

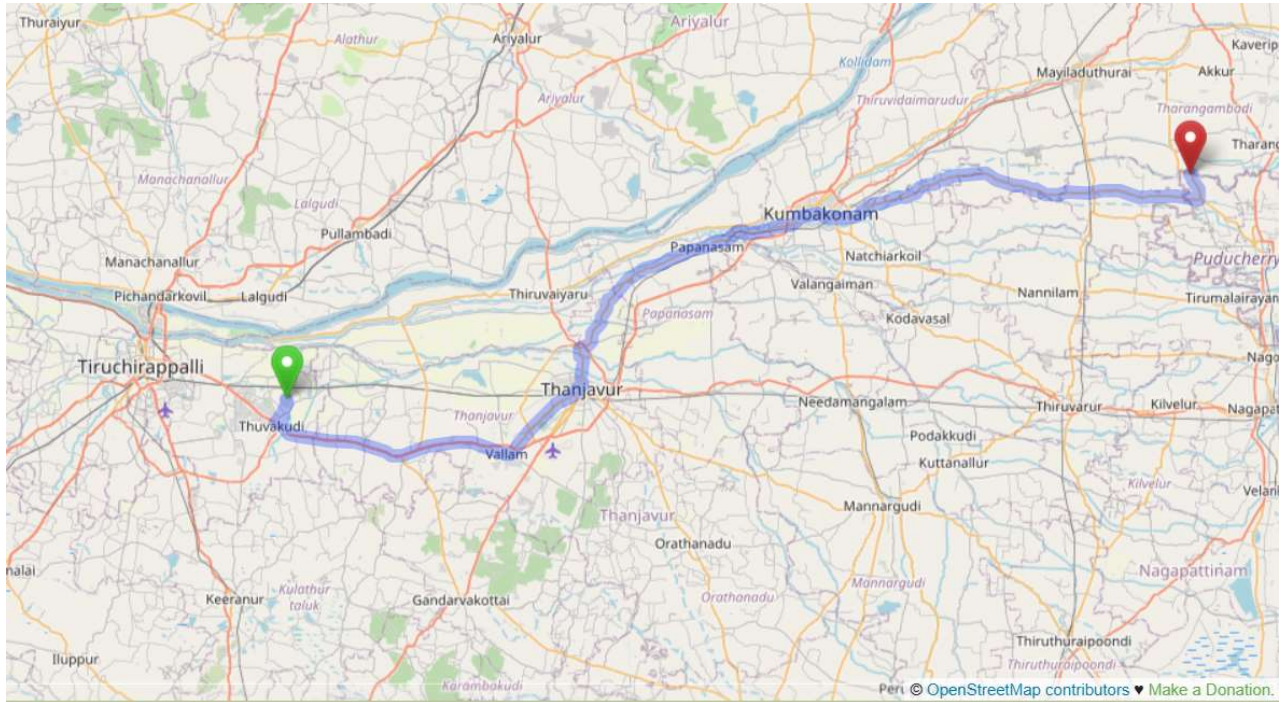


IndianOil

WELCOME TO JOURNEY
RISK MANAGEMENT
(JRM) STUDY USING
ARTIFICIAL
INTELLIGENCE (AI)
FOR IOCL TRICHY
TERMINAL

JOURNEY RISK MANAGEMENT REPORT

IOCL TIRCHY TERMINAL (10.7753, 78.8368) TO M KUMARAN AGENCIES (10.999663, 79.757545) TOTAL DISTANCE – 129 KM



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Welcome to the Journey Risk Management Study for M KUMARAN AGENCY

Total distance: 129 km; Start with: (10.7753 , 78.8368), End with: (10.999663 , 79.757545)

❖ Route Safety Analysis Report

1. Overview of the Route Map

The route from Trichy Terminal (T.N) To M Kumaran Agency Take SIDCO to Indian oil Storage to NH 83 in Thuvakudi, Follow NH 83 and NH 36 to Chinnammal Kallarai/Kallanai - Poombuhur Rd/Poompuhar Rd in Kumbakonam, Follow Chinnammal Kallarai/Poompuhar Rd to NH 136B in Aduthurai, Turn right at the medical store onto Aduthurai - Tiruppendal Rd/Chinnammal Kallarai/Poompuhar Rd, Turn right at M.S.K Fish Farm onto NH 136B, Continue on Aduthurai - Porayar Rd. Drive to Main Rd in Nallathur, and Total distance from Trichy Terminal To M KUMARAN AGENCY IS 129 KM.

Typical Weather Conditions and Potential Weather-Related Hazards

Weather Conditions: Trichy Terminal (T.N) To M KUMARAN AGENCY experiences a tropical climate with heavy monsoon rains from June to September, high humidity, and moderate temperatures throughout the year ,The summers are short and sweltering; the winters are short, cool, and dry; and it is mostly clear year-round. Over the course of the year, the temperature typically varies from 60.8°F to 110°F and is rarely below 60.8°F to 110°F.

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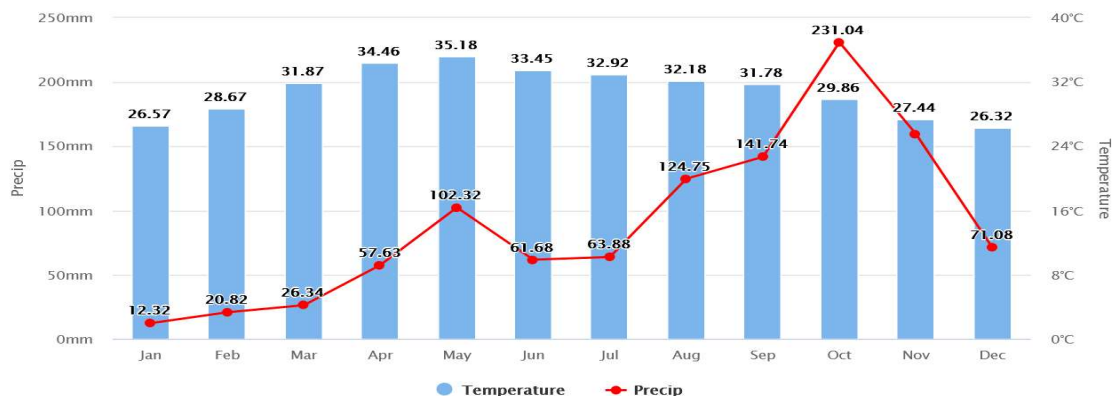
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Nov	Oct	Dec	Year
Record high °C (°F)	33.0 (91.4)	38.0 (100.4)	41.0 (105.8)	43.0 (109.4)	43.0 (109.4)	42.0 (107.6)	40.0 (104.0)	39.0 (102.2)	38.0 (100.4)	37.0 (98.6)	34.0 (93.2)	33.0 (91.4)	43.0 (109.4)
Average high °C (°F)	30.27 (86.49)	32.88 (91.18)	36.0 (96.8)	38.27 (100.89)	38.79 (101.82)	36.78 (98.2)	36.17 (97.11)	35.4 (95.72)	35.03 (95.05)	32.9 (91.22)	30.38 (86.68)	29.34 (84.81)	34.35 (93.83)
Daily mean °C (°F)	26.57 (79.83)	28.67 (83.61)	31.87 (89.37)	34.46 (94.03)	35.18 (95.32)	33.45 (92.21)	32.92 (91.26)	32.18 (89.92)	31.78 (89.2)	29.86 (85.75)	27.44 (81.39)	26.32 (79.38)	30.89 (87.6)
Average low °C (°F)	19.88 (67.78)	20.93 (69.67)	24.04 (75.27)	27.62 (81.72)	28.89 (84.0)	27.59 (81.66)	27.04 (80.67)	26.45 (79.61)	25.95 (78.71)	24.64 (76.35)	22.43 (72.37)	20.93 (69.67)	24.7 (76.46)
Record low °C (°F)	16.0 (60.8)	17.0 (62.6)	19.0 (66.2)	22.0 (71.6)	25.0 (77.0)	25.0 (77.0)	24.0 (75.2)	23.0 (73.4)	22.0 (71.6)	21.0 (69.8)	18.0 (64.4)	17.0 (62.6)	16.0 (60.8)
Average precipitation mm (inches)	12.32 (0.49)	20.82 (0.82)	26.34 (1.04)	57.63 (2.27)	102.32 (4.03)	61.68 (2.43)	63.88 (2.51)	124.75 (4.91)	141.74 (5.58)	231.04 (9.1)	159.62 (6.28)	71.08 (2.8)	89.44 (3.52)
Average precipitation days (≥ 1.0 mm)	3.09	3.27	5.36	7.36	16.73	12.36	13.55	18.91	19.64	22.73	17.55	9.73	12.52
Average relative humidity (%)	72.01	65.19	58.27	53.97	51.56	50.59	51.14	56.11	60.33	70.18	77.39	76.61	61.95
Mean monthly sunshine hours	11.19	11.34	11.34	11.63	12.65	12.68	11.83	11.24	11.05	9.11	7.68	8.29	10.84

Weather-Related Hazards: Trichy Terminal (T.N) To M KUMARAN AGENCY Providing a local hourly weather forecast of rain, sun, wind, humidity and temperature.

The Long-range 12 day forecast also includes detail for weather today. Live weather reports from Trichy Terminal (T.N) To M KUMARAN AGENCY weather stations and weather warnings that include risk of thunder, high UV index and forecast gales.

Climate Graph

The chart below shows the mean monthly temperature and precipitation of Tiruchirappalli in recent years.



Analysis of Traffic Patterns

Peak Hours:

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Typically, Trichy Terminal (T.N) To M KUMARAN AGENCY peak traffic hours are from 8:00 AM to 11:00 AM and 4:00 PM to 8:00 PM on weekdays.

Congestion-Prone Areas:

- State Institute Of Hotel Management and Catering Technology
- Valavanthankottai Toll Plaza
- SPOT ON 42969 Royal Residency
- Anand Engineering Products Ptv. Ltd. (Unit 2)
- The Urban Coffee House | coffee shop | Cafe | restaurant
- GNR Marriage Hall
- Tool Fab Engineering Industries Ltd. (Unit 2)
- Anandam Law college
- School of Law, SASTRA University
- Masjidul Aqsa vallam
- Maruti Suzuki ARENA (PLA Motors, Thanjavur, Nangikkottai Road)
- Hotel Anitha Parthiban
- Bon Secours College of Education
- Best Matriculation Higher Secondary School
- Vembukudi Toll Plaza
- Sri Saravana Balaji Marriage Mahal

❖ Assessment of Road Quality and Infrastructure

Road Quality: Generally, the roads are well-maintained but can suffer from potholes and waterlogging on State Highway during the monsoon season.

Infrastructure: Adequate signage, street lighting, and traffic signals are present, but some areas may lack proper drainage systems, leading to waterlogging.

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❖ Suggestions for Alternative Routes for Emergencies

Alternative Route 1-) Take SIDCO to Indian oil Storage to NH 83 in Thuvakudi, Follow NH 83 and NH 36 to Chinnammal Kallarai/Kallanai - Poombuhar Rd/Poompohar Rd in Kumbakonam, Follow Chinnammal Kallarai/Poompohar Rd to NH 136B in Aduthurai, Turn right at the medical store onto Aduthurai - Tiruppandal Rd/Chinnammal Kallarai/Poompohar Rd, Turn right at M.S.K Fish Farm onto NH 136B, Continue on Aduthurai - Porayar Rd. Drive to Main Rd in Nallathur.

Alternative Route 2 -) Take SIDCO to Indian oil Storage to NH 83 in Thuvakudi, At Jude Digital Studios, continue onto Thuvakudi toSIDCO& Indian oil Storage, Follow NH 83 and NH 36 to Chinnammal Kallarai/Kallanai - Poombuhar Rd/Poompohar Rd in Kumbakonam, Keep right to stay on NH 83, At the roundabout, take the 2nd exit and stay on NH 36, Slight right at Pugazendi Car AC & Electrician Works onto NH 136B, Follow Chinnammal Kallarai/Poompohar Rd to NH 136B in Aduthurai, Turn right at M.S.K Fish Farm onto NH 136B, Continue on Aduthurai - Porayar Rd. Drive to Main Rd in Nallathur.

Summary of Local Regulations Affecting Hazardous Material Transport

Regulations: Transport of hazardous materials is regulated by the Petroleum and Explosives Safety Organization (PESO) and the Motor Vehicles Act. Specific routes and timings may be restricted for hazardous material transport.

Permits: Ensure all necessary permits and documentation are in place.

❖ Overview of Historical Incidents

Historical Incidents: There have been occasional incidents involving heavy vehicles, particularly during the monsoon season due to waterlogging and poor visibility. No major incidents involving hazardous materials have been reported recently.

❖ Environmental Considerations and Sensitive Areas

- **Sensitive Areas:** State Institute Of Hotel Management and Catering Technology, Valavanthankottai Toll Plaza, SPOT ON 42969 Royal

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Residency, Anand Engineering Products Ptv. Ltd. (Unit 2), The Urban Coffee House | coffee shop | Cafe | restaurant, GNR Marriage Hall, Tool Fab Engineering Industries Ltd. (Unit 2), Anandam Law college, School of Law, SASTRA University, Masjidul Aqsa vallam, Maruti Suzuki ARENA (PLA Motors, Thanjavur, Nangikkottai Road), Hotel Anitha Parthiban, Bon Secours College of Education, Best Matriculation Higher Secondary School, Vembukudi Toll Plaza, Sri Saravana Balaji Marriage Mahal.

- **Educational institutions:** Chanakya share market training Institute, Indian Institute of Catering Technology and Hotel Management, Samiyappa Institute Of Co Operative Management, Premier Institute, S.K Institute of Arts & Education, Dr S R J Group of Educational Institutions, DEEPA INSTITUTE FOR VEDIC MATHS.
- **Hospital:** - Dr Kamali's Home Clinic, Meenakshi Hospital, Rohini Hospital, Government Raja Mirasudar Hospital, Anbu Hospital.
- **Gas Station:** ESSAR petrol pump, SP Petroleum (HPCL), HP PETROL PUMP - M/S. A.V.R. PETROL BUNK, IndianOil, IndianOil.
- **Environmental Impact:** Minimize noise and air pollution, especially in residential and sensitive areas.
- **Air pollution:** Volatile chemicals evaporate during the filling and discharge process, or from leaks.
- **Loss of habitats:** Oil and gas operations can degrade animal habitats and disrupt migratory pathways.
- **Oil spills:** Oil spills can be devastating for animals and humans.
- **Greenhouse gas emissions:** Oil and gas operations can emit greenhouse gases like methane.
- **Analysis of Communication Coverage**

Communication Coverage: Generally good throughout the route, but potential dead zones may exist densely built-up areas or underpasses.

Dead Zones: Monitor for any communication blackouts, especially in underpasses or near large buildings.

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- **Estimated Emergency Response Times:** State Institute Of Hotel Management and Catering Technology, Valavanthankottai Toll Plaza, SPOT ON 42969 Royal Residency, Anand Engineering Products Ptv. Ltd. (Unit 2),The Urban Coffee House | coffee shop | Cafe | restaurant, GNR Marriage Hall, Tool Fab Engineering Industries Ltd. (Unit 2), Anandam Law college, School of Law, SASTRA University, Masjidul Aqsa vallam, Maruti Suzuki ARENA (PLA Motors, Thanjavur, Nangikkottai Road),Hotel Anitha Parthiban, Bon Secours College of Education, Best Matriculation Higher Secondary School, Vembukudi Toll Plaza, Sri Saravana Balaji Marriage Mahal, areas like have quicker response times (15- 20 minutes). Congested areas may experience delays (up to 30-40 minutes).

Overall Summary of Risk Assessment

- **Risk Level:** Moderate to High, especially during monsoon season.
- **Key Risks:** Waterlogging, traffic congestion, and potential communication dead zones.
- **Mitigation Measures:** Plan travel during non-peak hours, ensure proper vehicle maintenance, and have alternative routes and emergency contacts ready and control on the speed limit of the vehicle.
- **Road Signage for TT/PT Driver**














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Road Traffic Signs in India

Mandatory/Regulatory Signs
















 Stop	 Give way	 No entry	 Straight prohibited
 One way	 One way	 Vehicles prohibited in both directions	 Horn prohibited
 Pedestrians prohibited	 Cycles prohibited	 Right turn prohibited	 Left turn prohibited
 U-turn prohibited	 Overtaking prohibited	 Trucks prohibited	 Tonga prohibited

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 <p>All motor vehicles prohibited</p>	 <p>Hand cart prohibited</p>	 <p>Bullock cart prohibited</p>	 <p>Bullock and hand carts prohibited</p>
 <p>No parking</p>	 <p>No parking or stopping</p>	 <p>Speed limit</p>	 <p>Axle load limit</p>
 <p>Width limit</p>	 <p>Weight limit</p>	 <p>Length limit</p>	 <p>Load limit</p>
 <p>Restriction and</p>			

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Cautionary signs

			
Right hand curve	Left hand curve	Right hand pin bend	Left hand pin bend
			
Right reverse bend	Narrow bridge	Gap in median	Cycle crossing
			
Pedestrian crossing	School	Men at work	Roundabout
			
Narrow road	Road widens	Side road left	Side road right

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Information signs

Advance direction	Map type advance direction	Rotary intersection	Reassurance
Direction	Direction	Place identification	Truck lay bay
Toll booth ahead	Parking this side	Parking both sides	Cycle stand
Scooter and motor cycle stand	Taxi stand	Auto-rickshaw stand	Cycle-rickshaw stand
Public telephone	Filling station	Hospital	First aid post

Conclusion

The route for Trichy Terminal (T.N) To M KUMARAN AGENCY is generally manageable but poses several risks, particularly during the monsoon season. Proper planning, adherence to regulations, and awareness of potential hazards can significantly mitigate these risks.

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• Risk Assessment - Sharp Turns

Risk Type	Risk Level	Coordination	Distance From Start	Recommendation Speed
Sharp turn	Medium	10.769517372474736, 78.83735063199906	650 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.76584461192607, 78.8361700257199	1.1 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.764182189802032, 78.83459588401435	1.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.75826698538096, 78.83349398474651	2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.756372549032195, 78.83034570133539	2.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.751346435623256, 78.8252297405902	3.2 KM	10km/hr TO 15 Km/Hr
Sharp turn	High	10.749451955814655, 78.83046376176118	3.8 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.739326461561383, 78.83800479151158	5.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.73642740628165, 78.85764863813984	7.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.733604466438722, 78.87281181707364	9.1 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.73080526998016, 78.90617767628218	12.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.730477923035412, 78.90801389404626	13 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.724463035027611, 78.92577296721807	15 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.723788382097183, 78.92890578732897	15.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.721500875854746, 78.93682366832411	16.3 KM	20km/hr TO 30 Km/Hr

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Sharp turn	Medium	10.720994881360893, 78.93834716298483	16.5 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.71915010256302, 78.9411152027286	16.8 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.71843327121256, 78.94211298444303	17 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.717263145760954, 78.94670492633878	17.5 KM	10km/hr TO 15 Km/Hr
Sharp turn	High	10.716985075928461, 78.95102478766644	18 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.71809195248243, 78.95607806951443	18. 5 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.725197170776585, 78.97692607372574	21 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.730780555846192, 79.01656126512937	25.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.730190246964545, 79.02046656130192	25.8 KM	10km/hr TO 15 Km/Hr
Sharp turn	High	10.730401071697452, 79.02480101090002	26.2 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.727139512814995, 79.03926391834526	27.9 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.726633527742022, 79.06514187050024	30.7 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.723049442647225, 79.07037754229201	31.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.736837396359547, 79.10561104002268	35.6 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.73612060698111, 79.11058922045575	36.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.742782466810393, 79.13346309881189	38.8 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.7432462617802, 79.14376278157714	39.9 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.761628831100811, 79.15891189809322	42.6 KM	20km/hr TO 30 Km/Hr

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Sharp turn	High	10.769386276465765, 79.16457672365718	43.6 KM	10km/hr TO 15 Km/Hr
Sharp turn	High	10.777523785773456, 79.16605658817572	44.5 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.778298856573569, 79.166124866062	44.6 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.780199262033587, 79.16753594256141	44.9 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.7806315094395, 79.1679076777507	45 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.79007090118994, 79.17526904315943	46.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.838732864147495, 79.19203106952445	52.1 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.841627556326298, 79.19288590968536	52.4KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.864382116006672, 79.19247970116858	55 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.865459704381829, 79.19283694778355	55.1 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.86958207059273, 79.19625630830366	55.7 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.874421776457657, 79.20945572418708	57.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.874948023326985, 79.21073160495483	57.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.892892468546385, 79.2699895159846	64.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.906466254501833, 79.29083725124362	66.9 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.916839547699407, 79.29961531121639	68.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.92707467639872, 79.30628816788477	69.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.932649353273062, 79.3106134039501	70.6 KM	20km/hr TO 30 Km/Hr

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Sharp turn	Medium	10.935079628994828, 79.31465794598385	71.1 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.935881809725412, 79.32846053023889	72.6 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.939258924057162, 79.34295919658322	74.2 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.940185918176494, 79.34528129965602	74.5 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.941250705135284, 79.34595751650197	74.6 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.947263547752911, 79.34723339730526	75.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.947639346359221, 79.34734822657435	75.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.951359726957488, 79.34788409653387	75.8 KM	10km/hr TO 15 Km/Hr
Sharp turn	High	10.954090481533097, 79.3478713377262	76.1 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.955480901997275, 79.34833065485216	76.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.966303410639958, 79.3521710560902	77.5 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.969722940404145, 79.3542890182272	78 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.97156420928446, 79.35704492074562	78.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.974244675466208, 79.36227603209447	79 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.980554084386217, 79.37598180044225	80.6 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.98099246669875, 79.37766596305566	80.8 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.98218952078963, 79.38795972392433	82 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.982640425804044, 79.3888273228464	82.1 KM	10km/hr TO 15 Km/Hr

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Sharp turn	Medium	10.983366882411035, 79.39262944775143	82.5 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.981650938874413, 79.39447947486467	82.8 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.98558381666939, 79.39865160526288	83.5 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.98891544919475, 79.40207096583704	84 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.991407886549627, 79.40846312864453	84.7 KM	20km/hr TO 30 Km/Hr
Sharp turn	High	10.991996549570876, 79.40934348637427	84.9 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	10.994401288511858, 79.41132110176441	85.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.998571961052205, 79.41860638109635	86.1 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	10.999598964467538, 79.42000985011298	86.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.000388001231217, 79.42383749269939	86.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.00311830263473, 79.43131415417443	87.7 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.00507208079757, 79.43547352563432	88.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.006487309414123, 79.43631560694104	88.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.007864959118875, 79.4382804634414	88.6 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.00829077679642, 79.43949255017075	88.7 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.009455510263674, 79.44302674003897	89.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.011597104967523, 79.4519068706572	90.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.0243962523845, 79.47167026450096	92.2 KM	20km/hr TO 30 Km/Hr

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Sharp turn	Medium	11.025423165698344, 79.47270372792285	92.9 KM	20km/hr TO 30 Km/Hr
	High	11.026951005699203, 79.4765186114184	93.4 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	11.024070644939572, 79.4784324327326	93.8 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.023557186369509, 79.47919796119325	93.9 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.02231736807814, 79.47914692596254	94 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.019424438352559, 79.48134144096412	94.4 KM	20km/hr TO 30 Km/Hr
	High	11.018159555404297, 79.4812904057334	94.6 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	11.01849769296255, 79.48245145723206	94.7 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.021536838841904, 79.49363026592134	96 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.022601332462624, 79.50214039095387	96.9 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.022263199620792, 79.50313557795272	97 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.024905634862868, 79.5124239902946	98.1 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.025757220292181, 79.51474609329189	98.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.025293857941637, 79.52009203404697	99 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.025869929947271, 79.5218782671218	99.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.02555684747551, 79.52288621292833	99.3 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.026007686148084, 79.52924009952889	100 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.026521140439577, 79.53459879875342	101 KM	20km/hr TO 30 Km/Hr

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Sharp turn	Medium	11.02364077546131, 79.55107042026404	103 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.023665822228958, 79.55773051811775	103.2 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.02069776472642, 79.56564097913142	104 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.021165623597517, 79.57158964331383	105 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.023895732321973, 79.57643799045891	106 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.023169375601144, 79.57812215307234	106 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.022843766835152, 79.5873212537595	107 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.024046012856676, 79.59391755760291	108 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.023557601030902, 79.6016876716921	108.4 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.025907232423958, 79.61028863972588	109 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.02825786587991, 79.62212747062809	111 KM	20km/hr TO 30 Km/Hr
	High	11.02859741181504, 79.63315838484235	112 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	11.030429746839484, 79.64686983720617	114 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.034515602271199, 79.67403525022004	117 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.03630072802561, 79.68548691521599	118 KM	20km/hr TO 30 Km/Hr
	High	11.035331927970121, 79.69834006062773	120 KM	10km/hr TO 15 Km/Hr
Sharp turn	Medium	11.023182397754075, 79.74269626049718	125 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.013042347581328, 79.745927856703	126 KM	20km/hr TO 30 Km/Hr

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Sharp turn	Medium	11.00383789067108, 79.74573473766151	127 KM	20km/hr TO 30 Km/Hr
Sharp turn	Medium	11.002658351270666, 79.75135664767929	128 KM	20km/hr TO 30 Km/Hr
	High	11.000046497381966, 79.75202183564876	128 KM	10km/hr TO 15 Km/Hr

• Risk Assessment - Elevation Changes

Risk Type	Specific Risk	Risk Level	Coordination	Elevation Change	Gradient	Recommendation Speed
Elevation Change	Descent	Low	10.7753, 78.8368	-3.02m	-2.96 %	40 km/hr to 50 km/hr
Elevation Change	Descent	Low	10.993921 , 78.326323	-9.28m	-6.28%	40 km/hr to 50 km/hr

IOCL TIRCHY TERMINAL (10.7753, 78.8368) TO M KUMARAN AGENCIES (10.999663 , 79.757545) TOTAL DISTANCE – 129 KM

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10.769073692604486, 78.83720120889187



10.764113439530249, 78.83446118711721

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10.758209570013967, 78.83344387884853



10.751314343624747, 78.82530656733346

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10.75126610223314, 78.82518044583597



10.749591316479634, 78.83018387464983

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10.739318685033433, 78.8379420178455



10.735064036857814, 78.86553394452655

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10.731428224715632, 78.90834087863155



10.7204752733678, 78.94043095175968

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10.730470193011778, 79.02491837645792



10.73562703051417, 79.10914681274313

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10.74239869421108, 79.13924228433945



10.762835880662, 79.15885726520942

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10.86508872374555, 79.19199892851083



10.983050192850786, 79.38667088419274

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10.982396440646552, 79.39381342050322



10.991527724757828, 79.40666540897624

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11.022490944084682, 79.47018786867453



11.020753919153844, 79.48026079789986

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11.025034923081758, 79.51157592396632



11.023925682876909, 79.54964609748217

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11.020796340114492, 79.57002911069338



11.030567315845762, 79.64618607370501

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11.035056727149064, 79.69758118226147



11.023171839859797, 79.74250926065046

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11.018557613909389, 79.7438048210319



11.014873176444688, 79.74559925553021

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11.004132675622566, 79.74577042732815



11.002661595256575, 79.75120781355686

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10.964963939238825, 79.35202617132587



11.02657697664715, 79.47472484911239

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11.000149663838522, 79.75315421257429



10.999373572334624, 79.7573591055655

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