



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO MAHADEV INDANE GRAMI

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

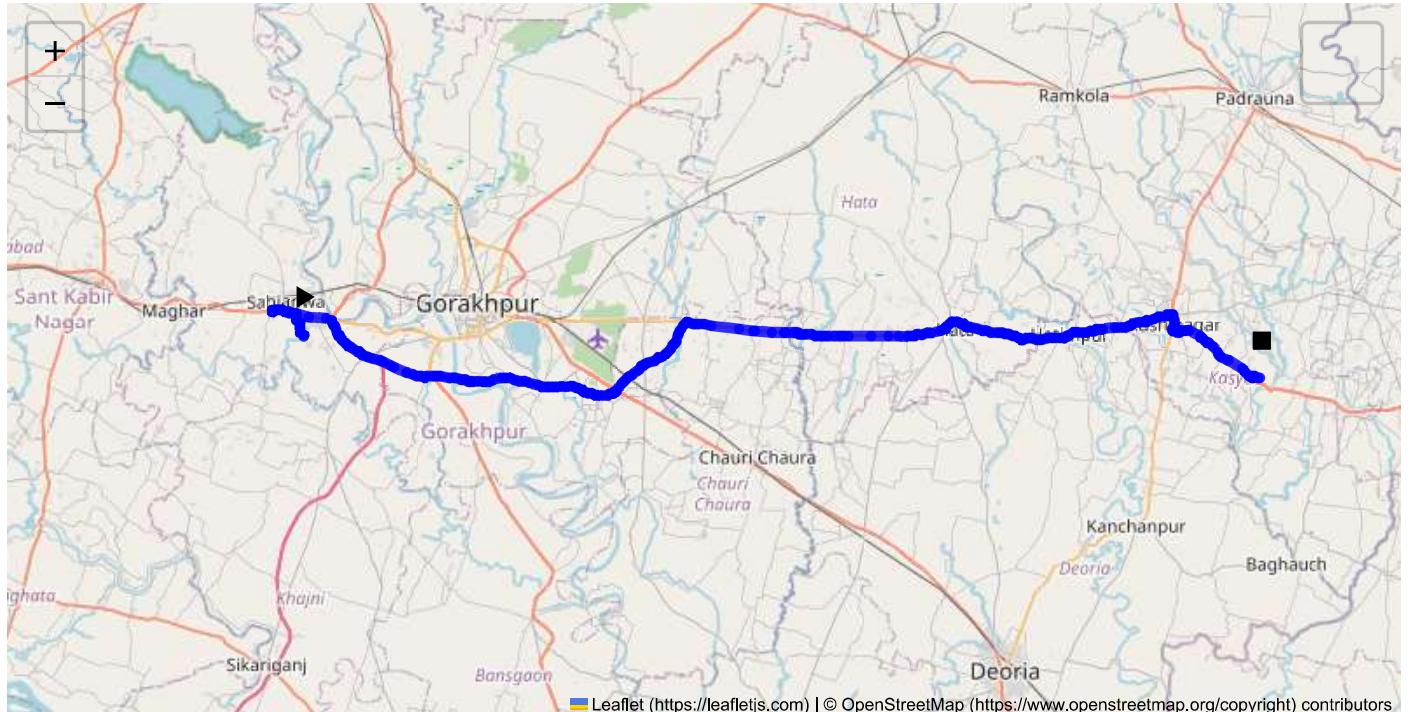
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 89.71 km
Estimated Duration: 1.8 hours
Adjusted Duration (Heavy Vehicle): 2.3 hours
Start: (26.735959, 83.229398)
End: (26.705529, 83.983855)

Welcome to the Journey Risk Management Study

Route Safety Analysis Report

1. Overview of the Route Map

The route begins at GIDA Industrial Area Phase 1, Sahjanwa, and ends at Andhya, Uttar Pradesh, covering approximately 89.71 kilometers. It primarily follows NH27 before transitioning to state highways and local roads, passing through Kasia Bazaar and Gandhi Chowk at Kushinagar.

2. Typical Weather Conditions and Potential Weather-Related Hazards

- **Weather Conditions:** The region experiences typical North Indian weather with hot summers, a monsoon season, and cool winters.
- **Potential Hazards:**
 - **Monsoon (June to September):** Heavy rainfall may cause flooding and reduced road visibility.
 - **Winter Fog (November to January):** Dense fog can reduce visibility, increasing the risk of accidents.

3. Traffic Patterns and Congestion

- **Peak Hours:** Congestion is common during morning (7:30 AM - 9:30 AM) and evening (4:30 PM - 7:00 PM) hours, particularly near urban centers and market areas.
- **Congestion-prone Areas:**
 - Industrial areas around Sahjanwa.
 - Market areas in Kasia Bazaar and near Gandhi Chowk.

4. Road Quality and Infrastructure

- **NH27:** Generally well-maintained with periodic tolls.
- **State Highways and Local Roads:** Vary in quality; some sections, especially near villages, may have potholes and less efficient signage.
- **Infrastructure Concerns:** Narrow roads in rural areas can be challenging for heavy vehicles.

5. Alternative Routes for Emergencies

- **Option 1:** Divert from NH27 towards Gorakhpur for better access to medical facilities and state highways if required.
- **Option 2:** Use the Gorakhpur Bypass Road to avoid city traffic if NH27 is blocked or congested.

6. Local Regulations Affecting Hazardous Material Transport

- **Permits:** Ensure all hazardous material transport permits are up to date.
- **Restrictions:** Adhere to specific time regulations for transporting hazardous materials through populated areas.

7. Historical Incidents Involving Heavy Vehicles or Hazardous Materials

- Frequency:** Incidents are relatively rare but have occurred around industrial areas due to high traffic density and human error.
- Locations:** Notably near Kasia Bazaar due to tight turns and market congestion.

8. Environmental Considerations and Sensitive Areas

- Sensitive Areas:** Proximity to Kushinagar, a cultural heritage site, requires minimal disturbance.
- Environmental Regulations:** Avoid polluting activities near agricultural zones and water bodies along the route.

9. Communication Coverage

- Network Coverage:** Generally good along NH27 and in urban areas; potential dead zones exist in rural stretches, especially nearing Andhya.
- Suggestions:** Equip vehicles with satellite communication devices for emergencies.

10. Estimated Emergency Response Times

- Urban Areas (Sahjanwa, Kasia Bazaar, Andhya):** Approximately 15-30 minutes.
- Rural Stretches:** Could exceed 45 minutes due to limited access roads.

12. Overall Summary of Risk Assessment

- Risk Level:** Moderate
- Key Risks:** Weather-related disruptions, road quality in rural areas, peak traffic congestion.
- Preparation:** Drivers should be trained on adverse weather navigation, alternative routing, and equipped with emergency communication devices. Regular checks of vehicle conditions, especially brakes and tires, are essential.
- Recommendations:** Frequent driver safety training, route familiarization tours, communication equipment upgrades, and timely journey management planning to mitigate risks.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73690, 83.22947	15 KM/Hr	0.05 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
2	Turn	High	26.73697, 83.22939	15 KM/Hr	0.11 km
3	Turn	High	26.73746, 83.22938	15 KM/Hr	0.15 km
4	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.48 km
5	Turn	Medium	26.74524, 83.22746	30 KM/Hr	1.16 km
6	Turn	Medium	26.74532, 83.22740	30 KM/Hr	1.31 km
7	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
8	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.17 km
9	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.22 km
10	Turn	High	26.75377, 83.20465	15 KM/Hr	4.28 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.79 km
11	Turn	Medium	26.74656, 83.25154	30 KM/Hr	9.04 km
12	Turn	Medium	26.74648, 83.25152	30 KM/Hr	9.06 km
13	Turn	Medium	26.74526, 83.53161	30 KM/Hr	41.16 km
14	Turn	High	26.74995, 83.91445	15 KM/Hr	80.04 km
15	Blind Spot	Blind Spot	26.75031, 83.91440	10 KM/Hr	80.07 km
16	Turn	Medium	26.74480, 83.91698	30 KM/Hr	80.66 km
17	Blind Spot	Blind Spot	26.73965, 83.91498	10 KM/Hr	81.30 km
18	Turn	Medium	26.73896, 83.92092	30 KM/Hr	81.93 km
19	Turn	Medium	26.73890, 83.92105	30 KM/Hr	81.98 km
20	Blind Spot	Blind Spot	26.70613, 83.97747	10 KM/Hr	88.74 km
21	Turn	High	26.70757, 83.97803	15 KM/Hr	89.00 km

Emergency Locations

Found: 3 hospital(s), 1 clinic(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	RG Hospital	26.7372178, 83.5824469	30 km/h	Medium	45.84 km
1	hospital	Gautam Budha National Hospital	26.744396, 83.9016042	30 km/h	Medium	78.43 km

	type	name	coordinates	speed_limit	risk_level	Distance from Start
2	clinic	Qazi Poly Clinic	26.7503799, 83.9126991	30 km/h	Medium	79.76 km
3	hospital	Government hospital	26.7451541, 83.9175023	30 km/h	Medium	80.66 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: 4.22 km

Coordinates: 26.75353, 83.20457



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 4.28 km

Coordinates: 26.75377, 83.20465



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 8.79 km

Coordinates: 26.74681, 83.25111



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 9.04 km

Coordinates: 26.74656, 83.25154



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Risk Type: Turn**Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 9.06 km****Coordinates: 26.74648, 83.25152**

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Risk Type: Turn**Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 41.16 km****Coordinates: 26.74526, 83.53161**



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 80.04 km

Coordinates: 26.74995, 83.91445



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 80.07 km

Coordinates: 26.75031, 83.91440



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Risk Type: Turn**Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 80.66 km****Coordinates: 26.74480, 83.91698**

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Risk Type: Blind Spot**Risk Level: Blind Spot****Speed Limit: 10 KM/Hr****Distance from Start: 81.30 km****Coordinates: 26.73965, 83.91498**



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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 81.93 km**Coordinates:** 26.73896, 83.92092

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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 81.98 km**Coordinates:** 26.73890, 83.92105



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 88.74 km

Coordinates: 26.70613, 83.97747

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