



## JOURNEY RISK MANAGEMENT (JRM) STUDY

**Gorakhpur LPG BP TO Tarush 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

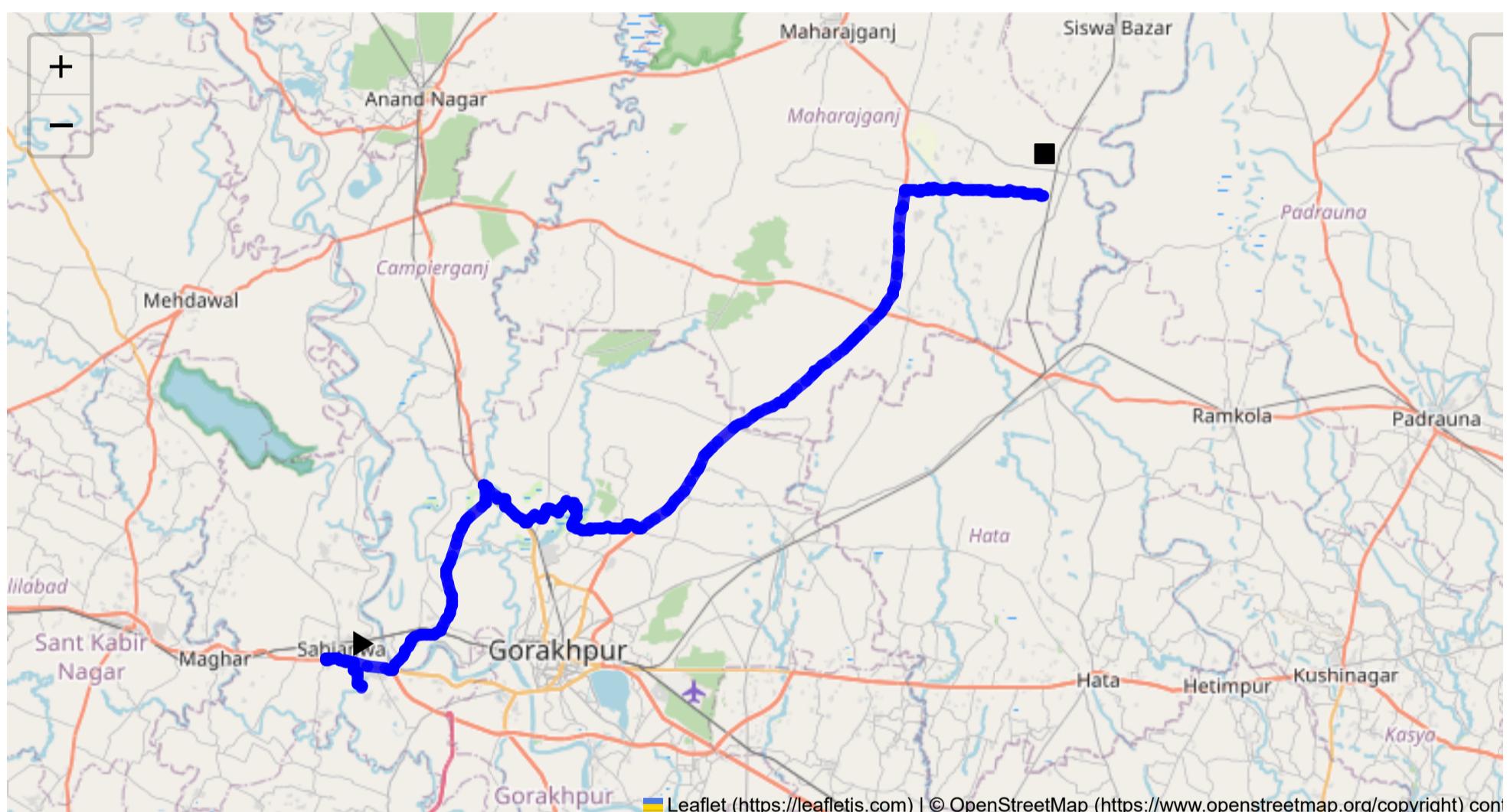
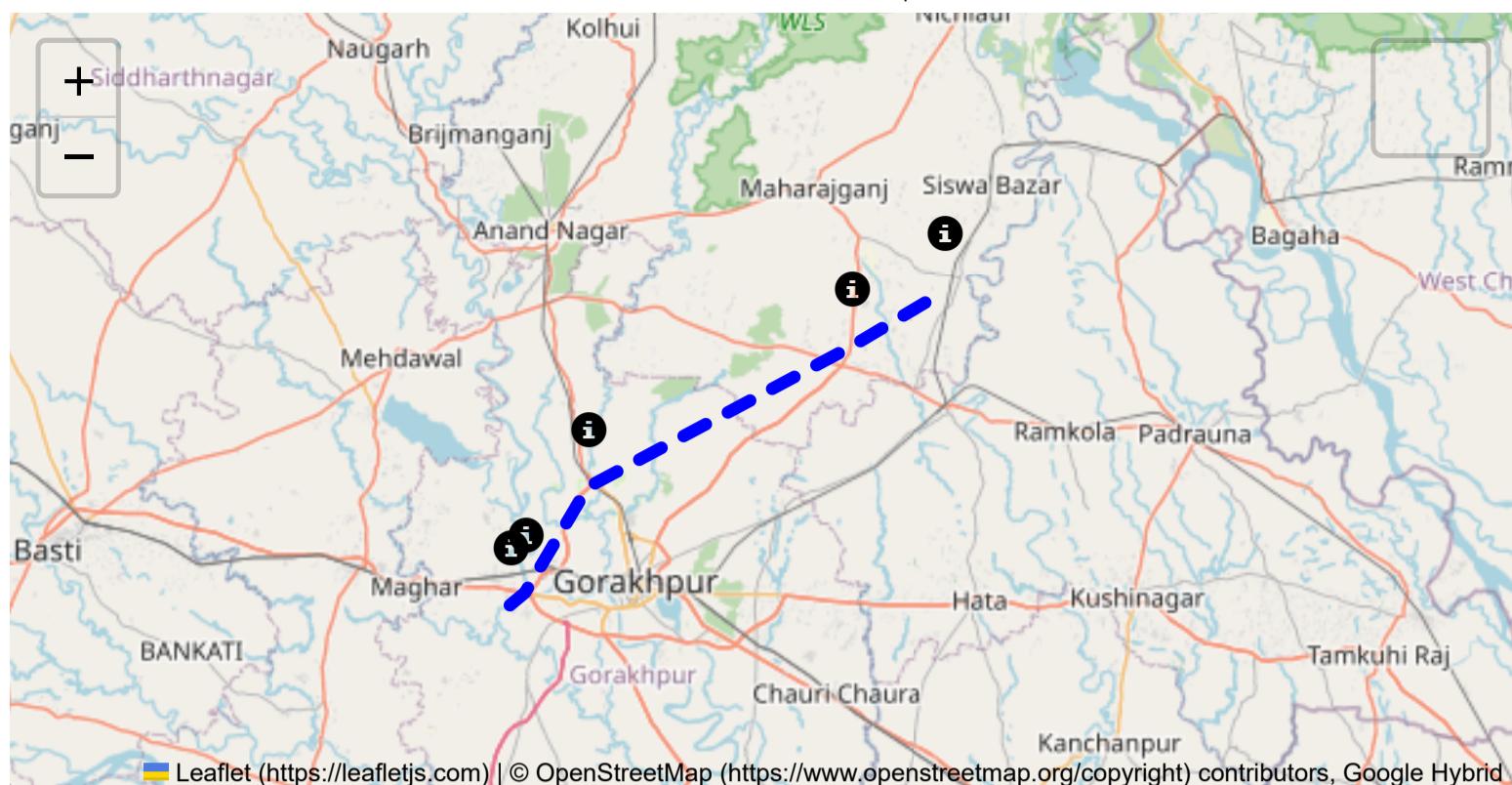
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 81.87 km**  
**Estimated Duration: 2.0 hours**  
**Adjusted Duration (Heavy Vehicle): 2.5 hours**  
**Start: (26.735959, 83.229398)**  
**End: (27.041212, 83.704257)**

## Welcome to the Journey Risk Management Study

### Route Overview

The route from GIDA Industrial Area Phase 1 in Sahjanwa to near Khadesar Gaon in Maharajganj spans approximately 81.87 kilometers. This route primarily involves traveling through national highways and state roads, with notable waypoints at Zero Point Kaalesar, NH 24, and Semara Chandrauli.

## Weather Conditions

- **Typical Weather:** The area experiences a subtropical climate with hot summers, monsoon rains from June to September, and cool winters.
- **Potential Hazards:** Monsoon season can cause flooding and poor road visibility, while fog in winters can reduce visibility and increase accident risk.

## Traffic Patterns

- **Peak Hours:** Morning (7 AM - 10 AM) and evening (5 PM - 8 PM) are peak hours, especially around town areas.
- **Congestion:** NH 24 and areas near Semara Chandrauli are prone to congestion due to commercial traffic.

## Road Quality and Infrastructure

- **Road Conditions:** NH 24 is generally well-maintained. However, some local roads may have potholes or be under construction, affecting vehicle maneuverability.
- **Infrastructure:** Limited services for vehicle maintenance along rural stretches.

## Alternative Routes

- **Emergency Detours:** In case of major blockages, routes through nearby towns like Gorakhpur can be considered. However, check local updates for any ongoing construction.

## Local Regulations for Hazardous Material Transport

- **Permissions:** Transport of hazardous materials may require special permissions and regulatory compliance checks.
- **Time Restrictions:** Certain town areas might have restricted timings for heavy vehicles.

## Historical Incidents

- **Accidents:** Previous reports indicate incidents involving heavy vehicles, especially during foggy conditions.
- **Common Issues:** Mechanical failures and driver fatigue contribute to accidents along this route.

## Environmental Considerations

- **Sensitive Areas:** Proximity to agricultural lands requires caution to prevent pollution.
- **Noise and Emissions:** Minimize disruption to local communities through careful adherence to speed limits and emissions regulations.

## Communication Coverage

- **Network Dead Zones:** Certain rural sections, particularly around forested or isolated areas, may have weak mobile network coverage.
- **Preferred Networks:** Major carriers generally provide reliable service in urban areas.

## Emergency Response Times

- **Urban Segments:** Faster response times (around 30-45 minutes).
- **Rural/Isolated Segments:** Slower response times (up to 1-2 hours, depending on severity).

## Overall Risk Assessment Summary

This route is manageable for trained truck drivers, but requires careful navigation due to variable road conditions, potential congestion, and environmental considerations. Compliance with transport regulations for hazardous materials is crucial to minimize risks. Ongoing monitoring of weather conditions and traffic updates can significantly aid in ensuring a safe trip. Emergency plans should be established, taking alternative routes into account and ensuring proper communications setup with control teams.

### 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
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
9	Turn	High	26.74707, 83.25103	15 KM/Hr	8.89 km
0	Roundabout	High	26.86209, 83.31517	15 KM/Hr	24.75 km
10	Turn	Medium	26.83986, 83.34396	30 KM/Hr	28.84 km
11	Turn	Medium	26.83901, 83.34430	30 KM/Hr	28.97 km
12	Blind Spot	Blind Spot	26.83887, 83.34440	10 KM/Hr	28.99 km
13	Turn	High	26.84330, 83.35021	15 KM/Hr	29.61 km
14	Turn	High	26.84103, 83.35595	15 KM/Hr	30.30 km
15	Turn	High	26.84705, 83.35919	15 KM/Hr	31.11 km
16	Turn	Medium	26.84712, 83.36049	30 KM/Hr	31.24 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
17	Turn	High	26.84551, 83.36723	15 KM/Hr	31.90 km
18	Turn	High	26.85166, 83.37270	15 KM/Hr	32.83 km
19	Turn	Medium	26.85064, 83.37813	30 KM/Hr	33.33 km
20	Turn	High	26.85019, 83.37854	15 KM/Hr	33.44 km
21	Turn	Medium	26.84916, 83.37819	30 KM/Hr	33.53 km
22	Turn	High	26.84895, 83.37825	15 KM/Hr	33.60 km
23	Turn	High	26.84877, 83.37875	15 KM/Hr	33.64 km
24	Turn	Medium	26.84859, 83.37879	30 KM/Hr	33.68 km
25	Turn	High	26.84746, 83.37825	15 KM/Hr	33.75 km
26	Turn	High	26.84725, 83.37834	15 KM/Hr	33.84 km
27	Turn	High	26.84687, 83.37981	15 KM/Hr	33.99 km
28	Blind Spot	Blind Spot	26.83695, 83.37635	10 KM/Hr	35.11 km
29	Turn	Medium	26.83395, 83.38345	30 KM/Hr	35.93 km
30	Turn	High	26.83444, 83.38859	15 KM/Hr	36.46 km
31	Turn	High	26.83511, 83.38903	15 KM/Hr	36.55 km
32	Turn	Medium	26.83514, 83.39650	30 KM/Hr	37.29 km
33	Turn	Medium	26.83559, 83.41365	30 KM/Hr	39.01 km
34	Turn	Medium	26.83633, 83.41391	30 KM/Hr	39.10 km
35	Turn	Medium	26.83715, 83.41534	30 KM/Hr	39.26 km
36	Turn	High	26.83803, 83.41576	15 KM/Hr	39.39 km
37	Turn	Medium	26.83458, 83.42392	30 KM/Hr	40.27 km
38	Turn	Medium	27.04499, 83.60847	30 KM/Hr	71.29 km
39	Turn	High	27.04528, 83.60869	15 KM/Hr	71.80 km
40	Turn	High	27.04476, 83.61928	15 KM/Hr	72.84 km
41	Turn	Medium	27.04535, 83.61942	30 KM/Hr	72.91 km
42	Turn	Medium	27.04579, 83.62008	30 KM/Hr	72.99 km
43	Turn	High	27.04542, 83.62421	15 KM/Hr	73.34 km
44	Turn	High	27.04559, 83.62442	15 KM/Hr	73.46 km
45	Turn	Medium	27.04555, 83.62462	30 KM/Hr	73.48 km
46	Turn	High	27.04560, 83.62482	15 KM/Hr	73.50 km
47	Turn	High	27.04629, 83.62498	15 KM/Hr	73.55 km
48	Turn	High	27.04632, 83.62850	15 KM/Hr	73.89 km
49	Turn	High	27.04669, 83.62878	15 KM/Hr	73.98 km
50	Turn	Medium	27.04541, 83.68183	30 KM/Hr	79.23 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
51	Turn	High	27.04219, 83.70407	15 KM/Hr	81.53 km
52	Turn	High	27.04203, 83.70409	15 KM/Hr	81.56 km

## 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:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 8.89 km

**Coordinates:** 26.74707, 83.25103



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**Risk Type:** Roundabout**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 24.75 km**Coordinates:** 26.86209, 83.31517

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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 28.84 km**Coordinates:** 26.83986, 83.34396



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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 28.97 km**Coordinates:** 26.83901, 83.34430

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**Risk Type:** Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 28.99 km**Coordinates:** 26.83887, 83.34440



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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 29.61 km****Coordinates: 26.84330, 83.35021**

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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 30.30 km****Coordinates: 26.84103, 83.35595**



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**Risk Type:** Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 31.11 km**Coordinates:** 26.84705, 83.35919

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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 31.24 km**Coordinates:** 26.84712, 83.36049



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 31.90 km

**Coordinates:** 26.84551, 83.36723



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 32.83 km

**Coordinates:** 26.85166, 83.37270



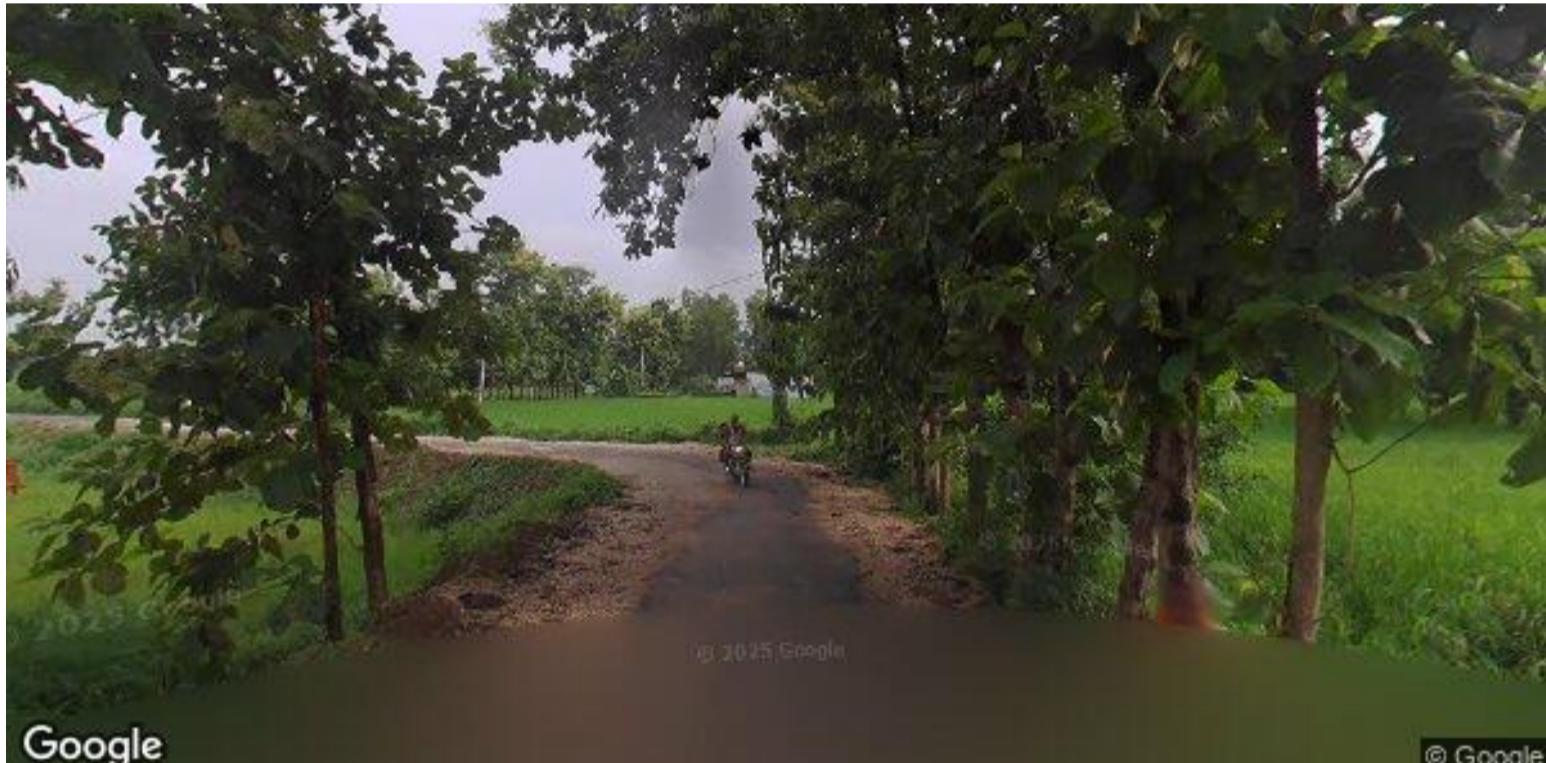
**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 33.33 km

**Coordinates:** 26.85064, 83.37813



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 33.44 km

**Coordinates:** 26.85019, 83.37854



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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 33.53 km**Coordinates:** 26.84916, 83.37819

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**Risk Type:** Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 33.60 km**Coordinates:** 26.84895, 83.37825



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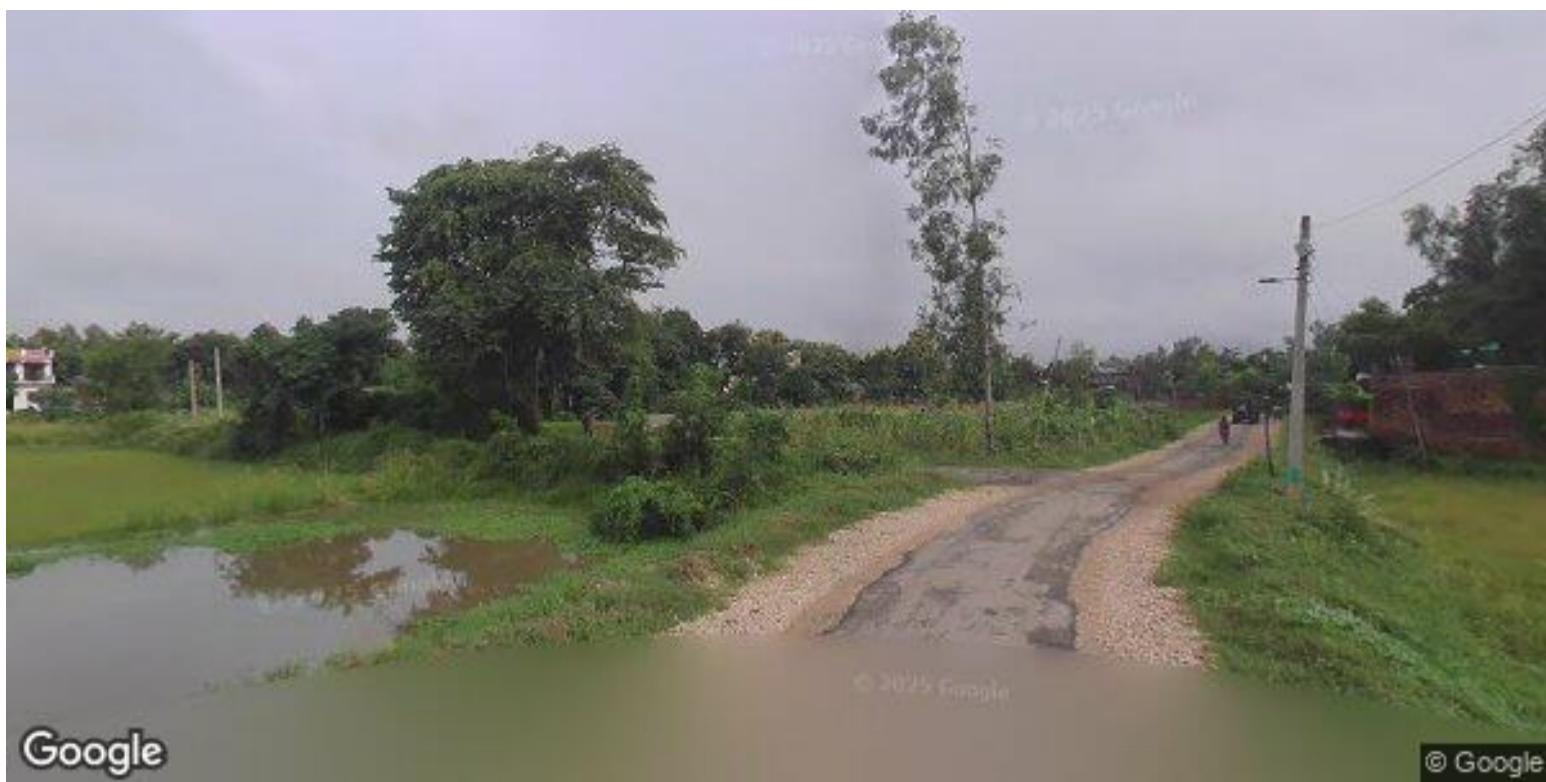
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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 33.64 km****Coordinates: 26.84877, 83.37875**

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**Risk Type: Turn****Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 33.68 km****Coordinates: 26.84859, 83.37879**



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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 33.75 km****Coordinates: 26.84746, 83.37825**

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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 33.84 km****Coordinates: 26.84725, 83.37834**



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**Risk Type:** Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 33.99 km**Coordinates:** 26.84687, 83.37981

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**Risk Type:** Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 35.11 km**Coordinates:** 26.83695, 83.37635



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 35.93 km

**Coordinates:** 26.83395, 83.38345



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 36.46 km

**Coordinates:** 26.83444, 83.38859



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 36.55 km

**Coordinates:** 26.83511, 83.38903



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 37.29 km

**Coordinates:** 26.83514, 83.39650



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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 39.01 km**Coordinates:** 26.83559, 83.41365

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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 39.10 km**Coordinates:** 26.83633, 83.41391



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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 39.26 km**Coordinates:** 26.83715, 83.41534

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**Risk Type:** Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 39.39 km**Coordinates:** 26.83803, 83.41576



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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 40.27 km**Coordinates:** 26.83458, 83.42392

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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 71.29 km**Coordinates:** 27.04499, 83.60847



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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 71.80 km****Coordinates: 27.04528, 83.60869**

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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 72.84 km****Coordinates: 27.04476, 83.61928**



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 72.91 km

**Coordinates:** 27.04535, 83.61942



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Distance from Start:** 72.99 km

**Coordinates:** 27.04579, 83.62008



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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 73.34 km****Coordinates: 27.04542, 83.62421**

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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 73.46 km****Coordinates: 27.04559, 83.62442**



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**Risk Type:** Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 73.48 km**Coordinates:** 27.04555, 83.62462

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**Risk Type:** Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 73.50 km**Coordinates:** 27.04560, 83.62482



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**Risk Type:** Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 73.55 km**Coordinates:** 27.04629, 83.62498

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**Risk Type:** Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 73.89 km**Coordinates:** 27.04632, 83.62850



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**Risk Type: Turn****Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 73.98 km****Coordinates: 27.04669, 83.62878**

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**Risk Type: Turn****Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 79.23 km****Coordinates: 27.04541, 83.68183**



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 81.53 km

**Coordinates:** 27.04219, 83.70407



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 81.56 km

**Coordinates:** 27.04203, 83.70409

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