



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP to SAVITRI INDANE GRAMIN VITRAK

Objective of the JRM Report

This JRM report is designed to ensure compliance with the Central Motor Vehicle Rules, 1989 (CMVR), AIS 140 standards, and the Road Transport Safety Policy (RTSP). It provides a comprehensive risk assessment for the transportation of hazardous materials along specified routes. By integrating these legal frameworks, the report offers a broad strategy for identifying and mitigating route-specific risks.

Regulatory Compliance

The report complies with the Central Motor Vehicles (Eleventh Amendment) Rules, 2022, mandating safe transportation practices for N2 and N3 category vehicles carrying hazardous materials. These rules require detailed route assessments, especially regarding road conditions, speed limits, and risk areas, to ensure safety compliance.

Risk Management Strategy

This report categorizes transportation routes into high-risk and medium-risk areas, with a focus on factors such as sharp turns, accident-prone regions, and elevation changes. The goal is to provide actionable

recommendations to minimize these risks, including speed regulations, driver warnings for hazardous zones, and the option of alternate routes.

Compliance with the Road Transport Safety Policy (RTSP)

The report integrates RTSP provisions, including mandatory driving hours, rest periods, and nighttime driving restrictions. It ensures that drivers follow official guidelines, such as taking prescribed rest breaks and avoiding dangerous road conditions like poor visibility, heavy crowds, or high-traffic areas during peak hours.

Emergency Preparedness and Response

The report highlights the significance of predetermined emergency stops for refueling, rest, and overnight stays. It includes protocols for safe responses to road hazards, alternative routes, and rerouting processes if roads are closed or severe weather arises. This aligns with the RTSP emphasis on driver safety and rapid emergency response.

Environmental Considerations

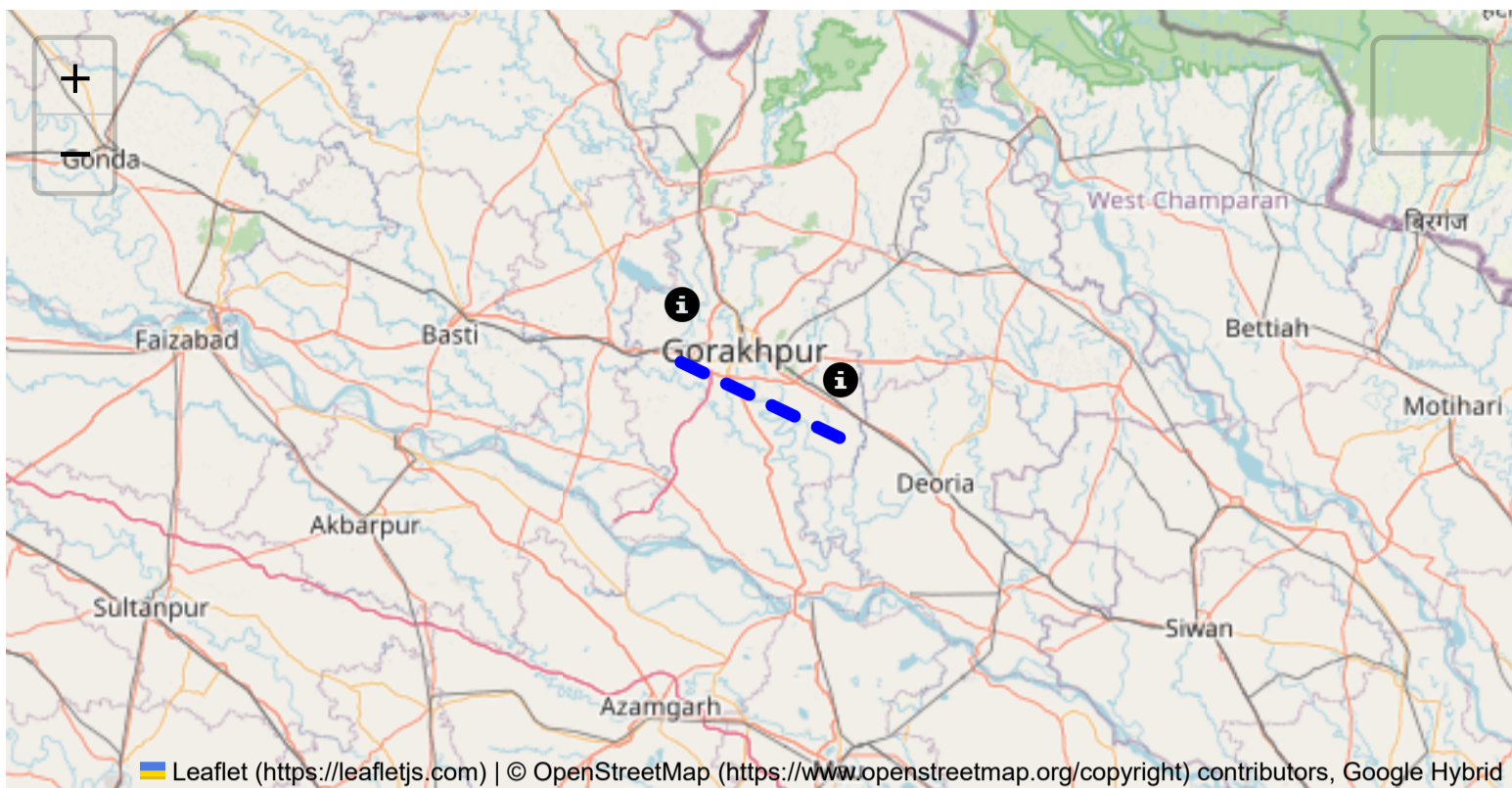
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental impacts during transport.

Journey Risk Mitigation

The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety norms.

Compliance with Government Directives

This report fully adheres to governmental directives regarding hazardous material transportation, implementing mandatory speed limits, nighttime driving restrictions, and comprehensive driver briefings and real-time alerts about route-related risks.



Route Summary:
Total Distance: 52.38 km
Estimated Duration: 1.2 hours
Adjusted Duration (Heavy Vehicle): 1.5 hours
Start: (26.735959, 83.229398)
End: (26.58969, 83.571424)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route from GIDA Industrial Area Phase 1, Sahjanwa to Jungle Rasoolpur No.2 covers approximately 52.38 kilometers. The journey traverses state highways and local roads in Uttar Pradesh, potentially passing through Gorakhpur city, depending on the chosen path.

2. Typical Weather Conditions and Potential Weather-Related Hazards

Uttar Pradesh experiences a wide range of weather conditions. Summers (April to June) can be extremely hot, with temperatures exceeding 40°C. Monsoons (July to September) bring heavy rainfall, which can cause flooding and waterlogging, affecting road conditions. Winters (December to February) are mild but can witness fog, reducing visibility.

3. Analysis of Traffic Patterns

- **Peak Hours:** Morning (8:00 AM - 10:00 AM) and evening (5:00 PM - 7:00 PM) see increased traffic, particularly around Gorakhpur.
- **Congestion-Prone Areas:** Urban areas like Gorakhpur can be congested, especially around market areas and near major intersections.

4. Assessment of Road Quality and Infrastructure

- **Road Quality:** Generally mixed, with well-maintained highways but potentially poor local road conditions.
- **Infrastructure:** Adequate signage on highways, but local roads may lack detailed signage and proper lighting.

5. Suggestions for Alternative Routes for Emergencies

During emergencies, consider bypassing Gorakhpur by using the wider roads and state highways surrounding the city. Ensure availability of current maps to navigate local roads if necessary.

6. Summary of Local Regulations Affecting Hazardous Material Transport

- Proper permits and clearances are essential.
- Time restrictions may apply, especially within city limits.
- Specific regulations regarding the type and nature of hazardous materials must be adhered to, including safety labeling and containment.

7. Overview of Historical Incidents

- **Accidents:** Instances of heavy vehicle accidents often occur due to overloading and driver fatigue.
- **Hazardous Material Incidents:** Limited documented incidents, but spills may occur due to poor road conditions or vehicular failure.

8. Environmental Considerations and Sensitive Areas

- Proximity to agricultural land requires vigilance to prevent contamination.

- Sensitive areas include urban settlements and water bodies; caution is advised to avoid spills and pollution.

9. Analysis of Communication Coverage

- **Coverage:** Major networks provide good coverage in urban areas and along highways, but there may be dead zones in rural areas or under bridges.
- **Suggested Solutions:** Equip vehicles with alternative communication devices, such as satellite phones or emergency communication tools.

10. Estimated Emergency Response Times

Urban areas like Gorakhpur have quicker emergency response times (approximately 30 minutes), while rural segments may face delays, potentially extending to over an hour.

11. An Overall Summary of Risk Assessment

The route presents moderate risks, mainly due to variable road conditions and potential weather hazards. Ensuring vehicle maintenance, adherence to regulations for hazardous materials, and readiness for communication and mechanical assistance is essential. Congestion in urban areas and adverse weather conditions can exacerbate risks, emphasizing the importance of route planning and timing. Environmental and safety protocols must be strictly followed, particularly in sensitive areas.

Risk Assessment - Turns

| | Risk Type | Risk Level | Coordinates | Speed Limit | Distance from Start |
|----|------------|------------|--------------------|-------------|---------------------|
| 2 | Turn | High | 26.73690, 83.22947 | 15 KM/Hr | 0.05 km |
| 3 | Turn | High | 26.73697, 83.22939 | 15 KM/Hr | 0.11 km |
| 4 | Turn | High | 26.73746, 83.22938 | 15 KM/Hr | 0.15 km |
| 5 | Blind Spot | Blind Spot | 26.73791, 83.22625 | 10 KM/Hr | 0.48 km |
| 6 | Turn | Medium | 26.74524, 83.22746 | 30 KM/Hr | 1.30 km |
| 7 | Turn | Medium | 26.74532, 83.22740 | 30 KM/Hr | 1.32 km |
| 8 | Turn | High | 26.74654, 83.22390 | 15 KM/Hr | 1.65 km |
| 9 | Blind Spot | Blind Spot | 26.75126, 83.22476 | 10 KM/Hr | 2.17 km |
| 10 | Blind Spot | Blind Spot | 26.75353, 83.20457 | 10 KM/Hr | 4.23 km |
| 11 | Turn | High | 26.75381, 83.20466 | 15 KM/Hr | 4.30 km |
| 0 | Roundabout | High | 26.74681, 83.25111 | 15 KM/Hr | 8.97 km |
| 12 | Turn | Medium | 26.74656, 83.25154 | 30 KM/Hr | 9.05 km |

| | Risk Type | Risk Level | Coordinates | Speed Limit | Distance from Start |
|----|------------|------------|-----------------------|-------------|---------------------|
| 13 | Turn | Medium | 26.74644, 83.25150 | 30 KM/Hr | 9.07 km |
| 14 | Turn | Medium | 26.74306, 83.25344 | 30 KM/Hr | 9.49 km |
| 15 | Turn | Medium | 26.74300, 83.25343 | 30 KM/Hr | 9.50 km |
| 16 | Turn | High | 26.69632, 83.47492 | 15 KM/Hr | 33.14 km |
| 17 | Turn | High | 26.69639, 83.47492 | 15 KM/Hr | 33.17 km |
| 18 | Turn | Medium | 26.69835, 83.47489 | 30 KM/Hr | 33.41 km |
| 19 | Blind Spot | Blind Spot | 26.69844, 83.47473 | 10 KM/Hr | 33.44 km |
| 1 | U-Turn | High | 26.698439, 83.4747268 | 10 KM/Hr | 33.44 km |
| 20 | Turn | High | 26.69857, 83.47481 | 15 KM/Hr | 33.45 km |
| 21 | Turn | High | 26.64586, 83.58274 | 15 KM/Hr | 45.70 km |
| 22 | Turn | High | 26.58958, 83.57183 | 15 KM/Hr | 52.17 km |

Emergency Locations

Found: 1 hospital(s)

| | type | name | coordinates | speed_limit | risk_level | Distance from Start |
|---|----------|------------------|------------------------|-------------|------------|---------------------|
| 0 | hospital | Prakash Hospital | 26.6957341, 83.4807387 | 30 km/h | Medium | 34.11 km |

Crowded Spots

Route Photos of Risky Spots



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.17 km

Coordinates: 26.75126, 83.22476



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 4.23 km

Coordinates: 26.75353, 83.20457



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 4.30 km

Coordinates: 26.75381, 83.20466



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.97 km

Coordinates: 26.74681, 83.25111



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.05 km

Coordinates: 26.74656, 83.25154



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.07 km

Coordinates: 26.74644, 83.25150



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.49 km

Coordinates: 26.74306, 83.25344



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.50 km

Coordinates: 26.74300, 83.25343



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.14 km

Coordinates: 26.69632, 83.47492



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.17 km

Coordinates: 26.69639, 83.47492



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 33.41 km

Coordinates: 26.69835, 83.47489



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 33.44 km

Coordinates: 26.69844, 83.47473



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 33.44 km

Coordinates: 26.698439, 83.4747268



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.45 km

Coordinates: 26.69857, 83.47481



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 45.70 km

Coordinates: 26.64586, 83.58274



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 52.17 km

Coordinates: 26.58958, 83.57183

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