



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal TO RAJA ENTERPRISES

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

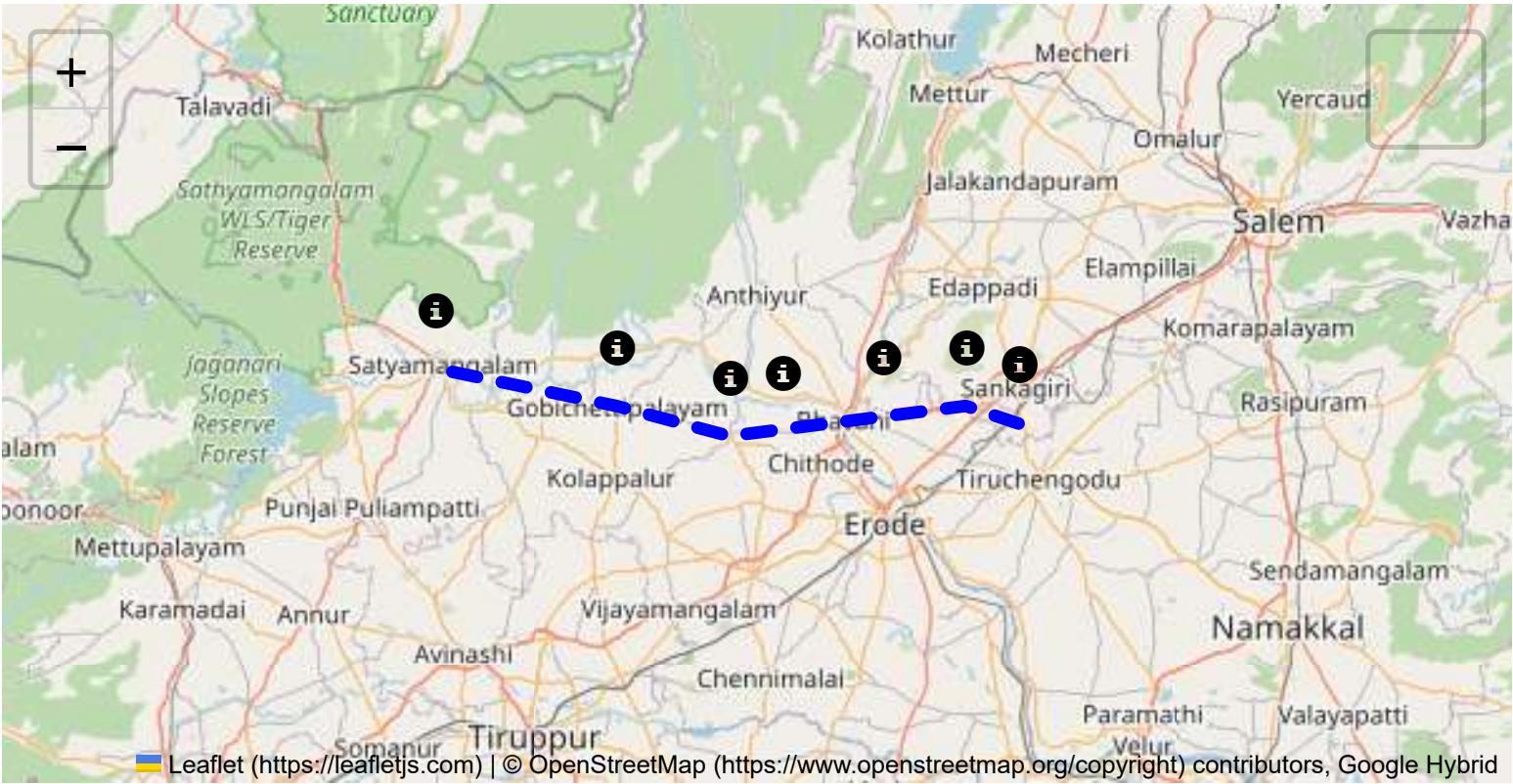
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

Journey Risk Mitigation

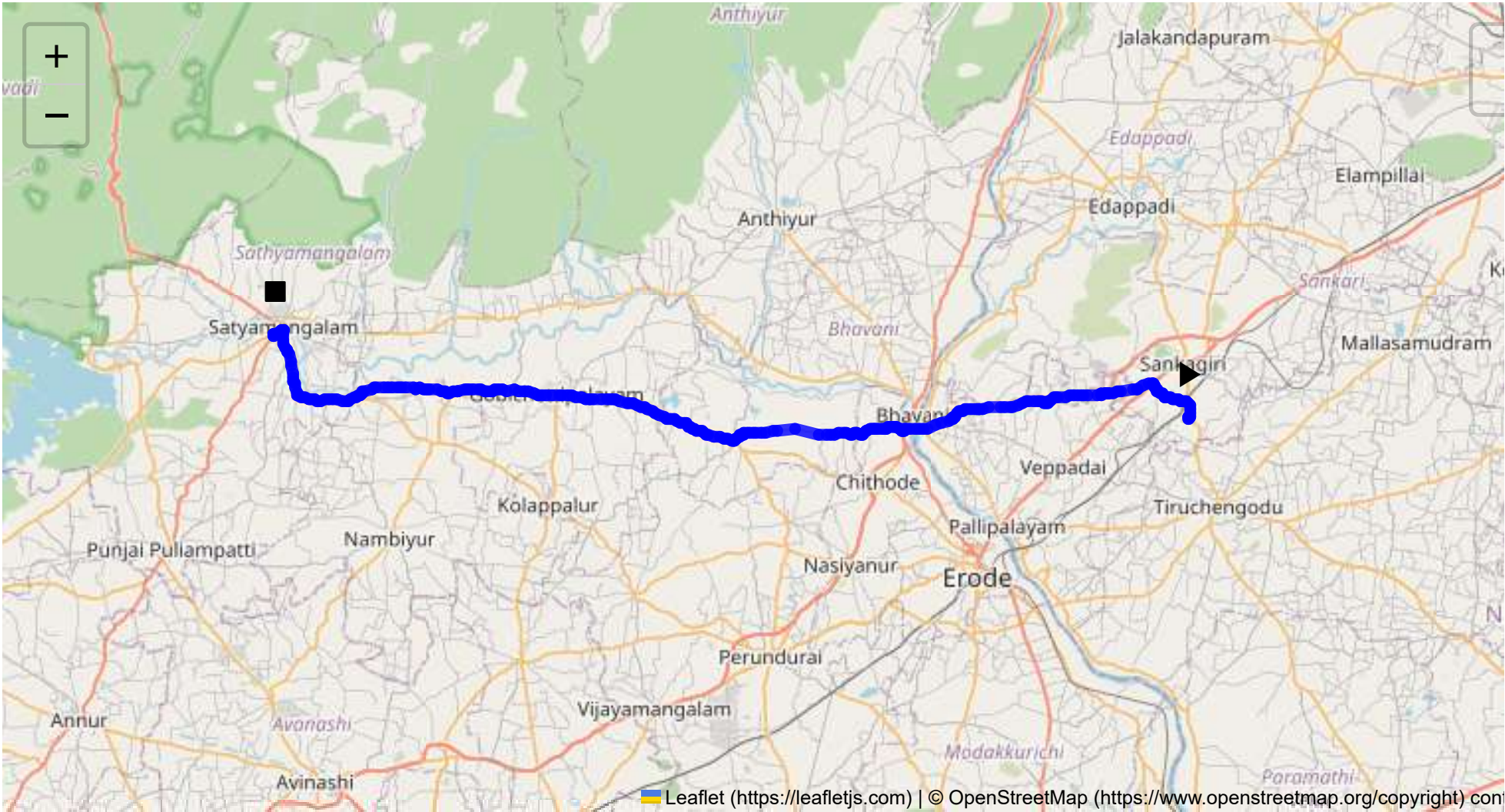
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 79.04 km
Estimated Duration: 1.7 hours
Adjusted Duration (Heavy Vehicle): 2.2 hours
Start: (11.4381, 77.8734)
End: (11.49545, 77.237474)



Risk Spots

	RiskSpotType	Coordinates	Speed Limit	Distance from Start
1	Turn	11.43822, 77.87348	15 KM/Hr	0.01 km
2	Turn	11.43961, 77.87341	15 KM/Hr	0.14 km
3	Turn	11.44029, 77.87544	15 KM/Hr	0.29 km

	RiskSpotType	Coordinates	Speed Limit	Distance from Start
4	Turn	11.44893, 77.87413	15 KM/Hr	1.30 km
5	Turn	11.45127, 77.86734	15 KM/Hr	2.15 km
6	Turn	11.45350, 77.85700	15 KM/Hr	3.29 km
7	Turn	11.45845, 77.85141	15 KM/Hr	4.11 km
8	Turn	11.46303, 77.84945	15 KM/Hr	4.65 km
9	Turn	11.45542, 77.81725	15 KM/Hr	8.37 km
10	Blind Spot	11.45634, 77.81673	10 KM/Hr	8.51 km
11	Blind Spot	11.44530, 77.72783	10 KM/Hr	18.65 km
12	Turn	11.43000, 77.67564	15 KM/Hr	24.87 km
13	Turn	11.43334, 77.66667	15 KM/Hr	25.97 km
14	Turn	11.43222, 77.65346	15 KM/Hr	27.45 km
15	Turn	11.42902, 77.57113	15 KM/Hr	36.63 km
16	Turn	11.42837, 77.56935	15 KM/Hr	36.85 km
17	Turn	11.42871, 77.56708	15 KM/Hr	37.08 km
18	Turn	11.42707, 77.56407	15 KM/Hr	37.57 km
19	Turn	11.42693, 77.56227	15 KM/Hr	37.74 km
20	Turn	11.42329, 77.55798	15 KM/Hr	38.41 km
21	Turn	11.45748, 77.36608	15 KM/Hr	59.84 km
22	Turn	11.45763, 77.36309	15 KM/Hr	60.28 km
23	Turn	11.45750, 77.35617	15 KM/Hr	61.18 km
24	Turn	11.45298, 77.25848	15 KM/Hr	72.20 km
25	Turn	11.45536, 77.25423	15 KM/Hr	72.74 km
26	Turn	11.49069, 77.24436	15 KM/Hr	76.84 km
27	Blind Spot	11.49929, 77.24500	10 KM/Hr	77.84 km
0	Roundabout	11.49613, 77.23785	15 KM/Hr	78.66 km

Emergency Services

	type	name	coordinates	side_of_road
1	hospital	Government Hospital	11.4525596, 77.7749426	Opposite Side
3	hospital	Dhanvantri Multi Speciality Hospital	11.451362, 77.766602	Opposite Side
4	hospital	Dhanvanthri Hospital	11.4496712, 77.7593772	Opposite Side

	type	name	coordinates	side_of_road
5	hospital	J.K.K. Trust Hospital	11.4445841, 77.7307962	Driver's Side
7	hospital	Shri Sathyanarayana Hospital	11.4291297, 77.6913408	Driver's Side
9	hospital	Thanish Siddha Hospital	11.430003, 77.674964	Driver's Side
10	clinic	Harshitha Clinic	11.4313207, 77.674718	Opposite Side
11	hospital	Sri Kaalangi Siddhar Mooligai Vaithiya Nilayam	11.432369, 77.674894	Opposite Side
12	clinic	G.K Clinic	11.4297244, 77.6749715	Driver's Side
13	hospital	PST Mahaa Hospital	11.4312903, 77.6585751	Driver's Side
14	hospital	Dharun Hospital	11.4223638, 77.5597735	Driver's Side
15	hospital	Dr. Ramaswamy Hospital	11.4249065, 77.5535658	Opposite Side
16	hospital	Dakshin Trauma Centre	11.454593, 77.4461819	Opposite Side
17	hospital	Dakshin Hospital	11.4546301, 77.445905	Opposite Side
18	hospital	Sri Varahi Herbal Research Centre and Hospital	11.4539333, 77.4427438	Driver's Side
19	clinic	Germen Homeopathy Clinic	11.4536305, 77.4394692	Driver's Side
20	hospital	JP Hospital	11.454765, 77.438257	Driver's Side
21	hospital	KKS Hospital	11.4551792, 77.4392927	Opposite Side
22	clinic	Anandhan Clinic	11.4548037, 77.4349074	Driver's Side
23	hospital	Kumaran Hospital	11.4533971, 77.4349621	Driver's Side
24	hospital	Hariharan Hospital	11.4523578, 77.4299287	Driver's Side
25	hospital	Vasanth Hospital	11.4526864, 77.4292173	Driver's Side
26	hospital	KKRS Hospital	11.45417, 77.430584	Driver's Side
27	clinic	Jeeva Nursing Home	11.4533031, 77.4294145	Driver's Side

	type	name	coordinates	side_of_road
28	hospital	Sathya Hospital	11.4561856, 77.4298694	Opposite Side
29	hospital	S K Hospital	11.4540106, 77.430108	Driver's Side
30	hospital	Sivakami Hospital	11.4531846, 77.4299288	Driver's Side
31	clinic	Sri Sudha Physiotherapy Clinic	11.4559915, 77.4300217	Opposite Side
32	hospital	Arun Hospital	11.4538121, 77.4305743	Driver's Side
33	clinic	Sairam Clinic	11.4560122, 77.4306716	Opposite Side
34	clinic	Anand Nursing Home	11.4553169, 77.4296248	Opposite Side
35	clinic	Kanmani Child Care Clinic	11.4545273, 77.428668	Driver's Side
36	hospital	Sivasakthi Hospital	11.4544711, 77.4297229	Driver's Side
37	clinic	NMS Cardio Care Clinic	11.4550147, 77.430786	Opposite Side
38	hospital	SS Children's Hospital	11.4555386, 77.4296357	Opposite Side
39	hospital	Poorani Ravichandran Hospital	11.4550863, 77.4307802	Opposite Side
40	hospital	Kavitha Children's Hospital	11.4565402, 77.4310815	Opposite Side
41	hospital	SP Dhanapal Hospital	11.4559935, 77.4304406	Opposite Side
42	clinic	Gobi Siddha Health Centre	11.455616, 77.4307062	Opposite Side
43	clinic	Sri Dhanvantari Siddha Clinic	11.4561216, 77.4295797	Opposite Side
44	hospital	M.S Children's Hospital	11.4556012, 77.4301006	Opposite Side
45	hospital	Gobi Diabetic Hospital	11.455394, 77.4301181	Opposite Side
46	clinic	Dr. Ramesh Babu Clinic	11.4560871, 77.4296353	Opposite Side
47	hospital	Sankareswari Eye Hospital	11.4572997, 77.428765	Opposite Side

	type	name	coordinates	side_of_road
48	hospital	Dr. Moorthy Hospital	11.4546045, 77.4308533	Driver's Side
49	hospital	SP Hospital	11.456607, 77.430302	Opposite Side
50	hospital	Government Hospital	11.4565126, 77.4288768	Opposite Side
51	pharmacy	Abirami Medicals	11.4550894, 77.4309286	Opposite Side
52	hospital	Best Hospital	11.4543558, 77.4263617	Driver's Side
53	hospital	Rajasekaran Hospital	11.454463, 77.4262	Driver's Side
54	hospital	Samuel Hospital	11.4542555, 77.4271194	Driver's Side
55	hospital	Neha Hospital	11.4560138, 77.4270219	Opposite Side
56	hospital	Arun Hospital	11.4548852, 77.4250314	Opposite Side
57	hospital	Sri Chakra Hospital	11.4544464, 77.4228363	Driver's Side
58	hospital	U M Hospital	11.4544151, 77.4240386	Driver's Side
59	hospital	Dr. Gopal Hospital	11.455258, 77.422901	Opposite Side
60	clinic	VG Ortho Centre	11.4550504, 77.4225102	Opposite Side
61	clinic	Palaniappa Clinic	11.4555925, 77.4202828	Opposite Side
62	hospital	Abi SK Hospital	11.457163, 77.412487	Driver's Side
63	clinic	Nalam Vazh S.K Siddha and Varma Clinic	11.457576, 77.412164	Opposite Side
64	clinic	Singiripalayam Natarajan Siddha Ortho Care	11.4603252, 77.3183801	Opposite Side
65	hospital	Pee Vee Hospital	11.4960866, 77.2437224	Driver's Side
66	hospital	Sakthi Hospital	11.498927, 77.2433702	Opposite Side
67	hospital	Anush Hospital	11.500453, 77.2449535	Opposite Side

Rest Stops

	type	name	coordinates	side_of_road
0	fuel	SLOA Bunk - Unit II	11.4543854, 77.8052665	Driver's Side
2	restaurant	Canteen	11.4478386, 77.7705441	Driver's Side
6	fuel	Reliance	11.4325168, 77.6912865	Opposite Side
8	fuel	Indian Oil	11.4321177, 77.6765153	Opposite Side

Welcome to the Journey Risk Management Study

Route Map Overview

The route from Sangagiri to Sathyamangalam via several small towns in Tamil Nadu covers approximately 79.04 kilometers. It involves several highways and main roads, notably the Bhavani Main Road and the Sathiyamangalam Gobichettipalayam Erode Highway. This path passes through both urban and rural settings, offering a mix of developed infrastructure and terrain.

Typical Weather Conditions and Hazards

Tamil Nadu experiences a tropical climate with distinct dry and wet seasons. The region can have severe rainfall during the monsoon (June to September), which may lead to waterlogging or flooding in low-lying areas, especially near river crossings and rural sections. The dry season (March to June) can cause dusty conditions, reducing visibility.

Traffic Patterns and Congestion

Traffic patterns show increased congestion during morning (7:30 AM - 9:30 AM) and evening (5:30 PM - 7:30 PM) peak hours, particularly in urbanized portions like Gobichettipalayam. Major intersections and towns along the Bhavani Main Road may experience slow-moving traffic due to local market activities and commuter rush.

Road Quality and Infrastructure

The road quality varies significantly along the route. Major highways are generally well-paved and maintained, while some smaller roads in rural areas show signs of wear and pot-holes. Roadway signage is typically adequate, but there may be fewer lighting provisions in rural stretches, increasing hazards during nighttime travel.

Alternative Routes for Emergencies

If part of this route is blocked or unsafe, consider detouring through Erode as an alternative, though it may add significant distance and time. Locals familiar with regional shortcuts might offer additional,

albeit narrower, alternatives.

Regulations on Hazardous Material Transport

Tamil Nadu imposes strict regulations on the transport of hazardous materials, including required permits and adherence to safety measures. Transporters must check with regional authorities for any route-specific restrictions or updated guidelines due to construction or local events.

Historical Incidents Involving Heavy Vehicles

Incidents involving heavy or hazardous materials are historically rare but have occurred due to driver fatigue or mechanical failure, particularly in sections with significant elevation changes or narrow roadways.

Environmental Considerations and Sensitive Areas

The route skirts agricultural land, so appropriate precautions should be taken to avoid contamination from hazardous spills. Additionally, wildlife may cross roads in rural areas, necessitating driver vigilance.

Communication Coverage and Dead Zones

Most urban areas along the route are well-covered by cellular networks, but rural stretches may have intermittent coverage, creating potential dead zones. Drivers should ensure that communication devices are fully charged before traveling.

Estimated Emergency Response Times

Emergency response times can vary. In urban areas like Gobichettipalayam, emergency vehicles can typically respond within 30 minutes. In remote sections, response times may extend to over an hour due to distance and road conditions.

Risk Assessment Summary

- **Weather Risks:** Moderate, with potential for flooding.
- **Traffic Congestion:** High during peak hours in urban areas.
- **Road Quality:** Variable, with potential hazards in rural segments.
- **Emergency Accessibility:** Limited in rural sections, potentially slow.

Overall, the route presents moderate risk for heavy vehicles carrying hazardous materials, with significant considerations for weather and traffic congestion. Vigilance is required, particularly in rural segments, and alternative route planning is recommended in case of emergencies. Employing a well-paced and cautious driving strategy, alongside staying updated on local regulations and traffic advisories, will aid in safe transport along this route.

Route Photos of Risky Spots



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 0.29 km

Coordinates: 11.44029, 77.87544



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 1.30 km

Coordinates: 11.44893, 77.87413



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 2.15 km

Coordinates: 11.45127, 77.86734



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 3.29 km

Coordinates: 11.45350, 77.85700



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 4.11 km

Coordinates: 11.45845, 77.85141



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 4.65 km

Coordinates: 11.46303, 77.84945



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 8.37 km

Coordinates: 11.45542, 77.81725



Risk Type: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 8.51 km
Coordinates: 11.45634, 77.81673



Risk Type: Blind Spot
Speed Limit: 10 KM/Hr
Distance from Start: 18.65 km
Coordinates: 11.44530, 77.72783



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 24.87 km

Coordinates: 11.43000, 77.67564



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 25.97 km

Coordinates: 11.43334, 77.66667



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 27.45 km

Coordinates: 11.43222, 77.65346



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 36.63 km

Coordinates: 11.42902, 77.57113



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 36.85 km

Coordinates: 11.42837, 77.56935



Risk Type: Turn
Speed Limit: 15 KM/Hr
Distance from Start: 37.08 km
Coordinates: 11.42871, 77.56708



Risk Type: Turn
Speed Limit: 15 KM/Hr
Distance from Start: 37.57 km
Coordinates: 11.42707, 77.56407



Risk Type: Turn
Speed Limit: 15 KM/Hr
Distance from Start: 37.74 km
Coordinates: 11.42693, 77.56227



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 38.41 km

Coordinates: 11.42329, 77.55798



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 59.84 km

Coordinates: 11.45748, 77.36608



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 60.28 km

Coordinates: 11.45763, 77.36309



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 61.18 km

Coordinates: 11.45750, 77.35617



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 72.20 km

Coordinates: 11.45298, 77.25848



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 72.74 km

Coordinates: 11.45536, 77.25423



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 76.84 km

Coordinates: 11.49069, 77.24436



Risk Type: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 77.84 km

Coordinates: 11.49929, 77.24500



Risk Type: Roundabout

Speed Limit: 15 KM/Hr

Distance from Start: 78.66 km

Coordinates: 11.49613, 77.23785

[Download Interactive Map](#)