

# Use of Under Pedestrian Tunnel More Benefitable Than Over Pedestrian Bridge

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**Abstract**— The concept of this paper briefs about how the under pedestrian tunnel is more suitable and benefit compared to the over pedestrian bridges built nowadays. The under pedestrian tunnel shown in the paper is of the highway where more pedestrians and moving vehicles exist. The under pedestrian tunnel is mainly built for the pedestrians safety as well as for giving them convenient relaxation to reach their destinations. This is the most suitable and conceptual thinking of a perfect civil engineer when the factor of area is more concerned. With the use of this under pedestrian tunnel the pedestrian can travel to larger distances with less efforts. The pedestrian can easily save time while using this pedestrian tunnel to reach the desired destination as compared to over pedestrian bridges.

**Key words:** Under Pedestrian Tunnel, Over Pedestrian Bridge, Relaxation, Factor of Area

## I. INTRODUCTION

The under pedestrian tunnels are sometimes appropriate to improve street or route connectivity or under roadways. Out of the above mentioned tunnels the most appropriate route is the under pedestrian tunnel. The under pedestrian tunnel is most suitable because it gives complete safety in the following scenarios:

- When the children has to cross the busy roads.
- Pedestrians getting late on routine works.
- Elder pedestrians to reach their destinations.
- Handicapped pedestrians to pass through busy roads.



Fig. 1: Under Pedestrian Tunnel

## II. DESIGN METHODOLOGY

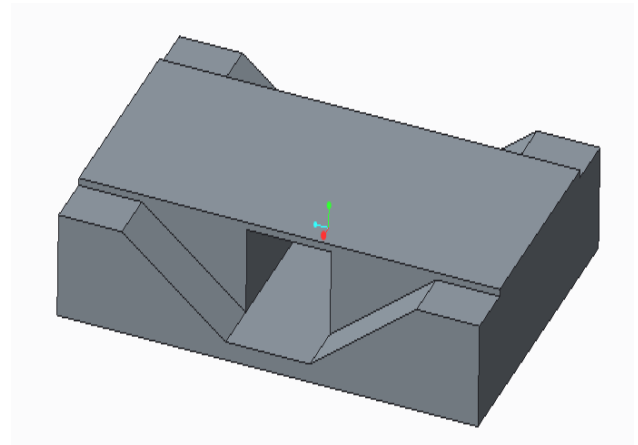


Fig. 2: Design Of Under Pedestrian Tunnel

The design of under pedestrian tunnel is done in CREO-PARAMETRIC 2.0. The upper flat portion is the highway and beneath is the under pedestrian tunnel which has its entrance nearby the highway. The design is done as simple to be understandable by every individual.

### A. Material Selection

The material to build this under pedestrian tunnel is selected as RCC which is commonly called as concrete.

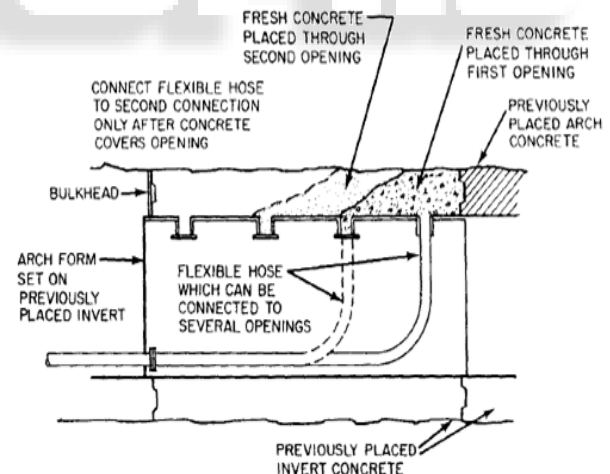


Fig. 3: Tunnel Lining Method By Using Concrete Material

### B. Type of Tunnel Developed:

The tunnel developed is of rectangular shaped. It is usually adopted by the cut and cover method. It is particularly suitable for pedestrians to reach conveniently at desired destinations.

### C. Use of under Pedestrian Tunnel:

Mostly this tunnel is used by the elder pedestrians, school children and handicapped pedestrians for the purpose of their safety and comfort against the heavy traffics on busy highways and to ensure them to prevent against accidents.

III. COMPARISON BETWEEN OVER AND UNDER PEDESTRIAN TUNNEL

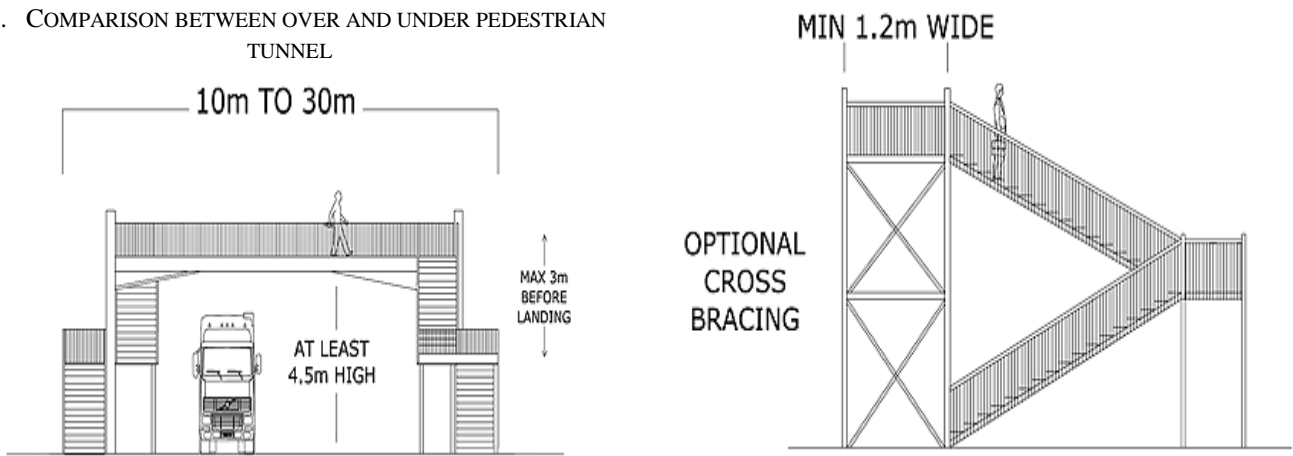


Fig. 4: Pictorial View Of Over Pedestrian Tunnel

Precast concrete box culvert, 12' wide, 8' clear height, 8" thick reinforced concrete

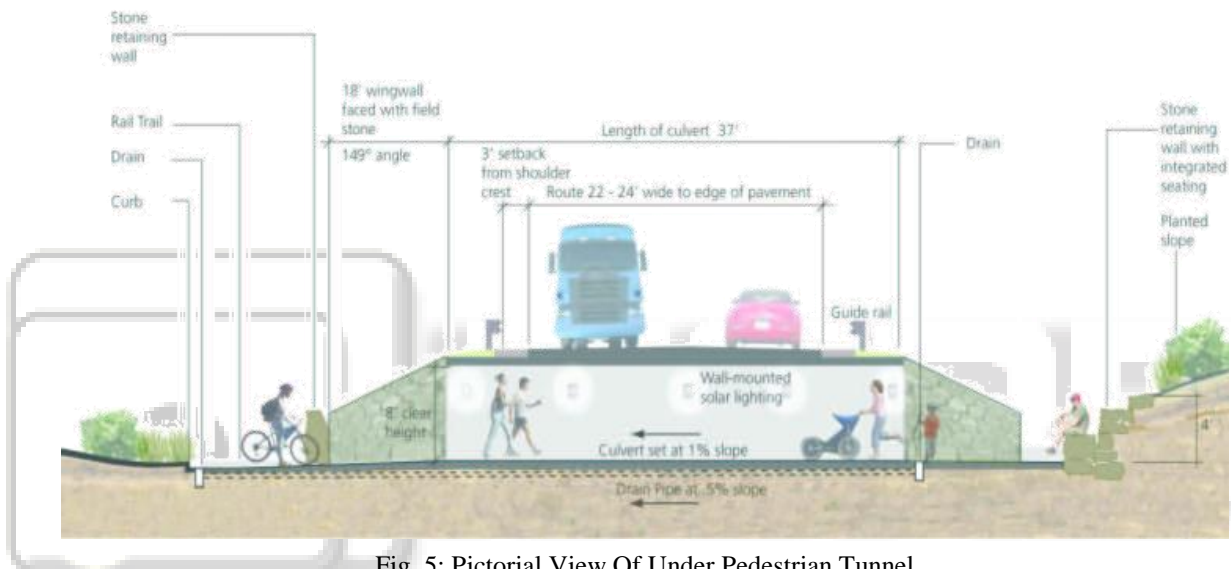


Fig. 5: Pictorial View Of Under Pedestrian Tunnel

SR. NO.	OVER PEDESTRIAN TUNNEL	UNDER PEDESTRIAN TUNNEL
1.	Pedestrians have to travel longer distances when passing over pedestrian tunnel.	Pedestrian have to travel shorter distances when passing under pedestrian tunnel.
2.	More energy is needed by the pedestrians.	Less energy is needed by the pedestrians.
3.	Time duration is longer for the pedestrians while they move over pedestrian tunnel.	Time duration is shorter for the pedestrians while they move over under pedestrian tunnel.

Fig. 6: Comparison Table Showing Under Pedestrian Tunnel Benefits Than Over Pedestrian Tunnel.

IV. CONCLUSION

Finally after lots of surveying and studies it has been concluded that under pedestrian tunnel gives more benefit than over pedestrian tunnel in several cases such as reducing the stress of pedestrians, non-time consuming, decrease in area build up, giving better relaxation and comfort to reach their desired destination safely.

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