



# IndianOil

## **JOURNEY RISK MANAGEMENT (JRM) STUDY**

**Salem Terminal TO R P G V RANGANATHAM  
AGENCIES**

### **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.

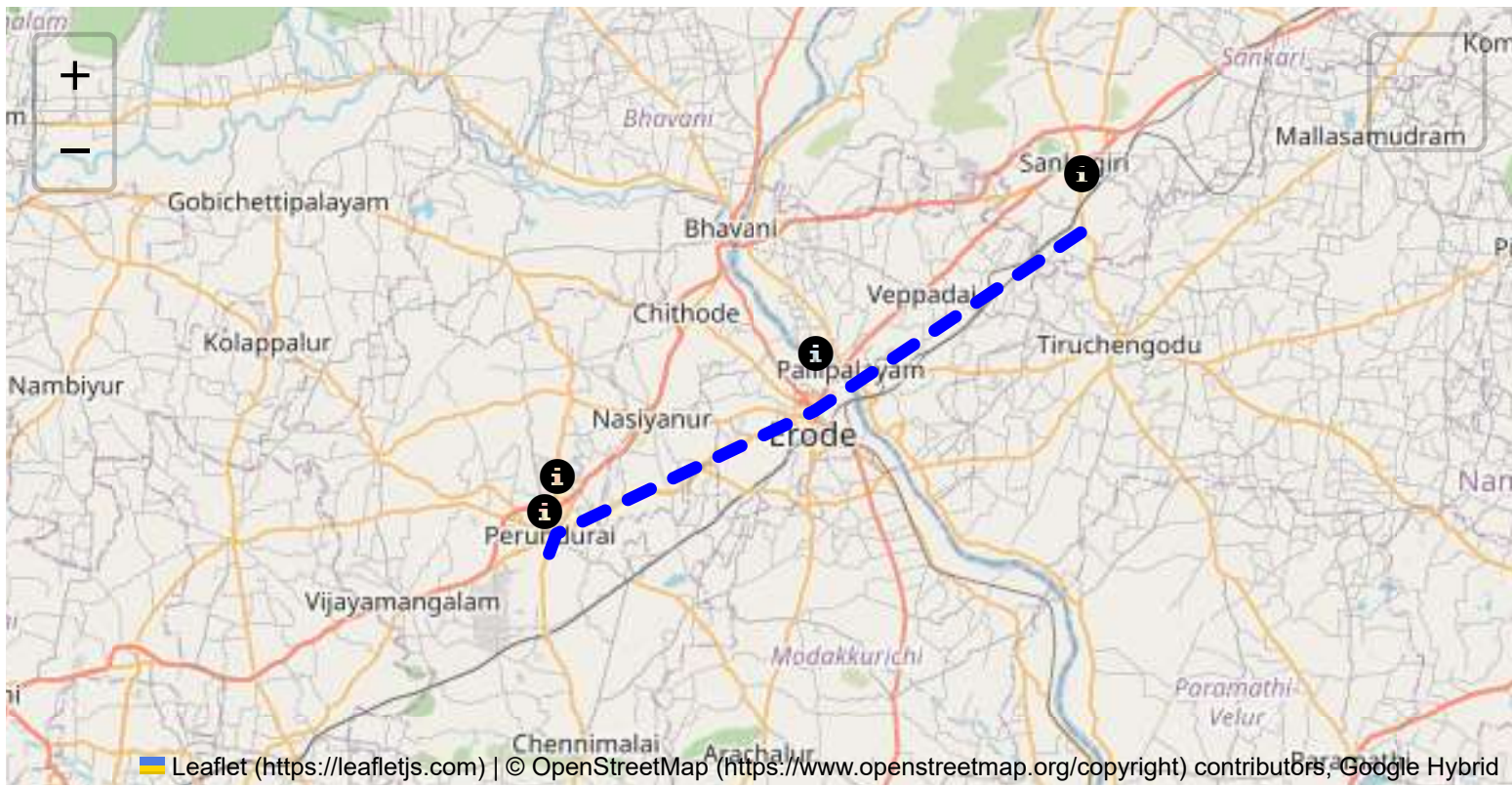
## **Journey Risk Mitigation**

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.

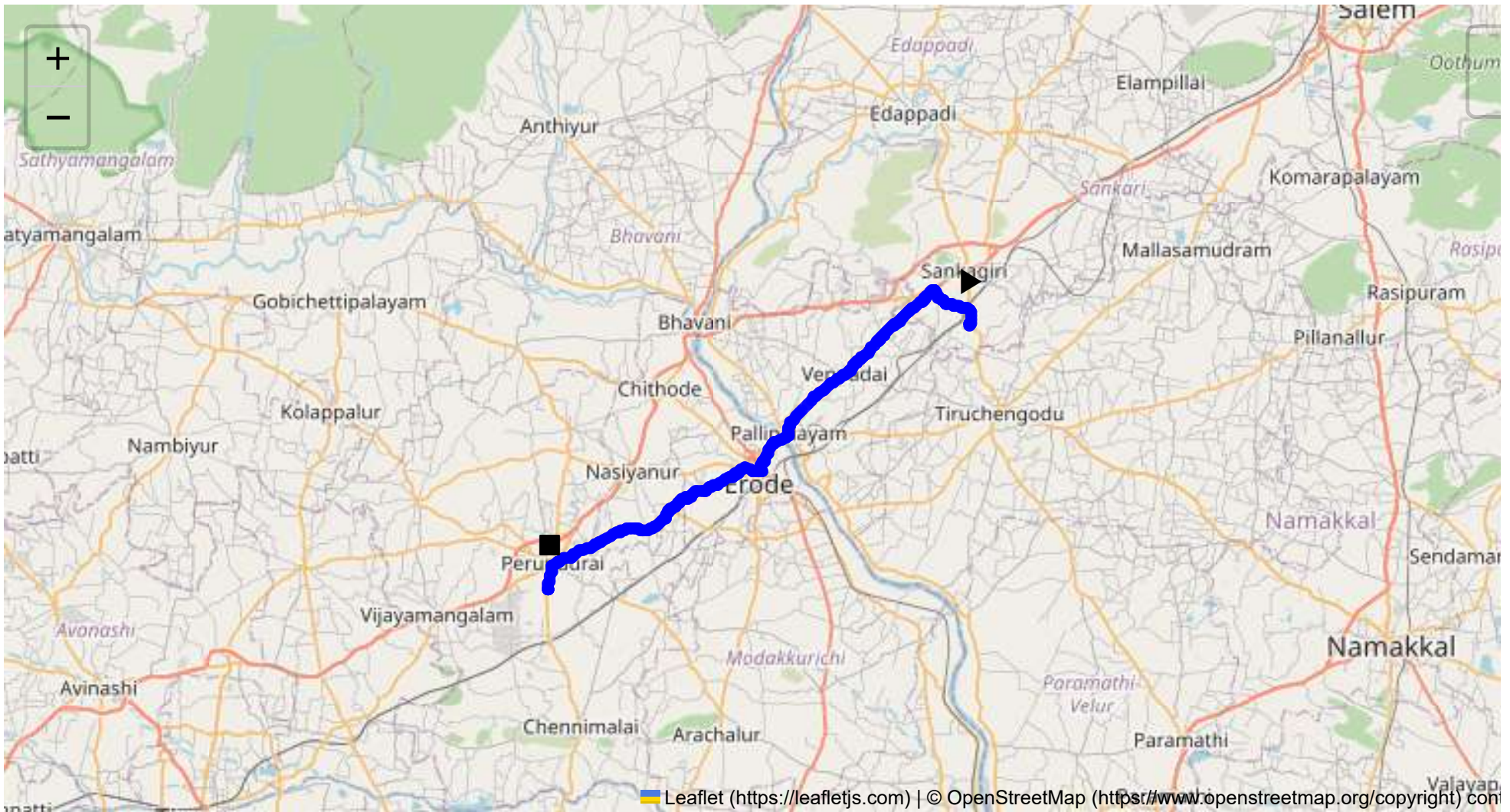
## **Compliance with Government Directives**

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: 45.11 km**  
**Estimated Duration: 1.2 hours**  
**Adjusted Duration (Heavy Vehicle): 1.5 hours**  
**Start: (11.4381, 77.8734)**  
**End: (11.25732, 77.579651)**



## Risk Spots

	RiskSpotType	Coordinates	Speed Limit	Distance from Start
2	Turn	11.43822, 77.87348	15 KM/Hr	0.01 km
3	Turn	11.43961, 77.87341	15 KM/Hr	0.14 km
4	Turn	11.44029, 77.87544	15 KM/Hr	0.31 km



	RiskSpotType	Coordinates	Speed Limit	Distance from Start
5	Turn	11.44893, 77.87413	15 KM/Hr	1.36 km
6	Turn	11.45350, 77.85700	15 KM/Hr	3.34 km
7	Turn	11.45845, 77.85141	15 KM/Hr	4.12 km
8	Turn	11.46046, 77.85037	15 KM/Hr	4.37 km
9	Turn	11.46303, 77.84945	15 KM/Hr	4.66 km
0	Roundabout	11.37086, 77.74828	15 KM/Hr	19.87 km
10	Turn	11.36626, 77.74788	15 KM/Hr	20.45 km
11	Turn	11.34172, 77.72823	15 KM/Hr	24.15 km
12	Blind Spot	11.33920, 77.72902	10 KM/Hr	24.47 km
13	Turn	11.34074, 77.71702	15 KM/Hr	25.78 km
14	Turn	11.32279, 77.68016	15 KM/Hr	30.34 km
15	Turn	11.31921, 77.67316	15 KM/Hr	31.29 km
16	Turn	11.28883, 77.61276	15 KM/Hr	39.17 km
1	Roundabout	11.27718, 77.58674	15 KM/Hr	42.34 km
17	Turn	11.27450, 77.58271	15 KM/Hr	43.00 km
18	Blind Spot	11.25732, 77.57936	10 KM/Hr	44.96 km

## Emergency Services

	type	name	coordinates	side_of_road
1	hospital	Cheran Hospital	11.3680302, 77.7481976	Driver's Side
2	hospital	Sri Kumaran E N T Hospital	11.3657814, 77.7477763	Opposite Side
3	pharmacy	Pharmacy	11.3652161, 77.7486375	Driver's Side
4	hospital	Visaalam Hospitals	11.3651528, 77.747808	Opposite Side
5	hospital	Sri Krishna Hospital	11.3656648, 77.7477783	Opposite Side
7	police	Police Station	11.3630177, 77.7476505	Driver's Side
8	hospital	Government Hospital	11.3608508, 77.747453	Driver's Side
9	hospital	Sri Hari Sakthivel Hospital	11.3526901, 77.7323055	Opposite Side
10	hospital	Senthil Prakash Hospital	11.352639, 77.732267	Opposite Side

	type	name	coordinates	side_of_road
11	hospital	V K Hospital	11.3513792, 77.7313976	Opposite Side
12	hospital	Dhanvantri Critical Care Center	11.3504266, 77.7311274	Opposite Side
13	hospital	Indrajith Yoga Nature Cure Hospital	11.3499973, 77.732974	Driver's Side
14	hospital	Kumudha Hospital	11.3467172, 77.7306797	Opposite Side
15	hospital	Dhanvantri Critical Care Centre	11.35099, 77.730508	Opposite Side
16	hospital	City Hospital	11.3451151, 77.7300887	Opposite Side
17	clinic	K.B.N. Nursing Home	11.344835, 77.7310771	Driver's Side
18	clinic	Kpn Nursing Home	11.3437022, 77.7304525	Driver's Side
19	hospital	Milan Hospital	11.343591, 77.733182	Driver's Side
20	hospital	Kaviraj Ayurveda Hospital	11.3400349, 77.7298199	Driver's Side
21	hospital	Dr Kokilasekar Nursing Hospital	11.3395874, 77.7269838	Opposite Side
22	clinic	M.R Nursing Home	11.3386746, 77.7294262	Driver's Side
23	hospital	Government Maternity Hospital, Agathiar	11.33716, 77.727075	Driver's Side
24	clinic	Naseer Nursing Home	11.3364485, 77.7271691	Driver's Side
25	clinic	Dr. R Kumaraswamy Sexologist Clinic	11.3396057, 77.7221701	Opposite Side
26	clinic	Newlife Fertility Centre	11.3389396, 77.7213358	Driver's Side
27	hospital	Guhan ENT Hospital	11.339489, 77.721001	Driver's Side
28	clinic	Janet Nursing Home	11.3396455, 77.7203698	Driver's Side
29	hospital	Dr. Pondiperumal Hospital	11.3390924, 77.7205408	Driver's Side
30	hospital	Universal Hospital	11.3411046, 77.7185217	Opposite Side
31	hospital	Duraisamy Hospital	11.3391625, 77.7187054	Driver's Side
32	hospital	Srimathi Murugeshan Hospital	11.3389205, 77.7187791	Driver's Side

	type	name	coordinates	side_of_road
33	hospital	Abisek Medical Centre	11.3415975, 77.7191789	Opposite Side
34	hospital	Sri Vijaya Hitech Hospital	11.3400011, 77.7192251	Driver's Side
35	hospital	Suriya Hospital	11.340248, 77.7186452	Driver's Side
36	hospital	Bharath Hospital	11.3370288, 77.7186516	Driver's Side
37	hospital	Abitha Eye Hospital	11.34021, 77.7187589	Driver's Side
38	hospital	Shri Vijaiah Trauma Care Hospital	11.3418935, 77.7193036	Opposite Side
39	hospital	Surya Hospital	11.3400026, 77.7190977	Driver's Side
40	hospital	District Hospital, Eroda	11.3393048, 77.717926	Driver's Side
41	hospital	Dr. Agarwal's Eye Hospital Ltd. - Erode	11.3421842, 77.7173066	Opposite Side
42	hospital	L.V.S. Eye Hospital	11.3385839, 77.7156597	Driver's Side
43	hospital	Erode Kidney's Centre	11.3383801, 77.7164201	Driver's Side
44	hospital	Shri Preethe Hospital	11.3385944, 77.7157979	Driver's Side
45	hospital	Dr Nsk Hospital	11.3381737, 77.7153821	Driver's Side
46	hospital	Devi Hospital	11.34116, 77.718307	Opposite Side
47	hospital	KMCH Speciality Hospital	11.33911, 77.716284	Driver's Side
48	hospital	SCS Hospital And Urology Clinic	11.3410253, 77.718043	Opposite Side
49	hospital	Anusha Hospital	11.3397168, 77.7166805	Driver's Side
50	clinic	Vanalika Homoeo Centre	11.341349, 77.717987	Opposite Side
51	clinic	Skin Care Clinic	11.3409042, 77.7178413	Opposite Side
52	hospital	Care Hospital	11.338443, 77.716511	Driver's Side
53	hospital	Ortho Life Hospital	11.3395729, 77.7167329	Driver's Side
54	hospital	SRC Hospital	11.3413999, 77.7177834	Opposite Side

	type	name	coordinates	side_of_road
55	hospital	Keran Hospital	11.3400456, 77.7154808	Opposite Side
56	hospital	Gem Hospital	11.338106, 77.7155077	Driver's Side
57	hospital	Nalan Hospital	11.3399703, 77.716773	Driver's Side
58	clinic	Dr. Chandran Skin Laser Centre	11.3413527, 77.7174891	Opposite Side
59	hospital	Sri Hari Hospital	11.338357, 77.7164204	Driver's Side
60	hospital	Annai Ent and Head and Neck Care Center	11.3387785, 77.7149034	Driver's Side
61	clinic	Madhu Surgical Clinic	11.3386602, 77.7143441	Driver's Side
62	hospital	Kovai Medical Centre And Hospital, Perundurai	11.3381361, 77.7139593	Driver's Side
63	hospital	Senthil Multispeciality Hospital	11.338983, 77.7138529	Opposite Side
64	hospital	Kavin Hospital	11.3383568, 77.7138882	Driver's Side
65	clinic	RB Kids Clinic	11.339221, 77.713915	Opposite Side
66	hospital	Arun Fracture Hospital	11.3378114, 77.7152632	Driver's Side
67	hospital	Srinivasa Speciality Hospital	11.337577, 77.715527	Driver's Side
68	clinic	Sathyavathi Ramalingam Clinic	11.3380366, 77.7166875	Driver's Side
69	hospital	Curie Hospital	11.3380517, 77.7140038	Driver's Side
70	hospital	Maruthi Medical Centre(Mmch Hospital)	11.3384018, 77.7130616	Opposite Side
71	clinic	Vadivu Subramanian Nursing Home	11.337507, 77.7152038	Driver's Side
72	hospital	Erode Trust Hospital	11.3399422, 77.7134188	Opposite Side
73	hospital	Sri Athi Sathya Hospital	11.3392651, 77.7126583	Opposite Side
74	clinic	Rahat Acu Clinic	11.3378679, 77.7123699	Opposite Side
75	hospital	Arc Fertility Hospital	11.3397231, 77.7130655	Opposite Side
76	hospital	Velavan Hospital	11.3384075, 77.7123677	Opposite Side

	type	name	coordinates	side_of_road
77	hospital	Vanjee Multispeciality Dental Centre	11.3418385, 77.7132218	Opposite Side
79	hospital	Vsm Hospital Atho And Maternity Centre	11.3374641, 77.7117842	Opposite Side
80	hospital	Sudha Institute of Medical Sciences Hospital	11.3371539, 77.7109247	Opposite Side
81	hospital	Sri Harini Hospital	11.335935, 77.7112643	Driver's Side
82	hospital	Sholai Medical Centre	11.3364905, 77.7107674	Driver's Side
83	hospital	Arcees Hospital	11.3381082, 77.7110478	Opposite Side
84	hospital	Sakthipriya Hospital	11.337874, 77.711363	Opposite Side
85	hospital	V.S.M. Hospital	11.337176, 77.7113816	Opposite Side
86	hospital	SIMS Children Hospital	11.3376687, 77.7106065	Opposite Side
87	hospital	Bharani Paventhan Multi Speciality Hospital	11.3358357, 77.7081187	Opposite Side
88	hospital	Kalyani Kidney Care Centre	11.3383604, 77.7080879	Opposite Side
89	hospital	Gnanaganesh Hospital	11.3340114, 77.706332	Driver's Side
90	hospital	Siddhvedam Siddha Hospital	11.3336526, 77.7063319	Driver's Side
91	clinic	Sukeerthi Skin Care	11.3342224, 77.7051196	Opposite Side
95	hospital	RKR Neuro Hospital	11.3278243, 77.6991636	Driver's Side
96	hospital	TPN Hospital	11.3273279, 77.6928516	Driver's Side
97	hospital	Erode Hospital	11.3279227, 77.6924918	Opposite Side
98	hospital	Nalamthaa Siddha Hospital	11.3253867, 77.6901722	Driver's Side
99	hospital	Care 24 Medical Centre & Hospital	11.326585, 77.688148	Opposite Side
101	clinic	Vasan Eye Care	11.3223693, 77.6844101	Driver's Side
103	hospital	Erode Cancer Centre	11.313682, 77.6686621	Driver's Side



	type	name	coordinates	side_of_road
104	hospital	Krishna Medical Centre	11.2854479, 77.6039939	Opposite Side
105	hospital	Mag Hospital	11.2804816, 77.5959817	Opposite Side
106	hospital	Sree Shanthi Hospital	11.2778297, 77.5885653	Opposite Side
107	hospital	Government Hospital, Perundurai	11.2760337, 77.5874483	Driver's Side
108	hospital	Kongu Hospital	11.280273, 77.587989	Opposite Side
109	police	Police Station	11.277733, 77.5865812	Driver's Side
110	clinic	Sri Amman Clinic	11.275952, 77.5868085	Driver's Side
111	hospital	Marutham Hospital	11.2796906, 77.5864262	Driver's Side
112	clinic	Sri Clinic	11.27555, 77.586134	Driver's Side
113	clinic	Sridar Clinic	11.2755095, 77.5861442	Driver's Side
114	clinic	Thulasi Clinic	11.2766687, 77.5869752	Opposite Side
115	hospital	Santhi Hospital	11.2787879, 77.5872993	Opposite Side
116	hospital	KMCH Hospital	11.2788797, 77.5848796	Opposite Side
117	hospital	Priya Hospital	11.2761, 77.584773	Opposite Side
118	hospital	Sakthi Dental Hospital	11.2788566, 77.5849413	Opposite Side
119	hospital	Sivakumar Hospital	11.2770302, 77.5852952	Opposite Side
120	hospital	Anu Child Care	11.2765928, 77.5848408	Opposite Side
121	clinic	Avm Physiotherapy Clinic	11.2766435, 77.5842715	Opposite Side
122	clinic	Dass Homoeo Clinic	11.2771706, 77.5841177	Opposite Side
123	hospital	N V Nursing Home	11.2780408, 77.5848735	Opposite Side
125	hospital	Dr. Jayakanthan Hospital	11.2738446, 77.5881795	Driver's Side

	type	name	coordinates	side_of_road
126	clinic	Gks Child Clinic	11.2759154, 77.5832766	Opposite Side
127	clinic	Ravi Clinic	11.2768201, 77.5836969	Opposite Side
128	pharmacy	Nathan Medicals	11.2773384, 77.5829441	Opposite Side
129	clinic	Logeshwaran Homeo Clinic	11.277675, 77.583065	Opposite Side
130	clinic	Baby Dental and Poly Clinic	11.2753902, 77.5829593	Opposite Side

## Rest Stops

	type	name	coordinates	side_of_road
0	cafe	Cafe	11.370475, 77.7481115	Opposite Side
6	cafe	Cafe	11.3644585, 77.7477736	Opposite Side
78	hotel	Surabhi hotels and catering	11.3400317, 77.7129918	Opposite Side
92	fuel	Indian Oil	11.3341256, 77.7060208	Driver's Side
93	hotel	Hotel Shree Residency	11.3335551, 77.7045628	Driver's Side
94	car_repair	Ambal Auto	11.3325056, 77.7019438	Opposite Side
100	car_repair	Nexa Car Service	11.325529, 77.6855989	Opposite Side
102	fuel	HP	11.320818, 77.6793489	Driver's Side
124	cafe	Aroma Bakes	11.2789203, 77.5849372	Opposite Side
131	fuel	HP	11.2738669, 77.5820983	Opposite Side
132	fuel	Bharat Petroleum	11.2737039, 77.5817468	Opposite Side
133	fuel	Indian Oil	11.2734698, 77.5811949	Opposite Side
134	fuel	Indian Oil	11.2573964, 77.5796721	Opposite Side

## Welcome to the Journey Risk Management Study

### Route Overview

The route from CVQF+23W, Sangagiri to 1 Perundurai - Chennimalai Rd, Karumandisellipalayam spans about 45.11 kilometers, passing through Puthur, Erode, and Perundurai. This route takes you

predominantly along regional roads, interspersed with town centers and a variety of traffic environments, which are vital to understand for risk assessment.

## Weather Conditions

### Typical Weather Patterns

The region experiences a tropical climate, with the hottest months being April to June. The monsoon season starts from June and can extend till September, bringing heavy rainfall that might affect visibility and road conditions.

### Weather-Related Hazards

- Monsoon rains can lead to waterlogging and reduced traction on roads.
- High temperatures during summer months may cause roads to become slippery due to asphalt softening.

## Traffic Patterns

### Peak Hours and Congestion-Prone Areas

- **Erode:** Congestion is common around RKV Road, especially near Manikoonda, during morning (8-10 AM) and evening (5-8 PM) peak hours.
- **Perundurai:** The Old Bus Stand Road may experience heavy traffic during peak school and market hours (7-9 AM and 3-6 PM).

## Road Quality and Infrastructure

- **Sangagiri to Puthur:** The roads are generally well-maintained but can be narrow, requiring caution, especially in rural areas where unexpected agricultural vehicles may appear.
- **Erode to Perundurai:** Roads are generally broader but higher traffic requires heightened alertness. Watch for ongoing maintenance and diversions.

## Alternative Routes for Emergencies

In case of road closures or significant delays:

- Consider bypassing Erode via smaller local roads if feasible, though this might not be ideal for all heavy vehicles.
- Utilize state highways SH-84A and SH-96 which parallel segments of this route, providing a detour option.

## Local Regulations on Hazardous Material Transport

Transport regulations in Tamil Nadu mandate specific permits, placarding, and off-hours travel for hazardous materials. Ensure compliance with the local transport offices and carry necessary documentation.

## Historical Incidents

While statistics may not be exhaustive, Erode, being an industrial hub, has seen occasional incidents involving chemical spills and truck rollovers. Review historical reports and stay informed on standard emergency response procedures in these areas.

## Environmental Considerations

- **Water Bodies:** Navigate with care near bodies of water, especially during monsoon.
- **Dense Urban Areas:** Limit noise and emissions around populated locales to abide by local environmental guidelines.

## Communication Coverage

Most parts of this route have decent mobile network coverage, though rural segments between Sangagiri and Puthur might experience brief dead zones depending on the network provider.

## Emergency Response Times

- **Sangagiri to Puthur:** Response times might be slower due to distance from major towns (approximately 30-45 minutes).
- **Puthur to Erode:** Faster response times (15-30 minutes), given proximity to Erode.
- **Erode to Perundurai:** Benefit from quicker emergency service access (20 minutes) due to better infrastructure.

## Risk Assessment Summary

Overall, this route presents moderate risks typical of highways crossing urban centers and rural landscapes. Efficiency hinges on avoiding peak traffic times and staying informed about weather conditions. Proper adherence to hazardous material regulations and preparedness for minor and major emergencies will mitigate most risks effectively.

## Route Photos of Risky Spots





**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 0.31 km**

**Coordinates: 11.44029, 77.87544**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 1.36 km**

**Coordinates: 11.44893, 77.87413**





**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 3.34 km**

**Coordinates: 11.45350, 77.85700**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 4.12 km**

**Coordinates: 11.45845, 77.85141**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 4.37 km**

**Coordinates: 11.46046, 77.85037**





**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 4.66 km**

**Coordinates: 11.46303, 77.84945**



**Risk Type: Roundabout**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 19.87 km**

**Coordinates: 11.37086, 77.74828**





**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 20.45 km**

**Coordinates: 11.36626, 77.74788**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 24.15 km**

**Coordinates: 11.34172, 77.72823**



**Risk Type: Blind Spot**

**Speed Limit: 10 KM/Hr**

**Distance from Start: 24.47 km**

**Coordinates: 11.33920, 77.72902**





**Risk Type:** Turn

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 25.78 km

**Coordinates:** 11.34074, 77.71702



**Risk Type:** Turn

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 30.34 km

**Coordinates:** 11.32279, 77.68016





**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 31.29 km**

**Coordinates: 11.31921, 77.67316**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 39.17 km**

**Coordinates: 11.28883, 77.61276**



**Risk Type: Roundabout**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 42.34 km**

**Coordinates: 11.27718, 77.58674**





**Risk Type:** Turn

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 43.00 km

**Coordinates:** 11.27450, 77.58271



**Risk Type:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 44.96 km

**Coordinates:** 11.25732, 77.57936

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[Download Interactive Map](#)

