



JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO BABA MANINATH INDANE

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

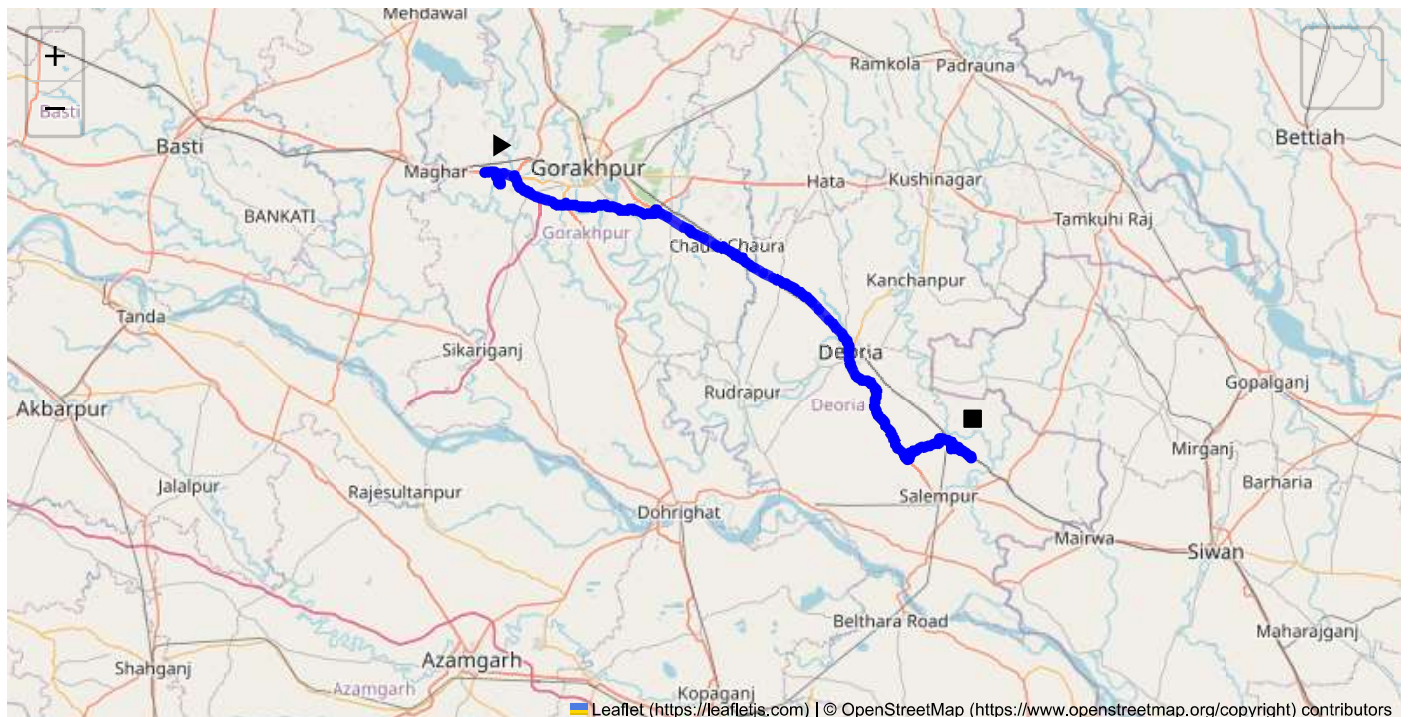
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 106.18 km

Estimated Duration: 2.4 hours

Adjusted Duration (Heavy Vehicle): 3.1 hours

Start: (26.735959, 83.229398)

End: (26.350704, 83.971278)

Welcome to the Journey Risk Management Study

Route Safety Analysis Report

1. Overview of the Route Map

The route from GIDA Industrial Area Phase 1, Sahjanwa, to Nonapar is approximately 106.18 kilometers and takes around 2.5 hours for heavy vehicles. The journey mainly follows state highways and major district roads known for connecting industrial and rural areas in Uttar Pradesh.

2. Typical Weather Conditions and Potential Weather-Related Hazards

- **Weather Patterns:** Uttar Pradesh experiences a humid subtropical climate with cold winters, hot summers, and a distinct monsoon season.
- **Potential Hazards:**
 - **Monsoon (June to September):** Heavy rains can lead to flooding and reduced visibility.
 - **Summer (March to June):** High temperatures can cause road damage and vehicle overheating.
 - **Winter (December to February):** Fog can significantly reduce visibility, especially during early morning and evening hours.

3. Analysis of Traffic Patterns

- **Peak Hours:** Traffic congestion is typically encountered in the morning (8 AM - 10 AM) and evening (5 PM - 7 PM) when local commuting peaks.
- **Congestion-Prone Areas:**
 - Near urban centers and intersections such as Gorakhpur and Deoria, minor delays may occur due to high local traffic density.

4. Assessment of Road Quality and Infrastructure

- **Road Conditions:** Varying conditions with some well-maintained sections alongside poorly maintained stretches particularly in rural segments.
- **Infrastructure Issues:** Limited signage in rural areas, potential for potholes, and narrow two-lane roads increasing risk of accidents.

5. Suggestions for Alternative Routes for Emergencies

- **Primary Alternative Route:** Using major national highways as much as possible for detours or emergencies, which are generally better maintained and provide better facilities.
- **Local Detours:** Utilize smaller parallel roads connecting the main route but only if absolutely necessary due to potential poor conditions.

6. Summary of Local Regulations Affecting Hazardous Material Transport

- **Regulations:** Compliance with the Central Motor Vehicles Rules, 1989 is essential, adhering to guidelines on signage, carriage, and documentation of hazardous material.

- **Restrictions:** Certain areas may impose nighttime travel restrictions for hazardous materials to reduce accident risks.

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

- **Incidents:** Sporadic reports of overturns and leaks mainly due to handling errors or road condition failures in the monsoon period.
- **Preventive Measures:** Emphasis on proper securing of cargo and regular safety checks.

8. Environmental Considerations and Sensitive Areas

- **Sensitive Areas:** The route runs near agricultural patches, water bodies (prone to pollution), and several inhabited zones.
- **Avoidance Measures:** Careful handling and minimizing transit near sensitive ecological zones are advised.

9. Analysis of Communication Coverage

- **Coverage:**
 - Generally good in urban areas.
 - **Dead Zones:** Potential communication dead zones exist primarily in rural and undeveloped stretches. Mobile network providers show reduced service in isolated areas.

10. Estimated Emergency Response Times

- **Urban Segments:** Approximately 30 to 45 minutes due to better infrastructure and response teams.
- **Rural Segments:** Could exceed 1 to 2 hours, influenced by road accessibility and remoteness.

11. Overall Summary of Risk Assessment

- **Overall Risk Level:** Moderate to High due to a combination of poor road conditions, weather-related risks, and congestion in specific areas.
- **Recommendations:**
 - Scheduled travel avoiding peak traffic and severe weather conditions.
 - Routine vehicle and safety checks, particularly for the transport of hazardous materials.
 - Enhanced driver training focused on defensive driving and emergency procedures.

By considering the findings above, truck drivers and logistics planners can better prepare for the journey, prioritizing safety, compliance, and efficiency while minimizing potential risks associated with this route.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
2	Turn	High	26.73746, 83.22938	15 KM/Hr	0.14 km
3	Blind Spot	Blind Spot	26.73791, 83.22625	10 KM/Hr	0.47 km
4	Turn	High	26.74524, 83.22746	15 KM/Hr	1.16 km
5	Turn	High	26.74654, 83.22390	15 KM/Hr	1.65 km
6	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.16 km
7	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.22 km
8	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
9	Turn	Medium	26.69741, 83.47552	30 KM/Hr	33.25 km
1	U-Turn	High	26.698439, 83.4747268	10 KM/Hr	33.41 km
10	Blind Spot	Blind Spot	26.69844, 83.47473	10 KM/Hr	33.41 km
11	Turn	High	26.69857, 83.47481	15 KM/Hr	33.43 km
12	Turn	Medium	26.63752, 83.59723	30 KM/Hr	47.40 km
13	Turn	Medium	26.63761, 83.59795	30 KM/Hr	47.46 km
14	Blind Spot	Blind Spot	26.34743, 83.87294	10 KM/Hr	92.47 km
15	Turn	Medium	26.35673, 83.87580	30 KM/Hr	93.49 km
16	Turn	Medium	26.37070, 83.91490	30 KM/Hr	97.71 km
17	Turn	Medium	26.36988, 83.91866	30 KM/Hr	98.15 km
18	Turn	Medium	26.37088, 83.92067	30 KM/Hr	98.43 km
19	Turn	Medium	26.37645, 83.92317	30 KM/Hr	99.08 km
20	Turn	Medium	26.37250, 83.94176	30 KM/Hr	101.01 km
21	Blind Spot	Blind Spot	26.37269, 83.94227	10 KM/Hr	101.12 km
22	Turn	High	26.37069, 83.94196	15 KM/Hr	101.29 km
23	Turn	High	26.37040, 83.94250	15 KM/Hr	101.39 km
24	Turn	Medium	26.36319, 83.94113	30 KM/Hr	102.20 km
25	Turn	Medium	26.36299, 83.94120	30 KM/Hr	102.25 km
26	Turn	Medium	26.36382, 83.95175	30 KM/Hr	103.38 km
27	Turn	High	26.35486, 83.96539	15 KM/Hr	104.97 km
28	Turn	High	26.35424, 83.96508	15 KM/Hr	105.18 km
29	Turn	High	26.35177, 83.96948	15 KM/Hr	105.72 km
30	Turn	High	26.35200, 83.96964	15 KM/Hr	105.75 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
31	Blind Spot	Blind Spot	26.35069, 83.97163	10 KM/Hr	105.98 km

Emergency Locations

Found: 5 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Prakash Hospital	26.6957341, 83.4807387	30 km/h	Medium	33.99 km
2	hospital	Deoria Eye Hospital	26.5011867, 83.7750448	30 km/h	Medium	71.44 km
3	hospital	Aditya Hospital, Deoria	26.501938, 83.774963	30 km/h	Medium	71.44 km
5	hospital	K D Hospital, Deoria	26.4826171, 83.7821031	30 km/h	Medium	73.55 km
4	hospital	Sanjeevani Hospital, Deoria	26.4796329, 83.780432	30 km/h	Medium	74.01 km

Crowded Spots

Found: 1 college(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
1	college	BRD PG college	26.5161416, 83.7720277	30 km/h	Medium	69.63 km

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: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 33.25 km

Coordinates: 26.69741, 83.47552



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Distance from Start: 33.41 km

Coordinates: 26.698439, 83.4747268



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 33.41 km

Coordinates: 26.69844, 83.47473



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 33.43 km

Coordinates: 26.69857, 83.47481



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 47.40 km

Coordinates: 26.63752, 83.59723



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 47.46 km

Coordinates: 26.63761, 83.59795



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 92.47 km
Coordinates: 26.34743, 83.87294



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 101.01 km
Coordinates: 26.37250, 83.94176



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 101.12 km

Coordinates: 26.37269, 83.94227



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 101.29 km

Coordinates: 26.37069, 83.94196



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 101.39 km

Coordinates: 26.37040, 83.94250



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 102.20 km

Coordinates: 26.36319, 83.94113



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 102.25 km

Coordinates: 26.36299, 83.94120



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 103.38 km

Coordinates: 26.36382, 83.95175



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 104.97 km

Coordinates: 26.35486, 83.96539



Risk Type: Turn


Risk Level: High


Speed Limit: 15 KM/Hr

Distance from Start: 105.18 km

Coordinates: 26.35424, 83.96508

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