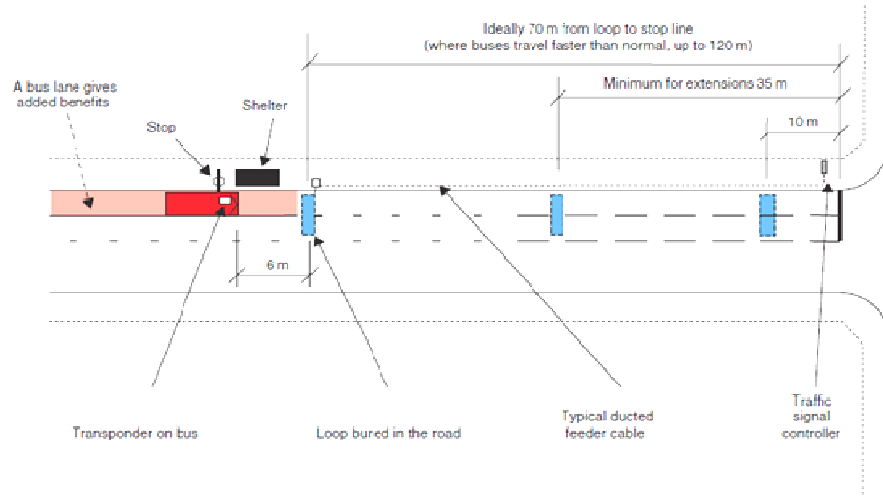


Fig. 9.6 Bus loop detector siting.

Figure ( 4 )

**Passageway across the main road to Rapareen area :**

**( A Cross over is needed on the road passing through the new University Buildings & Installations on the Main Road leading to Rapareen area ) .**

Through my research , according to the topography of the land which is a Hill Side , I suggest the construction of an Underground Pathway ( Walking Under pass ) of a clear width of not less than ( 10 ) meter to run across, properly divided up and marked with related signs for the use by Pedestrians as well as by Cyclists in both directions .

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**Back face ( Seetak area )**

**Front face**

**Photos ( ١ & ٢ ) , Peshraw Tunnel**

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