



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

IOCL Coimbatore Terminal to NTT Data Information Processing

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

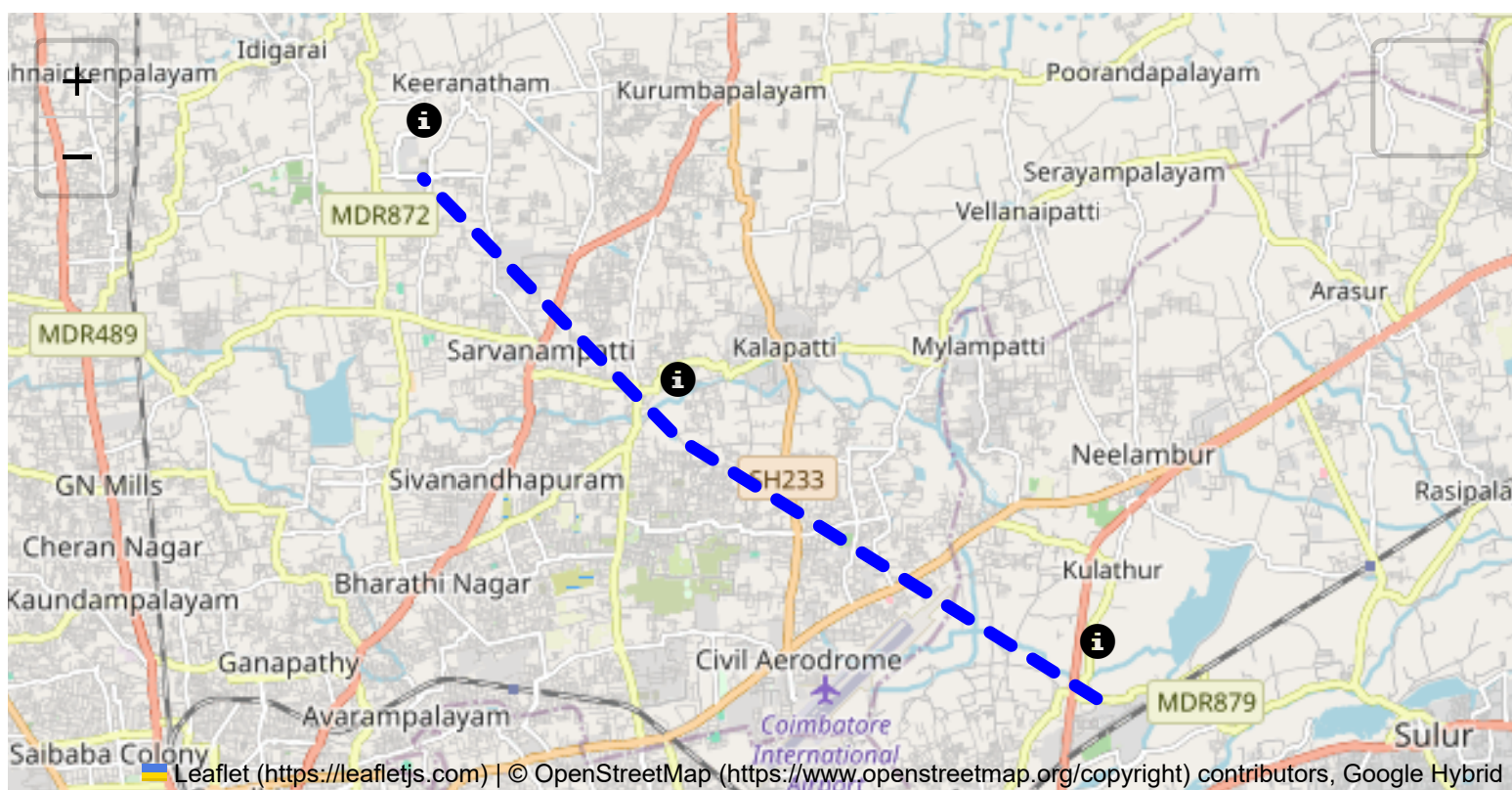
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

Journey Risk Mitigation

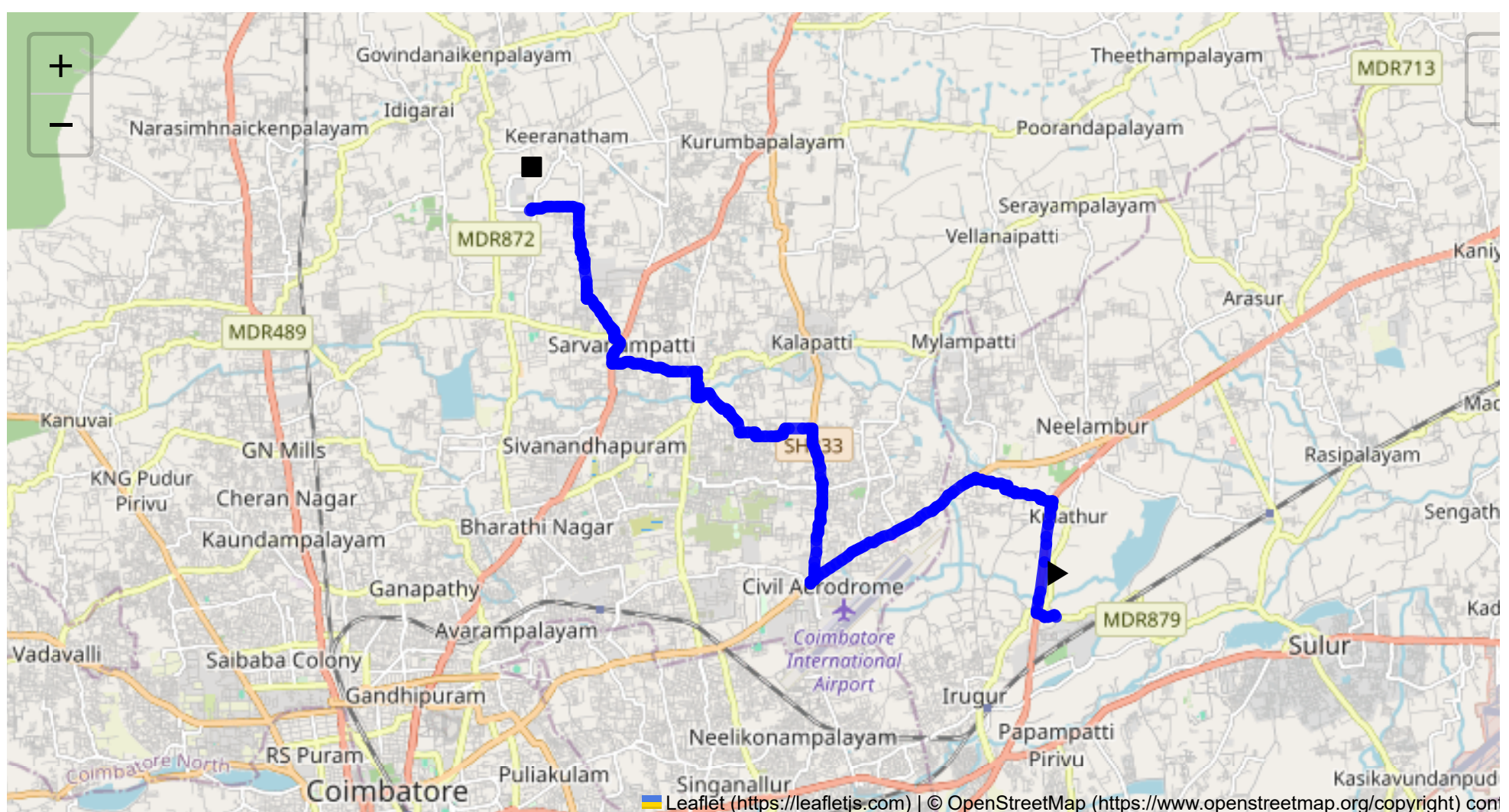
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 20.19 km
Estimated Duration: 0.7 hours
Adjusted Duration (Heavy Vehicle): 0.9 hours
Start: (11.0315, 77.0797)
End: (11.101171, 76.98782)



Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route spans approximately 20.19 kilometers, beginning at Athappagoundenpudur in Coimbatore and ending at CHIL Homes, located in the CHIL SEZ IT Park, Saravanampatti. It includes a segment on Villankurichi Road, passing through Cheran Ma Nagar. The journey includes rural, suburban, and urban environments.

2. Typical Weather Conditions and Potential Weather-related Hazards

- **Weather Conditions:** Coimbatore generally experiences a tropical wet and dry climate, with monsoons from June to September and temperatures ranging from 18°C to 35°C.
- **Hazards:** Heavy rains during the monsoon can result in waterlogging in low-lying areas, reduced visibility, and slippery roads. Dusty conditions may occur in summer due to dry winds.

3. Traffic Patterns

- **Peak Hours:** Morning rush hours (7:30 am to 9:30 am) and evening rush hours (5:00 pm to 7:30 pm) experience significant traffic congestion, particularly in urban areas and around Villankurichi Road.
- **Congestion-Prone Areas:** Expect slow-moving traffic near urban centers, market areas, and around intersections along Villankurichi Road.

4. Assessment of Road Quality and Infrastructure

- **Road Conditions:** The roads are generally well-paved; however, rural sections may have narrower lanes and occasional potholes. Urban sections have better maintenance but are subject to traffic buildup.
- **Infrastructure:** Adequate signage and street lighting in urban areas; however, rural sections might have reduced visibility at night.

5. Suggestions for Alternative Routes

- In case of road blockages or severe traffic, consider taking the CODISSIA - Avinashi Road, which connects to Saravanampatti via Thudiyalur Road. This alternative may add distance but bypasses major congestion zones.

6. Local Regulations Affecting Hazardous Material Transport

- Transport of hazardous materials is subject to specific time restrictions, typically avoiding peak traffic hours for safety. Permits might be required, and trucks must adhere to speed limits and safety protocols.

7. Historical Incidents Involving Heavy Vehicles or Hazardous Materials

- No significant recent incidents, but be aware of general risks such as mechanical failures or spills due to sudden braking in congested areas.

8. Environmental Considerations and Sensitive Areas

- The route passes through areas with agricultural activities; hence, truckers should be cautious to avoid spills that may impact farmland. Also, noise regulation adherence is essential near residential

neighborhoods.

9. Analysis of Communication Coverage

- Communication networks are generally strong within Coimbatore, but certain rural stretches may experience temporary coverage drops. Ensure that emergency communication devices are fully charged.

10. Estimated Emergency Response Times

- Urban sections (close to Saravanampatti): Approximately 15-20 minutes.
- Rural sections (near Athappagoundenpudur): Extended response time of up to 30-40 minutes due to distance and traffic conditions.

11. Overall Summary of Risk Assessment

The route is moderately safe for transporting hazardous materials, with key considerations being traffic congestion, weather conditions during monsoon, and infrastructure quality. Adequate planning during non-peak hours, adherence to local regulations, and awareness of potential environmental impacts are essential for reducing risks. Maintain communication devices in working condition due to possible temporary coverage issues in rural areas. Emergency response is reasonably reliable, though response times vary significantly between urban and rural parts of the route.

Risk Assessment - Turns

| | Risk Type | Risk Level | Coordinates | Speed Limit |
|----|------------|------------|-----------------------|-------------|
| 0 | U-Turn | High | 11.037353, 77.0367219 | 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 | Blind Spot | Blind Spot | 11.03735, 77.03672 | 10 KM/Hr |
| 10 | Turn | High | 11.03746, 77.03666 | 15 KM/Hr |
| 11 | Turn | High | 11.03805, 77.03742 | 15 KM/Hr |

| | Risk Type | Risk Level | Coordinates | Speed Limit |
|----|------------|------------|--------------------|-------------|
| 12 | Turn | High | 11.06370, 77.03708 | 15 KM/Hr |
| 13 | Turn | High | 11.06387, 77.03223 | 15 KM/Hr |
| 14 | Turn | High | 11.06278, 77.03213 | 15 KM/Hr |
| 15 | Turn | Medium | 11.06257, 77.02744 | 30 KM/Hr |
| 16 | Turn | High | 11.06262, 77.02734 | 15 KM/Hr |
| 17 | Turn | High | 11.06325, 77.02732 | 15 KM/Hr |
| 18 | Turn | High | 11.06322, 77.02449 | 15 KM/Hr |
| 19 | Turn | Medium | 11.06531, 77.02379 | 30 KM/Hr |
| 20 | Turn | Medium | 11.06706, 77.02224 | 30 KM/Hr |
| 21 | Blind Spot | Blind Spot | 11.07004, 77.01891 | 10 KM/Hr |
| 22 | Turn | Medium | 11.06925, 77.01745 | 30 KM/Hr |
| 23 | Turn | High | 11.06931, 77.01691 | 15 KM/Hr |
| 24 | Turn | High | 11.07097, 77.01695 | 15 KM/Hr |
| 25 | Turn | Medium | 11.07110, 77.01714 | 30 KM/Hr |
| 26 | Turn | Medium | 11.07368, 77.01680 | 30 KM/Hr |
| 27 | Blind Spot | Blind Spot | 11.07496, 77.00208 | 10 KM/Hr |
| 28 | Turn | High | 11.07859, 77.00367 | 15 KM/Hr |
| 29 | Turn | High | 11.07948, 77.00249 | 15 KM/Hr |
| 30 | Turn | Medium | 11.08072, 77.00238 | 30 KM/Hr |
| 31 | Turn | High | 11.08604, 76.99845 | 15 KM/Hr |
| 32 | Turn | Medium | 11.08616, 76.99773 | 30 KM/Hr |
| 33 | Blind Spot | Blind Spot | 11.10176, 76.99644 | 10 KM/Hr |
| 34 | Turn | High | 11.10161, 76.98809 | 15 KM/Hr |
| 35 | Turn | High | 11.10135, 76.98808 | 15 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 |
| 5 | hospital | Kovai Medical Centre,Coimbatore | 11.0426077, 77.0406074 | 30 km/h | Medium |
| 6 | hospital | Lotus Eye Care Hospital Ltd, Coimbatore | 11.0406116, 77.0401856 | 30 km/h | Medium |
| 9 | hospital | Park Hospital, Coimbatore | 11.0419411, 77.0379131 | 30 km/h | Medium |
| 12 | police | Saravanampatti Police Station | 11.0747296, 77.0027116 | 30 km/h | Medium |
| 13 | police | B9 Saravanampatty Police Station | 11.0747167, 77.0027098 | 30 km/h | Medium |
| 15 | clinic | Sri Loga Clinic | 11.072535, 77.0017429 | 30 km/h | Medium |
| 21 | 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 |
| 4 | school | Sri Vivekananda Matriculation Higher Secondary School | 11.054695, 77.0572126 | 30 km/h | Medium |
| 7 | school | Park Global School | 11.0424178, 77.038601 | 30 km/h | Medium |
| 8 | traffic_signals | SITRA Junction | 11.0380037, 77.0374143 | 30 km/h | Medium |
| 10 | college | South India Textile Research Association - SITRA | 11.0396478, 77.0355493 | 30 km/h | Medium |
| 11 | college | PSG College of Arts and Science | 11.0328471, 77.034909 | 30 km/h | Medium |
| 14 | school | Saravanampatty Elementary School | 11.0763477, 77.0017133 | 30 km/h | Medium |
| 16 | school | Ruby Matriculation School | 11.0824185, 77.0017383 | 30 km/h | Medium |

| | type | name | coordinates | speed_limit | risk_level |
|----|---------|---|---------------------------|-------------|------------|
| 17 | school | SeaSkills Maritime Academy | 11.0829794, 76.998578 | 30 km/h | Medium |
| 18 | college | KGISL Institute of Technology | 11.0849024, 76.9981798 | 30 km/h | Medium |
| 19 | college | KGISL IIM | 11.0834337, 76.99715 | 30 km/h | Medium |
| 20 | school | KGISL Institute of Information Management | 11.0834393, 76.997046 | 30 km/h | Medium |
| 22 | college | KG College of Arts and Science | 11.0835993, 76.9974565 | 30 km/h | Medium |

Route Photos of Risky Spots



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Coordinates: 11.037353, 77.0367219



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: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.03735, 77.03672



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.03746, 77.03666



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.03805, 77.03742



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06370, 77.03708



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06387, 77.03223



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06278, 77.03213



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.06257, 77.02744



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06262, 77.02734



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06325, 77.02732



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06322, 77.02449



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.06531, 77.02379



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.06706, 77.02224



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: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.07948, 77.00249



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.08072, 77.00238



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.08604, 76.99845



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.08616, 76.99773



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.10176, 76.99644

