



JOURNEY RISK MANAGEMENT (JRM) STUDY

Gorakhpur LPG BP TO MATA VAISHNO 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

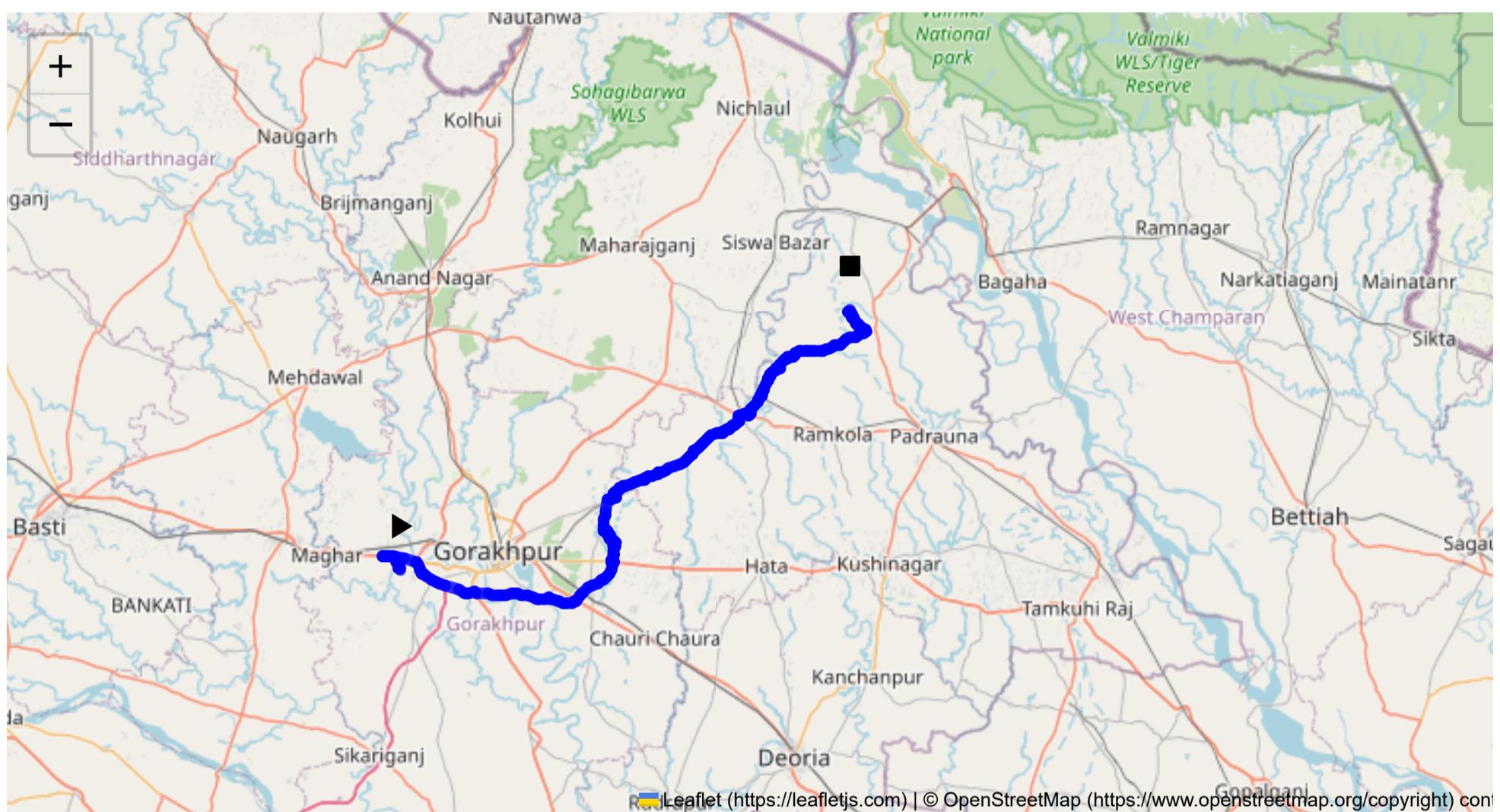
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 102.74 km
Estimated Duration: 2.5 hours
Adjusted Duration (Heavy Vehicle): 3.1 hours
Start: (26.735959, 83.229398)
End: (27.06151, 83.860009)

Welcome to the Journey Risk Management Study

1. Overview of the Route Map:

The route from P6PH+9Q GIDA Industrial Area Phase 1, Sahjanwa to 3V66+X78, Harpur Tappa Naugaon 55, Kotwa Kala via several intermediate points is approximately 102.74 kilometers. This journey traverses various towns and rural areas, with a significant portion on regional roads. The route involves passing through industrial regions as well as smaller townships.

2. Typical Weather Conditions and Potential Weather-Related Hazards:

- **Seasonal Variation:** Uttar Pradesh experiences extremes in weather with hot summers, a monsoon season, and cool winters.
- **Potential Hazards:** During monsoon (June to September), heavy rains can lead to waterlogged roads and reduced visibility. Summers can cause road surface issues due to intense heat, possibly affecting asphalt integrity.

3. Analysis of Traffic Patterns:

- **Peak Hours:** Traffic congestion is most likely during morning (7-9 AM) and evening (5-8 PM) peak hours, especially in more populated areas and near industrial centers.
- **Congestion-Prone Areas:** Expect delays in Sahjanwa around the industrial area and Pipraich due to local business activity and cross-town traffic.

4. Assessment of Road Quality and Infrastructure:

- **Road Conditions:** Vary from well-maintained in urban areas to potentially poor in rural stretches with narrower roads and occasional potholes.
- **Infrastructure:** Roadside amenities and infrastructure may be sparse in rural portions, requiring planning for breaks and refueling.

5. Suggestions for Alternative Routes for Emergencies:

- Consider state and village roads parallel to the main route, but validate these for accessibility and condition.
- For a quicker bypass, explore regional routes around major towns to avoid congestion, especially during peak hours.

6. Summary of Local Regulations Affecting Hazardous Material Transport:

- **Permits:** Ensure all requisite permits for transporting hazardous materials are secured.
- **Time Restrictions:** Some areas may have restricted times for heavy vehicles, especially in densely populated regions.

7. Overview of Historical Incidents:

- **Accidents:** While specific data for this route may not be readily available, industrial belts like this often report incidents related to vehicle overloading and poor road conditions.
- **Hazardous Materials Incidents:** Review local news archives for any specific incidents and take precautions based on past challenges encountered.

8. Environmental Considerations and Sensitive Areas:

- Protected Zones:** Though primarily industrial, some stretches may pass near agricultural fields or sensitive ecological areas. Minimize disruption and spills.

9. Analysis of Communication Coverage:

- Dead Zones:** Mobile coverage might be intermittent, especially in remote stretches between smaller towns. Satellite communication might be necessary for reliable contact.

10. Estimated Emergency Response Times:

- Urban Areas:** Probably quicker response times (within 15-30 minutes) due to proximity to hospitals and services.
- Rural Areas:** Could experience delays of up to an hour or more; emergency services may have limited reach.

11. Overall Summary of Risk Assessment:

This route requires careful planning due to variable road conditions, potential weather-related challenges, and traffic patterns specific to urban and rural transitions. While industrial hubs offer better infrastructure, ensure to navigate through these areas during non-peak hours. Awareness of local regulations and securing necessary permits are essential. Communication gaps should be addressed through alternative systems to ensure constant connectivity. Overall, the balance between timely travel and safety, adjusted for environmental and infrastructure factors, will lead to successful and secure transportation of hazardous materials.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
1	Turn	High	26.73746, 83.22938	15 KM/Hr	0.08 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	26.74679, 83.22391	15 KM/Hr	1.64 km
6	Blind Spot	Blind Spot	26.75126, 83.22476	10 KM/Hr	2.13 km
7	Blind Spot	Blind Spot	26.75353, 83.20457	10 KM/Hr	4.19 km
8	Turn	High	26.75377, 83.20465	15 KM/Hr	4.25 km
0	Roundabout	High	26.74681, 83.25111	15 KM/Hr	8.10 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
9	Turn	High	26.74463, 83.53001	15 KM/Hr	40.47 km
10	Turn	Medium	26.74533, 83.52945	30 KM/Hr	41.00 km
11	Blind Spot	Blind Spot	26.74567, 83.52624	10 KM/Hr	41.35 km
12	Turn	High	26.75482, 83.52874	15 KM/Hr	42.34 km
13	Turn	High	26.75510, 83.52819	15 KM/Hr	42.46 km
14	Turn	High	26.76474, 83.53093	15 KM/Hr	43.39 km
15	Turn	Medium	26.76530, 83.53025	30 KM/Hr	43.65 km
16	Turn	High	26.76548, 83.52890	15 KM/Hr	43.76 km
17	Turn	Medium	26.76593, 83.52859	30 KM/Hr	43.86 km
18	Turn	Medium	26.76770, 83.52885	30 KM/Hr	43.98 km
19	Turn	Medium	26.76985, 83.53078	30 KM/Hr	44.31 km
20	Turn	High	26.77064, 83.53100	15 KM/Hr	44.44 km
21	Turn	Medium	26.77186, 83.52941	30 KM/Hr	44.66 km
22	Turn	Medium	26.78008, 83.52252	30 KM/Hr	45.94 km
23	Turn	Medium	26.78316, 83.51986	30 KM/Hr	46.37 km
24	Turn	High	26.78467, 83.51986	15 KM/Hr	46.49 km
25	Turn	High	26.78557, 83.51696	15 KM/Hr	46.85 km
26	Turn	High	26.78476, 83.51593	15 KM/Hr	46.97 km
27	Blind Spot	Blind Spot	26.78485, 83.51409	10 KM/Hr	47.16 km
28	Turn	High	26.82411, 83.52193	15 KM/Hr	50.80 km
29	Turn	Medium	26.82501, 83.52405	30 KM/Hr	51.76 km
30	Turn	Medium	26.82468, 83.52681	30 KM/Hr	52.01 km
31	Blind Spot	Blind Spot	26.82741, 83.53262	10 KM/Hr	52.77 km
32	Turn	High	26.82760, 83.53150	15 KM/Hr	52.87 km
33	Turn	High	26.83147, 83.53004	15 KM/Hr	53.36 km
34	Turn	Medium	26.85692, 83.59186	30 KM/Hr	60.15 km
35	Turn	Medium	26.88040, 83.63801	30 KM/Hr	65.48 km
36	Turn	Medium	26.88095, 83.63957	30 KM/Hr	65.75 km
37	Turn	High	26.90720, 83.67525	15 KM/Hr	70.46 km
38	Turn	Medium	26.90703, 83.67572	30 KM/Hr	70.51 km
39	Turn	Medium	26.90734, 83.68055	30 KM/Hr	70.96 km
40	Turn	Medium	26.91427, 83.69294	30 KM/Hr	72.45 km
41	Turn	High	26.92137, 83.70560	15 KM/Hr	73.96 km
42	Turn	High	26.92871, 83.70598	15 KM/Hr	74.79 km

	Risk Type	Risk Level	Coordinates	Speed Limit	Distance from Start
43	Turn	Medium	26.93113, 83.71376	30 KM/Hr	75.43 km
44	Turn	High	26.92985, 83.71941	15 KM/Hr	76.20 km
45	Turn	Medium	26.97497, 83.74629	30 KM/Hr	81.95 km
46	Turn	Medium	26.97887, 83.74947	30 KM/Hr	82.46 km
47	Turn	Medium	26.98781, 83.76158	30 KM/Hr	84.06 km
48	Turn	Medium	26.99816, 83.76801	30 KM/Hr	85.20 km
49	Turn	Medium	27.00220, 83.77448	30 KM/Hr	86.25 km
50	Turn	Medium	27.00374, 83.78093	30 KM/Hr	86.92 km
51	Turn	Medium	27.01115, 83.79150	30 KM/Hr	88.35 km
52	Turn	Medium	27.01669, 83.83835	30 KM/Hr	93.15 km
53	Turn	Medium	27.03299, 83.87622	30 KM/Hr	97.33 km
54	Turn	Medium	27.03272, 83.87992	30 KM/Hr	97.91 km
55	Blind Spot	Blind Spot	27.03570, 83.88387	10 KM/Hr	98.44 km
56	Turn	Medium	27.05208, 83.86563	30 KM/Hr	100.98 km
57	Turn	Medium	27.05973, 83.85972	30 KM/Hr	102.17 km

Emergency Locations

Found: 1 hospital(s)

	type	name	coordinates	speed_limit	risk_level	Distance from Start
0	hospital	Prakash Hospital	26.6957341, 83.4807387	30 km/h	Medium	33.12 km

Crowded Spots

Route Photos of Risky Spots



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 2.13 km

Coordinates: 26.75126, 83.22476



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 4.19 km

Coordinates: 26.75353, 83.20457



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Risk Type: Turn**Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 4.25 km****Coordinates: 26.75377, 83.20465**

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Risk Type: Roundabout**Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 8.10 km****Coordinates: 26.74681, 83.25111**



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Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 40.47 km

Coordinates: 26.74463, 83.53001



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Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 41.00 km

Coordinates: 26.74533, 83.52945



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Risk Type: Blind Spot**Risk Level:** Blind Spot**Speed Limit:** 10 KM/Hr**Distance from Start:** 41.35 km**Coordinates:** 26.74567, 83.52624

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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 42.34 km**Coordinates:** 26.75482, 83.52874



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 42.46 km

Coordinates: 26.75510, 83.52819



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 43.39 km

Coordinates: 26.76474, 83.53093



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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 43.65 km**Coordinates:** 26.76530, 83.53025

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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 43.76 km**Coordinates:** 26.76548, 83.52890



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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 43.86 km**Coordinates:** 26.76593, 83.52859

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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 43.98 km**Coordinates:** 26.76770, 83.52885



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Risk Type: Turn**Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 44.44 km****Coordinates: 26.77064, 83.53100**

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Risk Type: Turn**Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 44.66 km****Coordinates: 26.77186, 83.52941**



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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 45.94 km**Coordinates:** 26.78008, 83.52252

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Risk Type: Turn**Risk Level:** Medium**Speed Limit:** 30 KM/Hr**Distance from Start:** 46.37 km**Coordinates:** 26.78316, 83.51986



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 46.49 km

Coordinates: 26.78467, 83.51986



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 47.16 km

Coordinates: 26.78485, 83.51409



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 50.80 km

Coordinates: 26.82411, 83.52193



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 51.76 km

Coordinates: 26.82501, 83.52405



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 52.01 km

Coordinates: 26.82468, 83.52681



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 52.77 km

Coordinates: 26.82741, 83.53262



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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 52.87 km**Coordinates:** 26.82760, 83.53150

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Risk Type: Turn**Risk Level:** High**Speed Limit:** 15 KM/Hr**Distance from Start:** 53.36 km**Coordinates:** 26.83147, 83.53004



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Risk Type: Turn**Risk Level: High****Speed Limit: 15 KM/Hr****Distance from Start: 70.46 km****Coordinates: 26.90720, 83.67525**

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Risk Type: Turn**Risk Level: Medium****Speed Limit: 30 KM/Hr****Distance from Start: 70.51 km****Coordinates: 26.90703, 83.67572**



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 70.96 km
Coordinates: 26.90734, 83.68055



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Distance from Start: 72.45 km
Coordinates: 26.91427, 83.69294



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 73.96 km

Coordinates: 26.92137, 83.70560



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Distance from Start: 74.79 km

Coordinates: 26.92871, 83.70598



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 84.06 km

Coordinates: 26.98781, 83.76158



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 86.92 km

Coordinates: 27.00374, 83.78093



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 88.35 km

Coordinates: 27.01115, 83.79150



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 93.15 km

Coordinates: 27.01669, 83.83835



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 100.98 km

Coordinates: 27.05208, 83.86563



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Distance from Start: 102.17 km

Coordinates: 27.05973, 83.85972

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