



JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO BAIJNATH INDANE GRAM

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

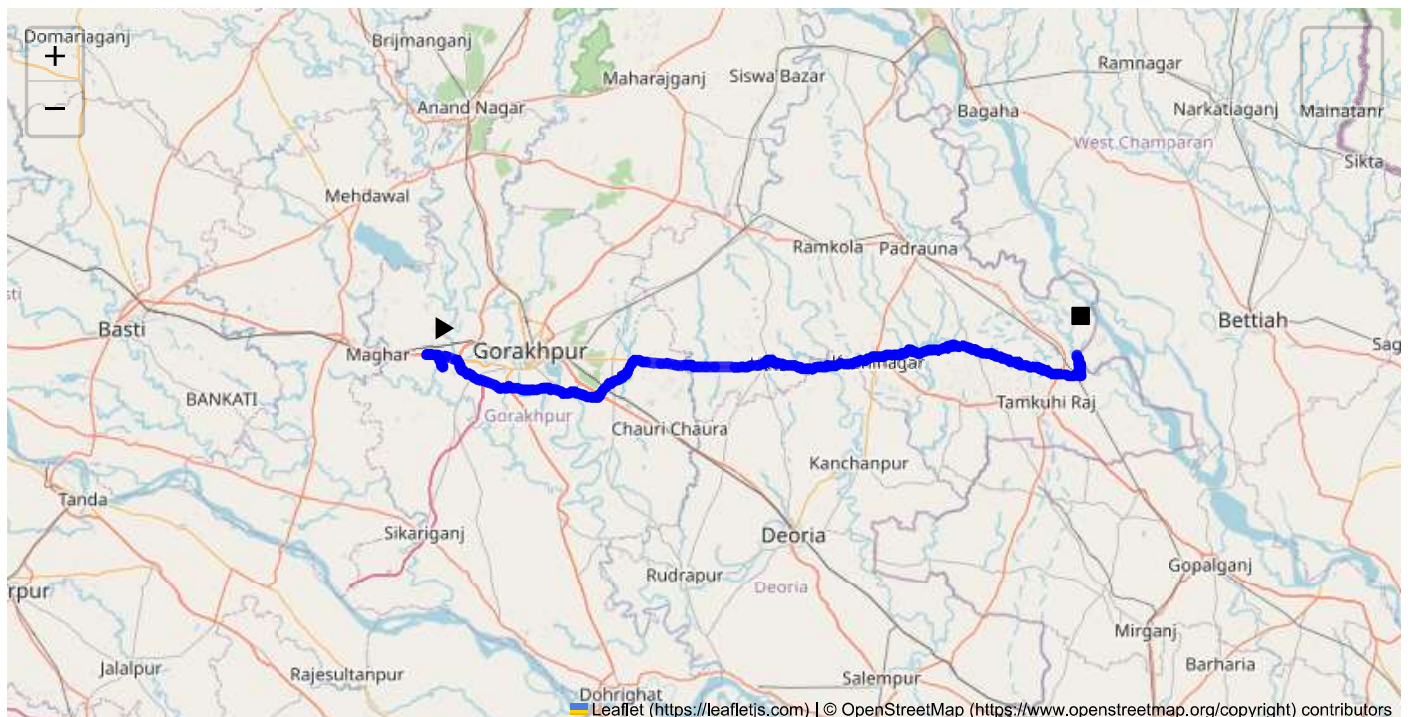
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 117.12 km

Estimated Duration: 2.7 hours

Adjusted Duration (Heavy Vehicle): 3.4 hours

Start: (26.735959, 83.229398)

End: (26.752009, 84.23181)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route stretches approximately 117.12 kilometers from the GIDA Industrial Area in Sahjanwa, Uttar Pradesh to Thakrahan, Bihar, passing through Kasia - Gorakhpur Rd, Kushinagar, and Saphi. The key

highways are NH28 and State Highway (SH) 64, which are often frequented by commercial vehicles due to their connection to industrial hubs and farming regions.

2. Typical Weather Conditions and Potential Weather-Related Hazards

- **Seasons Influence:** The region witnesses monsoon rains from June to September, which can lead to waterlogging and reduced road visibility.
- **Summer Conditions:** High temperatures reaching up to 40°C (104°F) can impact vehicle performance and road surface conditions.
- **Winter Hazards:** Fog is prevalent during winter months, especially from December to February, which can severely obstruct visibility.

3. Analysis of Traffic Patterns

- **Peak Hours:** Morning (7-9 AM) and evening (5-7 PM) hours generally see increased traffic due to local commute and market activity.
- **Congestion Areas:** Notable congestion around urban centers such as Gorakhpur and Kushinagar, where local traffic mixes with through-traffic.

4. Assessment of Road Quality and Infrastructure

- **General Condition:** The major highways are well-paved. However, some segments of SH 64 may have potholes and uneven surfaces.
- **Infrastructure Concerns:** Narrow stretches and occasional lack of signage found, particularly in rural connectors.

5. Suggestions for Alternative Routes for Emergencies

- **Diversion Options:** In case of congestion or roadblocks, using NH28 towards Baraipar then taking minor rural roads to reconnect with SH 64 could serve as an alternative, although slower.

6. Summary of Local Regulations Affecting Hazardous Material Transport

- **Regulatory Compliance:** Transport of hazardous materials is regulated under the Motor Vehicles Act. Contact local RTO offices to ensure compliance with special permits required for specific cargo.

7. Overview of Historical Incidents Involving Heavy Vehicles or Hazardous Materials

- No significant recurring incidents have been documented, though there have been occasional accidents related to poor weather conditions and mechanical failures.

8. Environmental Considerations and Sensitive Areas

- **Protected Landmarks:** Kushinagar, an important Buddhist pilgrimage site, prompting careful driving to minimize disruption.
- **Ecosensitive Zones:** Routinely updated regulations on heavy vehicle emissions in these zones.

9. Analysis of Communication Coverage

- **Network Coverage:** Generally good along major highways, but potential dead zones in rural areas between urban centers.

10. Estimated Emergency Response Times for Different Route Segments

- **Urban Segments:** Emergency services can typically respond within 30-60 minutes.
- **Rural Areas:** Delays can extend response times up to 90 minutes due to distance and road conditions.

11. Overall Summary of Risk Assessment

- **Primary Risks:** Weather impacts, particularly during monsoon and foggy winters, pose significant risk. Congestion in urban areas can cause delays.
- **Mitigation Recommendations:** Adopting GPS-based navigation for real-time updates, practicing cautious driving in poor weather, and ensuring vehicle maintenance for high temperatures.
- **Response Preparedness:** Establish communication with local authorities and plan alternate routes in advance to ensure swift response to unforeseen events.

This assessment highlights the necessity for heightened alertness and preparedness while traveling this route, particularly during adverse weather conditions and peak traffic times.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73746, 83.22938	15 KM/Hr	0.14 km
2	Turn	High	26.73788, 83.22642	15 KM/Hr	0.32 km
3	Turn	Medium	26.73812, 83.22630	30 KM/Hr	0.48 km
4	Turn	High	26.74524, 83.22746	15 KM/Hr	1.14 km
5	Turn	High	26.74654, 83.22390	15 KM/Hr	1.63 km
6	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.15 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
7	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.21 km
8	Turn	High	26.75377, 83.20465	15 KM/Hr	4.26 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.12 km
9	Turn	Medium	26.74205, 83.75226	30 KM/Hr	63.36 km
10	Turn	Medium	26.73382, 83.79538	30 KM/Hr	67.76 km
11	Turn	Medium	26.76067, 84.01375	30 KM/Hr	90.15 km
12	Turn	Medium	26.76688, 84.03618	30 KM/Hr	92.56 km
13	Turn	Medium	26.72264, 84.22400	30 KM/Hr	112.15 km
14	Turn	High	26.72682, 84.22694	15 KM/Hr	112.71 km
15	Turn	High	26.72479, 84.22837	15 KM/Hr	112.94 km
16	Turn	Medium	26.72494, 84.22863	30 KM/Hr	113.03 km
17	Turn	High	26.72430, 84.23116	15 KM/Hr	113.30 km
18	Turn	High	26.72395, 84.23111	15 KM/Hr	113.33 km
19	Blind Spot	Blind Spot	26.72335, 84.23360	10 KM/Hr	113.59 km
20	Turn	High	26.73264, 84.23300	15 KM/Hr	114.70 km
21	Turn	Medium	26.73512, 84.23387	30 KM/Hr	115.01 km
22	Turn	Medium	26.74016, 84.23338	30 KM/Hr	115.58 km
23	Turn	Medium	26.74043, 84.23330	30 KM/Hr	115.63 km
24	Turn	Medium	26.74172, 84.23356	30 KM/Hr	115.72 km

Emergency Locations

Found: 1 hospital(s), 1 clinic(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Prakash Hospital	26.6957341, 83.4807387	30 km/h	Medium	33.19 km
1	clinic	Qazi Poly Clinic	26.7503799, 83.9126991	30 km/h	Medium	79.61 km

Crowded Spots

Route Photos of Risky Spots



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.15 km

Coordinates: 26.75126, 83.22476



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 4.21 km

Coordinates: 26.75353, 83.20457



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 4.26 km

Coordinates: 26.75377, 83.20465



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.12 km

Coordinates: 26.74681, 83.25111



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 63.36 km

Coordinates: 26.74205, 83.75226



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 67.76 km

Coordinates: 26.73382, 83.79538



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 90.15 km

Coordinates: 26.76067, 84.01375



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 92.56 km

Coordinates: 26.76688, 84.03618



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 112.15 km

Coordinates: 26.72264, 84.22400



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 112.71 km

Coordinates: 26.72682, 84.22694



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 112.94 km

Coordinates: 26.72479, 84.22837



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 113.03 km

Coordinates: 26.72494, 84.22863



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 113.59 km

Coordinates: 26.72335, 84.23360



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 114.70 km

Coordinates: 26.73264, 84.23300



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 115.01 km

Coordinates: 26.73512, 84.23387



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 115.58 km

Coordinates: 26.74016, 84.23338



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 115.63 km

Coordinates: 26.74043, 84.23330



Risk Type: Turn


Risk Level: Medium


Speed Limit: 30 KM/Hr

Distance from Start: 115.72 km

Coordinates: 26.74172, 84.23356

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