

G. P. JAMNAGAR CIVIL ENGG. DEPARTMENT NEWSLETTER

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Traffic Engineering - Traffic Volume Survey Conducted by 6th Semester Students

A "Traffic Volume Survey" is a method used to measure the quantity of vehicles passing a specific point on a road during a set period of time, essentially determining the volume of traffic at that location, which is typically used for transportation planning and design by analyzing traffic patterns and trends to inform infrastructure improvements. The 6th-semester students of the Civil Engineering Department successfully conducted a Traffic Volume Survey at various locations in Jamnagar City, particularly near the Sat-Rasta Circle. This survey aimed to analyze traffic patterns,



Key points about traffic volume surveys:

- What it measures:
- The number of vehicles passing a point on a road per unit time, usually expressed as vehicles per hour.
- Purpose:
- To understand traffic patterns, identify areas with high traffic volumes, and inform decisions about road expansions, traffic signal timing, and other transportation projects.
- Data collection methods:
- Manual counting by observers, automated traffic counting devices (like loop detectors or video cameras).
- Important metrics:
 - Average Daily Traffic (ADT): The average number of vehicles passing a point on a road over a 24hour period, calculated over a set timeframe.
 - Peak Hour Volume (PHV): The highest number of vehicles observed during a single hour.

Civil Engineering Department successfully conducted a Traffic Volume Survey at various locations in Jamnagar City, particularly near the Sat-Rasta Circle. This survey aimed to analyze traffic patterns, vehicle classification, and peak hour congestion levels. The students applied their theoretical knowledge practical scenarios, gaining to hands-on experience in collecting and analyzing real-time traffic data. The findings from this survey will contribute to better traffic management and urban planning strategies.



Traffic Engineering Origin & Destination Survey

In addition to the volume survey, students also conducted a Traffic Engineering Origin & Destination (O&D) Survey at multiple locations across Jamnagar City. The primary objective of this survey was to determine travel patterns, trip generation, and the movement of vehicles and commuters between different zones. The collected data will help in improving road network efficiency, reducing congestion, and planning future infrastructure developments.



"traffic studies origin А & destination survey" is a method used to collect data on where people start their journeys (origin) and where they end them (destination), providing insights into traffic patterns within a specific area, which helps planners understand travel trends design effective and transportation solutions.



Key points about origin-destination surveys:

- Purpose:
- To identify the movement of vehicles across a road network, showing where most traffic originates and terminates, and how frequently these routes are used.
- Data collection methods:
- Can involve roadside interviews, where surveyors ask drivers about their starting point and destination, or using technology like automatic number plate recognition (ANPR) to track vehicle movements.
- Analysis:
- The collected data is analyzed to create "desire lines" visual representations of traffic flows between different zones, highlighting major travel corridors.

Applications of origin-destination surveys:

- Transportation planning:
- Identifying areas with high traffic congestion, planning new roads or public transport routes, and assessing the impact of infrastructure changes.
- Urban development:
- Understanding commuting patterns to inform land use planning and development decisions.
- Traffic management:
- Implementing traffic signal optimization strategies based on traffic flow patterns.

Technical Visit to Waste Water Treatment Plant, Gandhinagar

A technical visit was organized for students to the Waste Water Treatment Plant near Gandhinagar under the Jamnagar Municipal Corporation. The visit provided an in-depth understanding of wastewater treatment processes, including primary, secondary, and tertiary treatments. Students observed real-time operations such as sedimentation, aeration, filtration, and sludge management. This visit enhanced their knowledge of environmental engineering and sustainable wastewater management practices.

A sewage treatment plant (STP) is a facility that treats wastewater from residential, commercial, and industrial sources. It removes pollutants and contaminants from the wastewater, making it safe for human use and the environment.

How does a sewage treatment plant work?

- The STP uses a series of physical, biological, and chemical processes to treat wastewater.
- Microorganisms break down organic matter and remove pollutants.
- The STP retains solids and discharges treated water, called effluent, back to the environment.

Types of sewage treatment plants

- Rotating Biological Contacter: Microorganisms on rotating discs break down organic matter.
- Activated Sludge Process: Settled wastewater is aerated in an aeration tank to stabilize organic matter.
- Sequential Batch Reactor: Oxygen is bubbled through a mixture of sewage and activated sludge to reduce organic matter.

Benefits of sewage treatment plants

- STPs protect public health and the environment.
- STPs promote environmental conservation and water reuse.
- STPs ensure clean and safe water resources for present and future generations.









The RTO in Jamnagar, Gujarat organized a road safety awareness program on Tuesday, January 7, 2025. The event was part of the National Road Safety Month, which runs from January 1 to January 31.

Objective:

The purpose of the event was to raise awareness about road safety and encourage people to follow traffic rules. The event also aimed to unite citizens, youths, and other stakeholders.



General Traffic Awareness Tips by RTO, India

To promote road safety among students, the Regional Transport Office (RTO), India shared important traffic awareness tips, including:

- Always wear a helmet while riding a two-wheeler.
- Follow traffic signals and road signs strictly.
- Avoid using mobile phones while driving.
- Always use seat belts in four-wheelers.
- Follow speed limits and maintain safe distances from other vehicles.
- Avoid driving under the influence of alcohol or drugs.
- Use pedestrian crossings and footpaths wherever available.
- Be aware of blind spots and always check mirrors while changing lanes.

