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Q.1

ANSWER: COMPARISON BTW RAILWAY AND HIGHWAY

RAILWAY:-

-> Railway comprises of parallel rails and can be moves by a wheeled vehicle e.g trains.

-> Railway transport is useful for moving people and materials by train from one location to another.

-> Railways provide quicker operation relative to highways.

-> Approximately 1/4 to 1/5 of the energy required to pull the device over the distance of the device from the ground.

-> It takes a large deal of money to develop it.

-> It is better than road (highway)(minimum level of deliberately treated crash).

HIGHWAY:-

->Highway is a multi-speed path which links large population centers.

->It often full operation (offers door to door operation) and relies on it for other types.

->Donot has much better operation than railroads.

->Motor vehicle prices are lower than freight train rates.

->It needs a limited amount of expenditure relative to railway for its building.

->As it allows complete stability in the case of a high degree of injuries.

Q.2

ANSWER:-

The first step of planning a modern highway is the analysis of offices. It is a summary of all available data on the proposed highway location. By taking assistance from different outlets, such as surveys, table, photos etc.

PRELIMINARY ANALYSIS OF DATA:-

->This phase is typically achieved by utilizing several data sources such as small research ventures and other secondary sources.

->The data collected tends to determine whether or not we can remove some specific location for further thought.

->Following the preliminary study, data was obtained with region characteristics.

ENGINEERING INCLUDES:- -> Local topography.

->Field geology.

->Climate and amount of local traffic.

SOCIAL AND DEMOGRAPHIC INCLUDES:-

->Land usage and design zoning.

ENVIRONMENTAL INCLUDES:-

->There is type of wildlife.

->Position of ancient, archeological locations.

->Possible pollutiong results(noise, air, water).

ECONOMIC INCLUDES:-

->Building expenses and development unit farming manufacturing operation.

After evaluating all of the above results, a transport engineer will be able to determine the general region of the field being proposed.

After the creation of a preliminary position survey in which future evaluation are made.

ECONOMIC ASSESSMENT:- This calculation is carried out for each alternate path in order to assess the potential future

consequences of using the capital during the construction phase.

Take into construction following considerations during the assessment.

->The loss to road users.

->Construction prices.

->Cost on repairs.

->Benefits for roads and dis-benefits.

ENVIRONMENTAL ASSESSMENT:- It assessment is performed to assess the major impact of development on the climate..

The factors that adversely affect the existence of living and non-living species add.

->Were seriously damaged species.

->Foresting.

->Noise, air, water contamination cause headaches and other issues for peoples of the area.

Q.3:-

ANSWER:-

A car driving on a highway often speeds up and decelerates based on the amount of traffic on the path. And these two criteria (acceleration and deceleration) are always important in deciding road construction.

->In order to handle various styles of vehicle (heavy traffic and low traffic) on the route, vehicle efficiency in the configuration of the roads under review.

Other levels which also control design factor are:-

->Route rate impact (stop rating for truck climbing etc).

->Highway alignment (sufficient stopovers and lengths of sight).

->Express bridges.

->Effects of horizontal curvature.

->Timing at labeled.

->Effect of traction on pavement.

->Effect of the degree of tractive force on energy dissipation in tyres and axles.

->Routes for acceleration and deceleration etc.

Q.4

ANSWER:-

Directional distribution is the prevailing amount of one way traffic represented as a proportion of double way traffic.

->This is often known as the D component which is an significant traffic metric commonly used to plan which assess the operating effiency of a highway.

->It accounts for directional traffic allocation and often used to transform routine traffic to directional peak hour factor.

->In the planning phase of two or more than two lane highways where major intersections are identified or more lanes are to be established in the future, it is also necessary to have aadequate awareness of the amount of hourly traffic in either direction.

->Ocassionally 80% of all traffic is detected but usually one route contributes 55-70 % to the number.

For Example:- To find a rural road with a traffic volume of 4000 vehicles an hour (vph) for both travel direction combined.

->If the spatial allocation is divided evenly or 20000 vph in one direction during the design hour, two lanes in each direction could be adequate.

->If 80% of the DHV in one direction , it will require at least three lanes in either direction for 3200 vph.

Q.5

ANSWER:-

BROAD CLASSIFICATION OF SURFACE DISTRESS MODES:-

Surface distress mode can be broken down into three classes.

1. Fracture.

2. Distress.

3. Disintegration

=>FRACTURE:- This may be cracking(flexible and rigid pavement) arising from issues like prolonged heating, fatigue or contraction etc.

=>DISTORTION:- This is the type of deformation (e.g rutting, corrugation and shoring) that may occur from issues such as premature packing, creeping , swelling or frosting..

=>DISINTEGRATION:- This is the type of scraping ,raveling or spreading that may occur from issues such as lake of cohesion, chemical reactivity , weak binding aging of the binder.

THE REASON FOR DISINTEGRATION:-

->Less for bending of flooring substance.

->Traffic abrasion.

->Aggregate deterioration.

->Chemical reactivity.

Q.6:-

ANSWER

CRACKING ALLOGATOR:-

->Cracking is callef allogator because of the overlapping fractures that mimic the shell of an alligator.

->A micture of the exhaustion and block cracking is known.

->The explanations for breaking the alligator are

=>Load related decay due to poor subgrade.

=>Too poor amount of paving.

=>Frequent charges to the flow.

CRACKING BLOCKS:-

->This is a collection of wide rectangular blocks (usually one foot or more) that occur in a pavement of asphalt.

->This form of cracking typically happens when traffic is not present.

->Because of block splitting asphalts paving is diminishing owing to temperature cycles.

CRACKING LONGITUDINALS:- ->This form of cracking occurs parallel to the asphalt paving centerline.

->Temporal cracking factors are:-

=>Discreased joints.

=>Paver servce ineffective.

=>Expansion and contraction of the aggregate for the paving.

Those cracks are not connected to load.

TRAVERSE CRACKING:- This form of cracking happens perpendicular to the asphalt pavements centerline.

->Traverse cracking triggers are:

=>Shrinkage of a sheet of asphalt or appearance of an current crack.

=>settlement poorly bordered by road.

=>Discreased joints.

Such cracks are not connected to load.