



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO ANIKET INDANE GAS SE

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

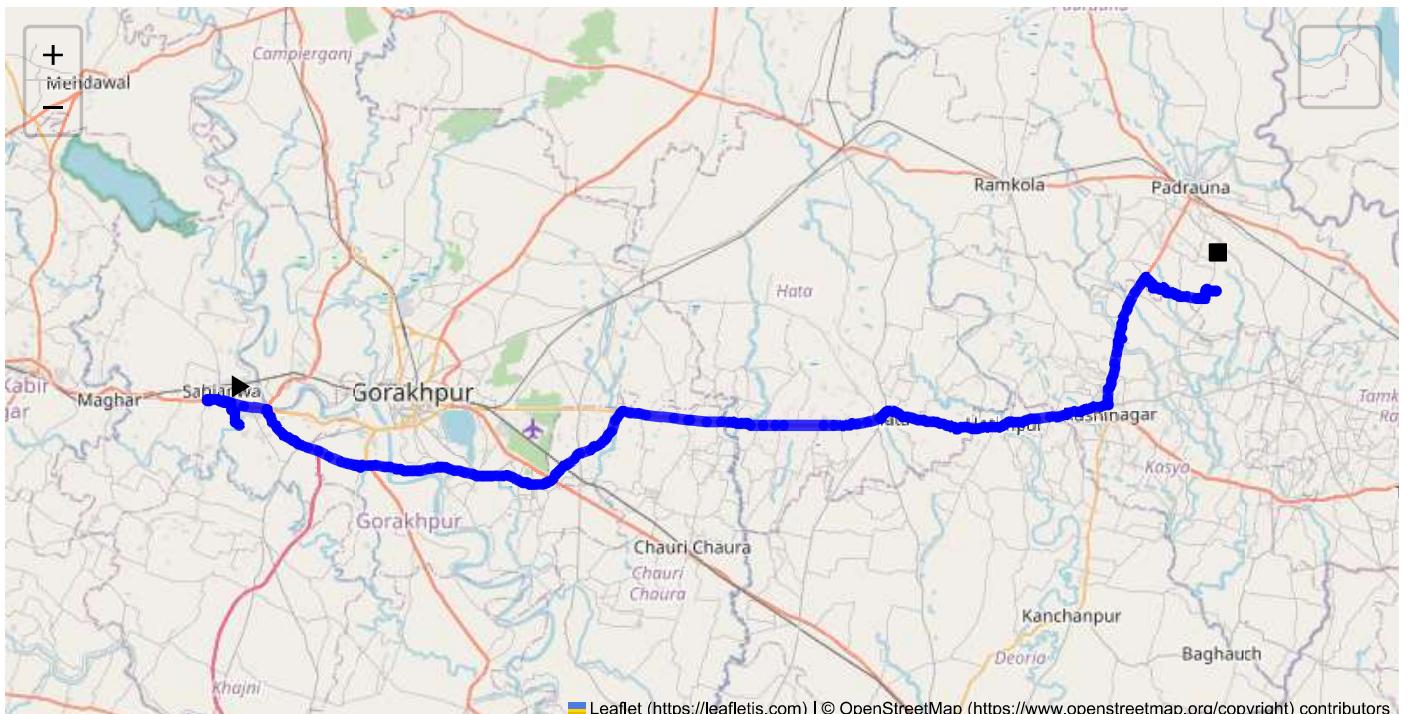
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 97.73 km

Estimated Duration: 2.1 hours

Adjusted Duration (Heavy Vehicle): 2.7 hours

Start: (26.735959, 83.229398)

End: (26.83026, 84.000542)

Welcome to the Journey Risk Management Study

Route Overview

The journey begins at GIDA Industrial Area Phase 1 in Sahjanwa and terminates at Haraiya Buzurg Road, Barhwalia Buzurg. On the main route through Kasia Bazaar in Kushinagar, the route is approximately

97.73 kilometers. The average travel time for heavy vehicles carrying hazardous material is approximately 2.14 hours, depending on traffic and road conditions.

Weather Conditions and Hazards

1. **Typical Weather:** The climate in this part of Uttar Pradesh is generally humid subtropical, with distinct seasonal variations. Summers can be extremely hot, while winters are generally mild, and the monsoon season (June to September) brings heavy rainfall.
2. **Weather-related Hazards:** Heavy rains during the monsoon season can cause flooding and reduce visibility. Roads may become slippery and prone to water logging. Fog is common in winter, particularly during the early morning and late evening.

Traffic Patterns

1. **Peak Hours:** Tends to be busiest during the morning between 8-10 AM and in the evening from 5-7 PM.
2. **Congestion-prone Areas:** The vicinity of Gandhi Chowk in Kasia Bazaar is notable for traffic congestion, largely due to local market activity.

Road Quality and Infrastructure

1. **Road Quality:** The major highways along the route are generally in fair condition but expect some sections with potholes, especially after the monsoon season.
2. **Infrastructure:** Limited lighting on rural stretches and occasional narrow lanes can be hazardous, especially for large trucks.

Alternative Routes for Emergencies

1. **Alternate Route:** One possible alternative is taking NH27 towards Gorakhpur, then diverting east via Deoria. This bypasses some congested areas but may add travel time.

Local Regulations on Hazardous Material Transport

1. **Regulations:** Transport of hazardous materials requires permits, and there are restrictions on movement during certain hours (generally night-time) for safety reasons.

Historical Incidents

1. **Notable Incidents:** There have been instances of road accidents involving heavy vehicles in dense traffic regions like Kasia Bazaar, often attributed to narrow lanes and high local activity.

Environmental Considerations and Sensitive Areas

- Sensitive Areas:** The route crosses through or near agricultural land and populated zones, requiring caution to minimize spillage or contamination risk. The proximity to Kushinagar, a site of cultural significance, necessitates adherence to environmental protection protocols.

Communication Coverage

- Coverage:** Generally good in urban centers and along major highways. However, rural stretches may have sporadic cellular reception, creating potential dead zones.

Emergency Response Times

- Response Time:** In urban centers like Sahjanwa and Kasia Bazaar, emergency response teams can usually reach within 30 minutes. However, on rural stretches, the response can be delayed up to an hour or more.

Risk Assessment Summary

- Overall Risk:** The primary risks involve weather-related challenges, road quality issues, and traffic congestion. During monsoon or peak market times, the risk heightens.
- Mitigation Strategies:** Advisable to avoid peak traffic hours and plan journeys to avoid adverse weather conditions when possible. Ensure communication equipment is functional to contact emergency services quickly.

Overall, while manageable, the route presents several challenges that require strategic planning and adherence to safety protocols, especially for transporting hazardous materials. Regular updates on weather and traffic conditions can significantly aid in reducing potential risks.

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	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.47 km
3	Turn	High	26.74524, 83.22746	15 KM/Hr	1.16 km
4	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
5	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.16 km
6	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.22 km
7	Turn	High	26.75377, 83.20465	15 KM/Hr	4.27 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.13 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
8	Turn	High	26.74995, 83.91445	15 KM/Hr	80.02 km
9	Turn	Medium	26.79396, 83.92373	30 KM/Hr	84.97 km
10	Turn	Medium	26.79581, 83.92324	30 KM/Hr	85.21 km
11	Turn	Medium	26.79603, 83.92333	30 KM/Hr	85.26 km
12	Turn	Medium	26.79694, 83.92520	30 KM/Hr	85.44 km
13	Turn	Medium	26.79728, 83.92537	30 KM/Hr	85.51 km
14	Turn	High	26.84004, 83.94474	15 KM/Hr	90.76 km
15	Turn	High	26.83322, 83.95103	15 KM/Hr	91.74 km
16	Turn	Medium	26.83222, 83.95900	30 KM/Hr	92.59 km
17	Turn	Medium	26.83155, 83.95993	30 KM/Hr	92.66 km
18	Turn	Medium	26.82960, 83.96095	30 KM/Hr	92.94 km
19	Turn	High	26.82766, 83.96986	15 KM/Hr	93.86 km
20	Blind Spot	Blind Spot	26.82725, 83.96971	10 KM/Hr	93.91 km
21	Turn	Medium	26.82690, 83.97146	30 KM/Hr	94.06 km
22	Turn	Medium	26.82536, 83.98534	30 KM/Hr	95.06 km
23	Turn	Medium	26.82546, 83.98551	30 KM/Hr	95.52 km
24	Turn	High	26.82541, 83.98618	15 KM/Hr	95.56 km
25	Turn	High	26.82563, 83.98638	15 KM/Hr	95.61 km
26	Turn	High	26.82511, 83.99105	15 KM/Hr	96.08 km
27	Turn	High	26.83108, 83.99266	15 KM/Hr	96.71 km
28	Turn	High	26.83019, 83.99705	15 KM/Hr	97.13 km
29	Turn	Medium	26.83057, 83.99755	30 KM/Hr	97.26 km
30	Blind Spot	Blind Spot	26.83063, 84.00059	10 KM/Hr	97.59 km

Emergency Locations

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

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Gautam Budha National Hospital	26.744396, 83.9016042	30 km/h	Medium	78.42 km

	type	name	coordinates	speed_limit	risk_level	Distance from Start
1	clinic	Qazi Poly Clinic	26.7503799, 83.9126991	30 km/h	Medium	79.64 km

Crowded Spots

Route Photos of Risky Spots



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.16 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: 4.27 km

Coordinates: 26.75377, 83.20465



Risk Type: Roundabout
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 8.13 km
Coordinates: 26.74681, 83.25111



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Distance from Start: 80.02 km
Coordinates: 26.74995, 83.91445



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 84.97 km

Coordinates: 26.79396, 83.92373



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 85.21 km

Coordinates: 26.79581, 83.92324



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 85.26 km

Coordinates: 26.79603, 83.92333



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 85.44 km

Coordinates: 26.79694, 83.92520



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 85.51 km

Coordinates: 26.79728, 83.92537



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 90.76 km

Coordinates: 26.84004, 83.94474



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 91.74 km

Coordinates: 26.83322, 83.95103



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 92.59 km

Coordinates: 26.83222, 83.95900



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 92.66 km

Coordinates: 26.83155, 83.95993



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 92.94 km

Coordinates: 26.82960, 83.96095



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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 93.86 km**Coordinates:** 26.82766, 83.96986

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Risk Type: Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 93.91 km**Coordinates:** 26.82725, 83.96971



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 94.06 km

Coordinates: 26.82690, 83.97146



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 95.06 km

Coordinates: 26.82536, 83.98534



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 95.52 km

Coordinates: 26.82546, 83.98551



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 95.56 km

Coordinates: 26.82541, 83.98618



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 95.61 km

Coordinates: 26.82563, 83.98638

Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 96.08 km

Coordinates: 26.82511, 83.99105



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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 96.71 km**Coordinates:** 26.83108, 83.99266

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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 97.13 km**Coordinates:** 26.83019, 83.99705



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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 97.26 km**Coordinates:** 26.83057, 83.99755

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Risk Type: Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 97.59 km**Coordinates:** 26.83063, 84.000059

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