



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

IOCL Coimbatore Terminal to Adhoc Shri Siddivinayaka Agencies Unit 2

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

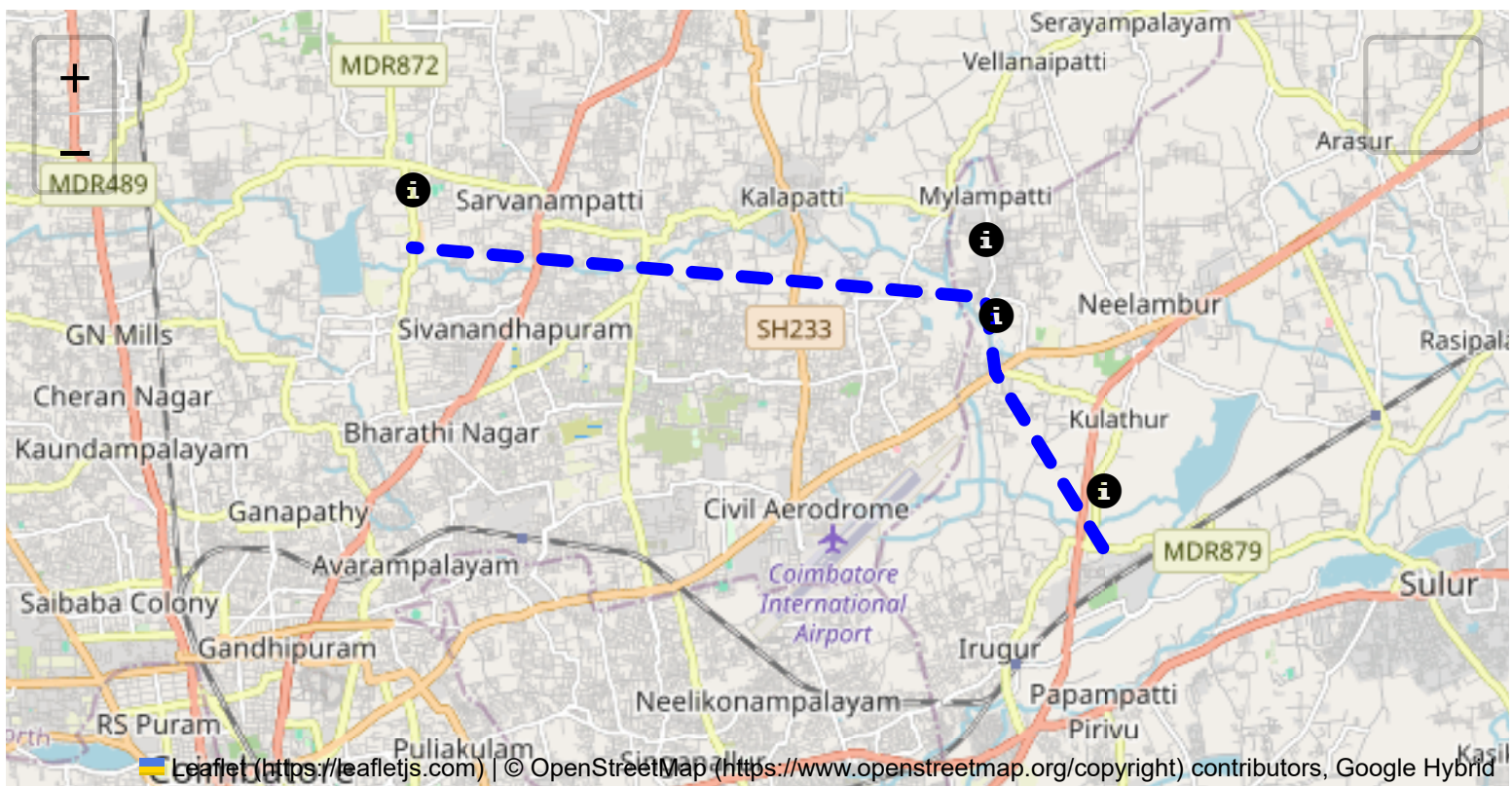
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

Journey Risk Mitigation

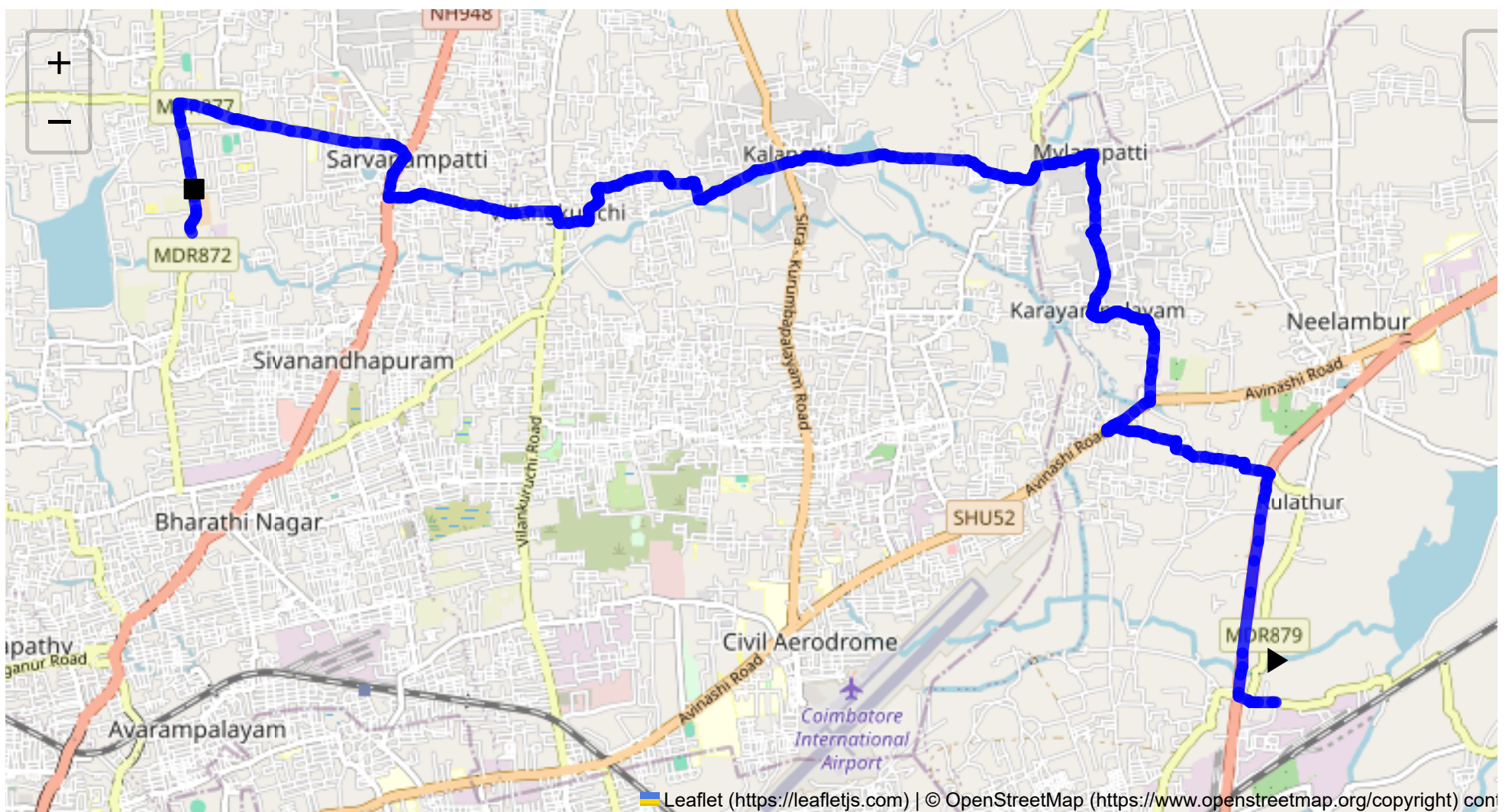
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 19.21 km
Estimated Duration: 0.7 hours
Adjusted Duration (Heavy Vehicle): 0.9 hours
Start: (11.0315, 77.0797)
End: (11.07201, 76.985032)



Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The specified route begins at Athappagoundenpudur, progresses through Chinniyampalayam, Teachers Colony, GEM Nagar in Mylampatti, and concludes at Sreevatsa Global Village in Saravanampatti, Coimbatore. This route spans approximately 19.21 kilometers. The journey predominantly follows local and arterial roads with a mix of urban and semi-urban environments.

2. Typical Weather Conditions and Potential Weather-Related Hazards

Coimbatore experiences a tropical wet and dry climate. The monsoon season, primarily from June to October, could lead to slippery roads and reduced visibility. Summers can cause heat-induced road distortions, and occasional thunderstorms may incur wind-related risks.

3. Analysis of Traffic Patterns

- **Peak Hours:** Traffic congestion typically peaks during morning (8:00 - 10:00 AM) and evening (5:00 - 7:00 PM) commute times.
- **Congestion-Prone Areas:** Significant slowdown may be expected near Chinniyampalayam junction and Saravanampatti, especially due to local traffic and narrow roads around GEM Nagar.

4. Assessment of Road Quality and Infrastructure

The roads range from standard two-lanes to narrow lanes in built-up areas. Variably maintained surfaces may present occasional potholes or uneven stretches, particularly in areas undergoing or pending maintenance.

5. Suggestions for Alternative Routes for Emergencies

In case of significant blockages, an alternative route could follow via NH 948, bypassing congested local roads. However, it's essential to verify the suitability for heavy vehicles and consult current traffic advisories.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Transportation of hazardous materials in Tamil Nadu requires strict adherence to national safety regulations, such as specific time windows for transit and mandatory disclosure during checkpoint inspections. Routes through densely populated regions might have specific restrictions to minimize public risk.

7. Overview of Historical Incidents

Data on historical incidents indicates sporadic occurrences of accidents involving heavy vehicles in Coimbatore, primarily due to driver error or vehicular faults. No notable incidents are specific to hazardous materials on this route, suggesting a general adherence to safety protocols.

8. Environmental Considerations and Sensitive Areas

The route includes semi-urban residential neighborhoods. Caution is advised to minimize emissions and noise pollution, particularly near Chinniyampalayam and GEM Nagar, which are densely populated and sensitive to environmental disturbances.

9. Analysis of Communication Coverage

Network coverage along the route is generally reliable across major carriers. However, potential dead zones include stretches with dense forestry or remote areas around GEM Nagar. Equipping vehicles with satellite communication systems enhances reliability.

10. Estimated Emergency Response Times

Emergency response times might vary:

- Urban segments (e.g., Saravanampatti): Approximately 15-20 minutes.
- Semi-urban segments (e.g., near GEM Nagar): 20-30 minutes due to road conditions and traffic.

12. Overall Summary of Risk Assessment

The route presents moderate risks primarily during peak traffic hours and adverse weather conditions. Road quality is generally manageable for trained drivers, but occasional narrow passages and infrastructure variability necessitate heightened attentiveness. Regular maintenance checks and adherence to regulatory guidelines will mitigate potential hazards. Access to reliable communication channels and pre-planned emergency routes will further ensure safety and efficiency during transit.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	U-Turn	High	11.0549503, 77.0650284	10 KM/Hr
1	Turn	High	11.03211, 77.07640	15 KM/Hr
2	Turn	High	11.05129, 77.07919	15 KM/Hr
3	Turn	Medium	11.05181, 77.07696	30 KM/Hr
4	Turn	High	11.05222, 77.07690	15 KM/Hr
5	Turn	Medium	11.05343, 77.07106	30 KM/Hr
6	Turn	Medium	11.05351, 77.07099	30 KM/Hr
7	Turn	Medium	11.05411, 77.07097	30 KM/Hr
8	Turn	High	11.05529, 77.06566	15 KM/Hr
9	Turn	High	11.05495, 77.06503	15 KM/Hr
10	Blind Spot	Blind Spot	11.05507, 77.06496	10 KM/Hr
11	Turn	High	11.05751, 77.06875	15 KM/Hr
12	Turn	High	11.06437, 77.06865	15 KM/Hr
13	Turn	Medium	11.06490, 77.06371	30 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
14	Turn	Medium	11.06492, 77.06369	30 KM/Hr
15	Turn	Medium	11.06501, 77.06366	30 KM/Hr
16	Turn	Medium	11.07191, 77.06366	30 KM/Hr
17	Turn	Medium	11.07201, 77.06366	30 KM/Hr
18	Turn	Medium	11.07209, 77.06370	30 KM/Hr
19	Turn	Medium	11.07225, 77.06398	30 KM/Hr
20	Blind Spot	Blind Spot	11.07865, 77.06377	10 KM/Hr
21	Turn	High	11.07773, 77.05884	15 KM/Hr
22	Turn	High	11.07800, 77.03706	15 KM/Hr
23	Turn	High	11.07798, 77.03706	15 KM/Hr
24	Turn	High	11.07795, 77.03702	15 KM/Hr
25	Turn	Medium	11.07475, 77.02954	30 KM/Hr
26	Turn	Medium	11.07479, 77.02937	30 KM/Hr
27	Turn	Medium	11.07629, 77.02884	30 KM/Hr
28	Turn	Medium	11.07626, 77.02677	30 KM/Hr
29	Turn	Medium	11.07573, 77.02044	30 KM/Hr
30	Turn	Medium	11.07299, 77.01959	30 KM/Hr
31	Turn	High	11.07291, 77.01953	15 KM/Hr
32	Turn	High	11.07278, 77.01700	15 KM/Hr
33	Turn	Medium	11.07368, 77.01680	30 KM/Hr
34	Blind Spot	Blind Spot	11.07496, 77.00208	10 KM/Hr
35	Turn	High	11.07859, 77.00367	15 KM/Hr
36	Blind Spot	Blind Spot	11.08309, 76.98371	10 KM/Hr

Emergency Locations

	type	name	coordinates	speed_limit	risk_level
0	hospital	KGM, Chinniampalayam	11.0570076, 77.067239	30 km/h	Medium
1	hospital	Chinniampalayam Venkateshwara Hospital	11.0545152, 77.0652106	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
3	hospital	R V Hospital, Coimbatore	11.0546916, 77.0639178	30 km/h	Medium
4	hospital	Kamalaprakasam, Kalapatti	11.0778, 77.035681	30 km/h	Medium
5	police	Saravanampatti Police Station	11.0747296, 77.0027116	30 km/h	Medium
6	police	B9 Saravanampatty Police Station	11.0747167, 77.0027098	30 km/h	Medium
8	clinic	Sri Loga Clinic	11.072535, 77.0017429	30 km/h	Medium
11	hospital	KG Eye Hospital	11.0825506, 76.997422	30 km/h	Medium

Crowded Spots

	type	name	coordinates	speed_limit	risk_level
2	school	Government school	11.0554435, 77.0653927	30 km/h	Medium
7	school	Saravanampatty Elementary School	11.0763477, 77.0017133	30 km/h	Medium
9	school	Ruby Matriculation School	11.0824185, 77.0017383	30 km/h	Medium
10	school	Vivekam CBSE School	11.0791972, 76.9954015	30 km/h	Medium
12	college	KGISL IIM	11.0834337, 76.99715	30 km/h	Medium
13	school	KGISL Institute of Information Management	11.0834393, 76.997046	30 km/h	Medium
14	college	Sankara Institute of Technology	11.085373, 76.9854093	30 km/h	Medium
15	school	Maharishi Vidhya Mandir	11.0814298, 76.9813641	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Coordinates: 11.0549503, 77.0650284



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.03211, 77.07640



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.05129, 77.07919



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.05181, 77.07696



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.05222, 77.07690



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05343, 77.07106



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05351, 77.07099



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05411, 77.07097



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05529, 77.06566



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05495, 77.06503

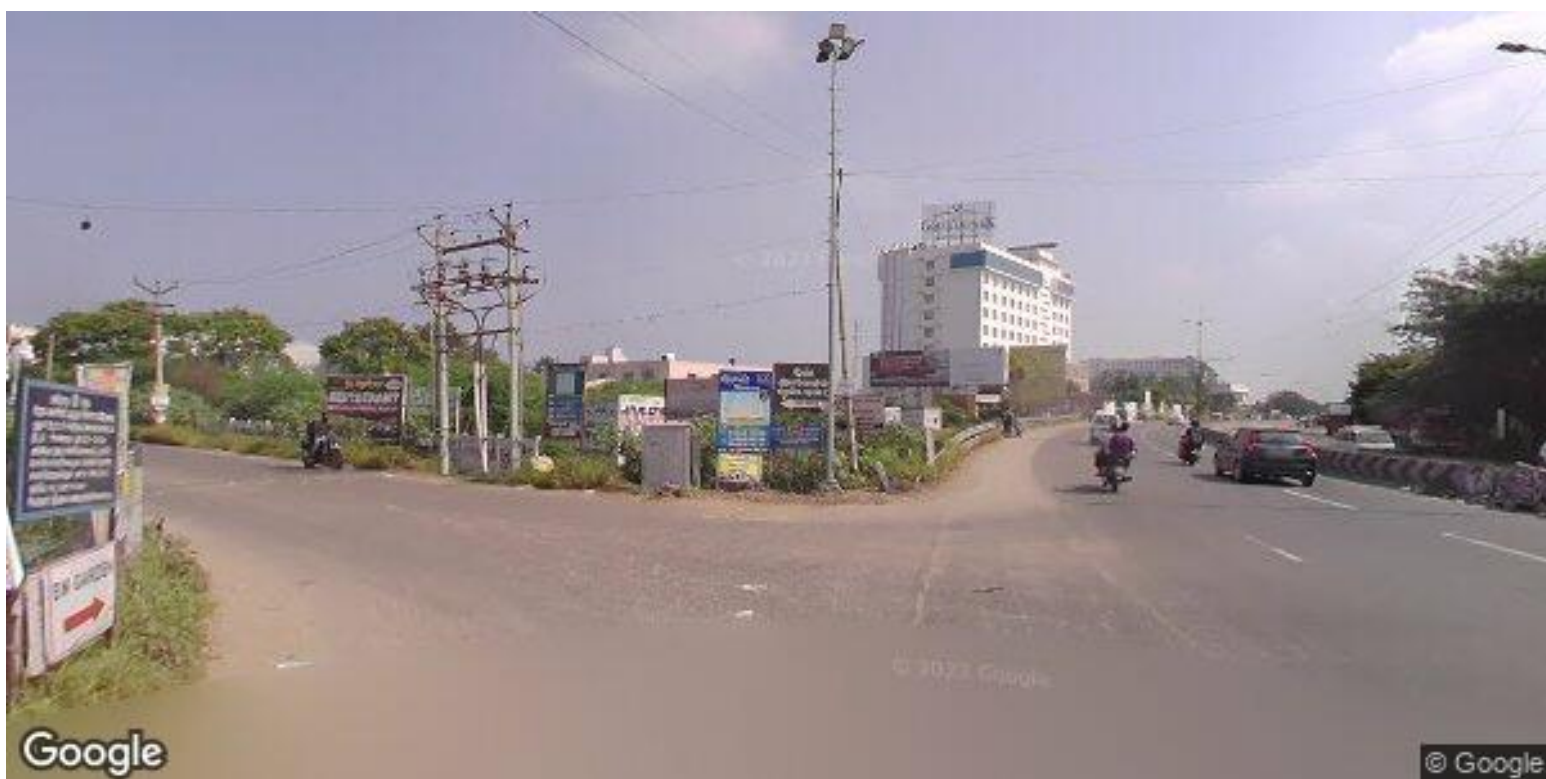


Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.05507, 77.06496



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05751, 77.06875



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06437, 77.06865



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.06490, 77.06371



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.06492, 77.06369



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.06501, 77.06366



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07191, 77.06366



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.07201, 77.06366



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.07209, 77.06370



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.07225, 77.06398



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.07865, 77.06377



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.07773, 77.05884



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.07798, 77.03706



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.07795, 77.03702



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07475, 77.02954



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07479, 77.02937



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07629, 77.02884



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07626, 77.02677



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07573, 77.02044



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07299, 77.01959



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.07291, 77.01953



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07368, 77.01680



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.07496, 77.00208



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.07859, 77.00367



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.08309, 76.98371

