DENM Mapping
CAR 2 CAR Communication Consortium

About the C2C-CC

Enhancing road safety and traffic efficiency by means of Cooperative Intelligent Transport Systems and Services (C-ITS) is the dedicated goal of the CAR 2 CAR Communication Consortium. The industrial driven, non-commercial association was founded in 2002 by vehicle manufacturers affiliated with the idea of cooperative road traffic based on Vehicle-to-Vehicle Communications (V2V) and supported by Vehicle-to-Infrastructure Communications (V2I). The Consortium members represent worldwide major vehicle manufactures, equipment suppliers and research organisations.

Over the years, the CAR 2 CAR Communication Consortium has evolved to be one of the key players in preparing the initial deployment of C-ITS in Europe and the subsequent innovation phases. CAR 2 CAR members focus on wireless V2V communication applications based on ITS-G5 and concentrate all efforts on creating standards to ensure the interoperability of cooperative systems, spanning all vehicle classes across borders and brands. As a key contributor, the CAR 2 CAR Communication Consortium and its members work in close cooperation with the European and international standardisation organisations.

Disclaimer

	Codes according to DENM/CDD standard		ALERT-C (ISO 14819-2:2021)	
DENM index	CauseCode	SubCauseCode	Code	Text
1_0	trafficCondition	unavailable	1601	delays (Q)
1_1	trafficCondition	increasedVolumeOfTraffic	122	heavy traffic (with average speeds Q)
1_2	trafficCondition	trafficJamSlowlyIncreasing	125	traffic building up (with average speeds Q)
1_3	trafficCondition	trafficJamIncreasing	130	danger of stationary traffic
1_4	trafficCondition	trafficJamStronglyIncreasing	130	danger of stationary traffic
1_5	trafficCondition	trafficStationary	101	stationary traffic
1_6	trafficCondition	trafficJamSlightlyDecreasing	135	traffic easing
1_7	trafficCondition	trafficJamDecreasing	135	traffic easing
1_8	trafficCondition	trafficJamStronglyDecreasing	135	traffic easing
1_9	trafficCondition	trafficJamStable	115	slow traffic (with average speeds Q)
2_0	accident	unavailable	201	(Q) accident(s)
2_1	accident	multiVehicleAccident	203	multi-vehicle accident (involving Q vehicles)
2_2	accident	heavyAccident	202	(Q) serious accident(s)
2_3	accident	accidentInvolvingLorry	204	accident involving (a/Q) heavy lorr(y/ies)
2_4	accident	accidentInvolvingBus	335	accident involving (a/Q) bus(es)
2_5	accident	accidentInvolvingHazardousMaterials	205	(Q) accident(s) involving hazardous materials
2_6	accident	accidentOnOppositeLane	209	(Q) accident(s) in the opposing lanes
2_7	accident	unsecuredAccident	857	(Q) unprotected accident area(s)
2_8	accident	assistanceRequested	201	(Q) accident(s)
3_0	roadworks	unavailable	701	(Q sets of) roadworks
3_1	roadworks	majorRoadworks	702	(Q sets of) major roadworks
3_2	roadworks	roadMarkingWork	824	(Q sets of) road marking work. Danger
3_3	roadworks	slowMovingRoadMaintenance	1700	(Q) slow moving maintenance vehicle(s)
3_4	roadworks	shortTermStationaryRoadworks	703	(Q sets of) maintenance work
3_5	roadworks	streetCleaning	701	(Q sets of) roadworks
3_6	roadworks	winterService	701	(Q sets of) roadworks
4_0	reserved for future usage	-	-	
5_0	impassability	unavailable	402	blocked
5_1	impassability	flooding	907	flooding
5_2	impassability	dangerOfAvalanches	993	closed due to avalanche risk
5_3	impassability	blastingOfAvalanches	709	(Q sections of) blasting work

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5_4	impassability	landslips	947	road closed due to landslips
5_5	impassability	chemicalSpillage	207	(Q) chemical spillage accident(s)
5_6	impassability	winterClosure	401	closed
5_7	impassability	sinkhole	916	road surface in poor condition
5_8	impassability	earthquakeDamage	915	earthquake damage
5_9	impassability	fallenTrees	926	blocked by (Q) fallen trees
5_10	impassability	rockfalls	945	closed due to rockfalls
5_11	impassability	sewerOverflow	956	closed due to sewer collapse
5_12	impassability	stormDamage	925	blocked by storm damage
5_13	impassability	subsidence	949	closed due to subsidence
5_14	impassability	burstPipe	62	(Q) burst pipe(s)
5_15	impassability	burstWaterMain	957	road closed due to burst water main
5_16	impassability	fallenPowerCables	987	blocked by fallen power cables
5_17	impassability	snowDrifts	1016	snow drifts (above Q hundred metres)
6_0	adverseWeatherCondition-Adhesion	unavailable	1003	slippery road (above Q hundred metres)
6_1	adverseWeatherCondition-Adhesion	heavyFrostOnRoad	1115	heavy frost
6_2	adverseWeatherCondition-Adhesion	fuelOnRoad	1058	petrol on road. Danger
6_3	adverseWeatherCondition-Adhesion	mudOnRoad	1055	mud on road. Danger
6_4	adverseWeatherCondition-Adhesion	snowOnRoad	1012	snow on the road (above Q hundred metres)
6_5	adverseWeatherCondition-Adhesion	iceOnRoad	1006	ice (above Q hundred metres)
6_6	adverseWeatherCondition-Adhesion	blackIceOnRoad	1008	black ice (above Q hundred metres)
6_7	adverseWeatherCondition-Adhesion	oilOnRoad	1057	oil on road. Danger
6_8	adverseWeatherCondition-Adhesion	looseChippings	1056	loose chippings. Danger
6_9	adverseWeatherCondition-Adhesion	instantBlackIce	1008	black ice (above Q hundred metres)
6_10	adverseWeatherCondition-Adhesion	roadsSalted	2043	road salted
7_0	aquaplaning	unavailable	1002	danger of aquaplaning
8_0	reserved for future usage	-	-	
9_0	hazardousLocation-SurfaceCondition	unavailable	1037	extremely hazardous driving conditions (above Q hundred metres)
9_1	hazardousLocation-SurfaceCondition	rockfalls	998	rockfalls. Danger
9_2	hazardousLocation-SurfaceCondition	earthquakeDamage	915	earthquake damage
9_3	hazardousLocation-SurfaceCondition	sewerCollapse	918	(Q) collapsed sewer(s)

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9_4	hazardousLocation-SurfaceCondition	subsidence	917	subsidence
9_5	hazardousLocation-SurfaceCondition	snowDrifts	1016	snow drifts (above Q hundred metres)
9_6	hazardousLocation-SurfaceCondition	stormDamage	986	storm damage. Danger
9_7	hazardousLocation-SurfaceCondition	burstPipe	64	burst pipe. Danger
9_8	hazardousLocation-SurfaceCondition	volcanoEruption	1090	volcano eruption warning
9_9	hazardousLocation-SurfaceCondition	fallingIce	861	snow and ice debris
9_10	hazardousLocation-SurfaceCondition	fire	921	serious fire
10_0	hazardousLocation-ObstacleOnTheRoad	unavailable	63	(Q) object(s) on the road. Danger
10_1	hazardousLocation-ObstacleOnTheRoad	shedLoad	359	(Q) shed load(s). Danger
10_2	hazardousLocation-ObstacleOnTheRoad	partsOfVehicles	63	(Q) object(s) on the road. Danger
10_3	hazardousLocation-ObstacleOnTheRoad	partsOfTyres	61	(Q) object(s) on roadway {something that does not neccessarily block the road or part of it}
10_4	hazardousLocation-ObstacleOnTheRoad	bigObjects	902	(Q) obstructions on the road. Danger
10_5	hazardousLocation-ObstacleOnTheRoad	fallenTrees	906	(Q) fallen trees. Danger
10_6	hazardousLocation-ObstacleOnTheRoad	hubCaps	61	(Q) object(s) on roadway {something that does not neccessarily block the road or part of it}
10_7	hazardousLocation-ObstacleOnTheRoad	waitingVehicles	1991	danger of waiting vehicles on roadway
11_0	hazardousLocation-AnimalOnTheRoad	unavailable	923	animals on the road. Danger
11_1	hazardousLocation-AnimalOnTheRoad	wildAnimals	923	animals on the road. Danger
11_2	hazardousLocation-AnimalOnTheRoad	herdOfAnimals	1068	herds of animals on roadway
11_3	hazardousLocation-AnimalOnTheRoad	smallAnimals	922	animals on roadway
11_4	hazardousLocation-AnimalOnTheRoad	largeAnimals	1067	large animals on roadway
11_5	hazardousLocation-AnimalOnTheRoad	wildAnimalsSmall	922	animals on roadway
11_6	hazardousLocation-AnimalOnTheRoad	wildAnimalsLarge	1067	large animals on roadway
11_7	hazardousLocation-AnimalOnTheRoad	domesticAnimals	922	animals on roadway
11_8	hazardousLocation-AnimalOnTheRoad	domesticAnimalsSmall	922	animals on roadway
11_9	hazardousLocation-AnimalOnTheRoad	domesticAnimalsLarge	1067	large animals on roadway
12_0	humanPresenceOnTheRoad	unavailable	1482	people on roadway. Danger
12_1	humanPresenceOnTheRoad	childrenOnRoadway	1483	children on roadway. Danger
12_2	humanPresenceOnTheRoad	cyclistOnRoadway	1484	cyclists on roadway. Danger
12_3	humanPresenceOnTheRoad	motorcyclistOnRoadway	1472	people on roadway

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12_4	humanPresenceOnTheRoad	pedestrian	1482	people on roadway. Danger
12_5	humanPresenceOnTheRoad	ordinary-pedestrian	1472	people on roadway
12_6	humanPresenceOnTheRoad	road-worker	1482	people on roadway. Danger
12_7	humanPresenceOnTheRoad	first-responder	397	rescue and recovery work in progress
12_8	humanPresenceOnTheRoad	lightVruVehicle	1484	cyclists on roadway. Danger
12_9	humanPresenceOnTheRoad	bicyclist	1474	cyclists on roadway
12_10	humanPresenceOnTheRoad	wheelchair-user	1482	people on roadway. Danger
12_11	humanPresenceOnTheRoad	horse-and-rider	1067	large animals on roadway
12_12	humanPresenceOnTheRoad	rollerskater	1482	people on roadway. Danger
12_13	humanPresenceOnTheRoad	e-scooter	1484	cyclists on roadway. Danger
12_14	humanPresenceOnTheRoad	personal-transporter	1472	people on roadway
12_15	humanPresenceOnTheRoad	pedelec	1474	cyclists on roadway
12_16	humanPresenceOnTheRoad	speed-pedelec	1484	cyclists on roadway. Danger
12_17	humanPresenceOnTheRoad	ptw	-	
12_18	humanPresenceOnTheRoad	moped	-	
12_19	humanPresenceOnTheRoad	motorcycle	-	
12_20	humanPresenceOnTheRoad	motorcycle-and-sidecar-right	-	
12_21	humanPresenceOnTheRoad	motorcycle-and-sidecar-left	-	
13_0	reserved for future usage	-	-	
14_0	wrongWayDriving	unavailable	1701	(Q) vehicle(s) on wrong carriageway
14_1	wrongWayDriving	wrongLane	1701	(Q) vehicle(s) on wrong carriageway
14_2	wrongWayDriving	wrongDirection	1701	(Q) vehicle(s) on wrong carriageway
15_0	rescueAndRecoveryWorkInProgress	unavailable	397	rescue and recovery work in progress
15_1	rescueAndRecoveryWorkInProgress	emergencyVehicles	397	rescue and recovery work in progress
15_2	rescueAndRecoveryWorkInProgress	rescueHelicopterLanding	397	rescue and recovery work in progress
15_3	rescueAndRecoveryWorkInProgress	policeActivityOngoing	1498	police activity ongoing
15_4	rescueAndRecoveryWorkInProgress	medicalEmergencyOngoing	1499	medical emergency ongoing
15_5	rescueAndRecoveryWorkInProgress	childAbductionInProgress	1500	child abduction in progress
15_6	rescueAndRecoveryWorkInProgress	prioritizedVehicle	1066	rescue and recovery work in progress. Danger
15_7	rescueAndRecoveryWorkInProgress	rescueAndRecoveryVehicle	1066	rescue and recovery work in progress. Danger
16_0	reserved for future usage	-	-	

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	CauseCode	SubCauseCode	Code	Text
17_0	adverseWeatherCondition-ExtremeWeatherCondition	unavailable	-	
17_1	adverseWeatherCondition-ExtremeWeatherCondition	strongWinds	1205	strong winds (Q)
17_2	adverseWeatherCondition-ExtremeWeatherCondition	damagingHail	1132	damaging hail (visibility reduced to Q)
17_3	adverseWeatherCondition-ExtremeWeatherCondition	hurricane	1204	storm force winds (Q)
17_4	adverseWeatherCondition-ExtremeWeatherCondition	thunderstorm	1108	thunderstorms (visibility reduced to Q)
17_5	adverseWeatherCondition-ExtremeWeatherCondition	tornado	1201	tornadoes
17_6	adverseWeatherCondition-ExtremeWeatherCondition	blizzard	1130	blizzard (visibility reduced to Q)
18_0	adverseWeatherCondition-Visibility	unavailable	1318	visibility reduced (to Q)
18_1	adverseWeatherCondition-Visibility	fog	1301	dense fog (visibility reduced to Q)
18_2	adverseWeatherCondition-Visibility	smoke	1309	smoke hazard (visibility reduced to Q)
18_3	adverseWeatherCondition-Visibility	heavySnowfall	1134	heavy snowfall. Visibility reduced (to Q)
18_4	adverseWeatherCondition-Visibility	heavyRain	1136	heavy rain. Visibility reduced (to Q)
18_5	adverseWeatherCondition-Visibility	heavyHail	1132	damaging hail (visibility reduced to Q)
18_6	adverseWeatherCondition-Visibility	lowSunGlare	1325	low sun glare
18_7	adverseWeatherCondition-Visibility	sandstorms	1326	sandstorms (visibility reduced to Q)
18_8	adverseWeatherCondition-Visibility	swarmsOfInsects	1340	swarms of insects (visibility reduced to Q)
19_0	adverseWeatherCondition-Precipitation	unavailable	-	
19_1	adverseWeatherCondition-Precipitation	heavyRain	1109	heavy rain (Q)
19_2	adverseWeatherCondition-Precipitation	heavySnowfall	1101	heavy snowfall (Q)
19_3	adverseWeatherCondition-Precipitation	softHail	1106	hail (visibility reduced to Q)
20_0	violence	unavailable	-	
20_1	violence	reserved for future usage	-	
20_2	violence	reserved for future usage	-	
20_3	violence	stoneThrowingPersons	897	people throwing objects onto the road. Danger

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21_0	reserved for future usage	-	-	
22_0	reserved for future usage	-	-	
23_0	reserved for future usage	-	-	
24_0	reserved for future usage	-	-	
25_0	reserved for future usage	-	-	
26_0	slowVehicle	unavailable	1754	(Q) slow vehicle(s)
26_1	slowVehicle	maintenanceVehicle	829	(Q sets of) slow moving maintenance vehicles. Slow traffic
26_2	slowVehicle	vehiclesSlowingToLookAtAccident	208	vehicles slowing to look at (Q) accident(s)
26_3	slowVehicle	abnormalLoad	1751	(Q) abnormal load(s)
26_4	slowVehicle	abnormalWideLoad	1752	(Q) wide load(s)
26_5	slowVehicle	convoy	1755	(Q) convoy(s)
26_6	slowVehicle	snowplough	681	(Q) snowploughs
26_7	slowVehicle	deicing	675	(Q) salting vehicles
26_8	slowVehicle	saltingVehicles	675	(Q) salting vehicles
27_0	dangerousEndOfQueue	unavailable	138	queuing traffic (with average speeds Q). Approach with care
27_1	dangerousEndOfQueue	suddenEndOfQueue	138	queuing traffic (with average speeds Q). Approach with care
27_2	dangerousEndOfQueue	queueOverHill	140	queuing traffic over the crest of a hill
27_3	dangerousEndOfQueue	queueAroundBend	139	queuing traffic around a bend in the road
27_4	dangerousEndOfQueue	queueInTunnel	138	queuing traffic (with average speeds Q). Approach with care
28_0	reserved for future usage	-	-	
90_0	reserved for future usage	-	-	
91_0	vehicleBreakdown	unavailable	393	(Q) broken down vehicle(s). Danger
91_1	vehicleBreakdown	lackOfFuel	393	(Q) broken down vehicle(s). Danger
91_2	vehicleBreakdown	lackOfBatteryPower	393	(Q) broken down vehicle(s). Danger
91_3	vehicleBreakdown	engineProblem	393	(Q) broken down vehicle(s). Danger
91_4	vehicleBreakdown	transmissionProblem	393	(Q) broken down vehicle(s). Danger
91_5	vehicleBreakdown	engineCoolingProblem	393	(Q) broken down vehicle(s). Danger
91_6	vehicleBreakdown	brakingSystemProblem	393	(Q) broken down vehicle(s). Danger
91_7	vehicleBreakdown	steeringProblem	393	(Q) broken down vehicle(s). Danger
91_8	vehicleBreakdown	tyrePuncture	393	(Q) broken down vehicle(s). Danger
91_9	vehicleBreakdown	tyrePressureProblem	393	(Q) broken down vehicle(s). Danger

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91_10	vehicleBreakdown	vehicleOnFire	213	(Q) vehicle fire(s)
92_0	postCrash	unavailable	201	(Q) accident(s)
92_1	postCrash	accidentWithoutECallTriggered	201	(Q) accident(s)
92_2	postCrash	accidentWithECallManuallyTriggered	201	(Q) accident(s)
92_3	postCrash	accidentWithECallAutomaticallyTriggered	201	(Q) accident(s)
92_4	postCrash	accidentWithECallTriggeredWithoutAccessToCellularNetwork	201	(Q) accident(s)
93_0	humanProblem	unavailable	1499	medical emergency ongoing
93_1	humanProblem	glycemiaProblem	1499	medical emergency ongoing
93_2	humanProblem	heartProblem	1499	medical emergency ongoing
94_0	stationaryVehicle	unavailable	393	(Q) broken down vehicle(s). Danger
94_1	stationaryVehicle	humanProblem	1499	medical emergency ongoing
94_2	stationaryVehicle	vehicleBreakdown	393	(Q) broken down vehicle(s). Danger
94_3	stationaryVehicle	postCrash	201	(Q) accident(s)
94_4	stationaryVehicle	publicTransportStop	1734	(Q) slow vehicle(s), danger
94_5	stationaryVehicle	carryingDangerousGoods	1734	(Q) slow vehicle(s), danger
94_6	stationaryVehicle	vehicleOnFire	213	(Q) vehicle fire(s)
95_0	emergencyVehicleApproaching	unavailable	1706	(Q) emergency vehicles
95_1	emergencyVehicleApproaching	emergencyVehicleApproaching	1707	(Q) high-speed emergency vehicles
95_2	emergencyVehicleApproaching	prioritizedVehicleApproaching	1707	(Q) high-speed emergency vehicles
96_0	hazardousLocation-DangerousCurve	unavailable	-	
96_1	hazardousLocation-DangerousCurve	dangerousLeftTurnCurve	-	
96_2	hazardousLocation-DangerousCurve	dangerousRightTurnCurve	-	
96_3	hazardousLocation-DangerousCurve	multipleCurvesStartingWithUnknownTurningDirection	-	
96_4	hazardousLocation-DangerousCurve	multipleCurvesStartingWithLeftTurn	-	
96_5	hazardousLocation-DangerousCurve	multipleCurvesStartingWithRightTurn	-	
97_0	collisionRisk	unavailable	-	
97_1	collisionRisk	longitudinalCollisionRisk	-	
97_2	collisionRisk	crossingCollisionRisk	-	
97_3	collisionRisk	lateralCollisionRisk	-	

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97_4	collisionRisk	vulnerableRoadUser	-	
98_0	signalViolation	unavailable	-	
98_1	signalViolation	stopSignViolation	-	
98_2	signalViolation	trafficLightViolation	-	
98_3	signalViolation	turningRegulationViolation	-	
99_0	dangerousSituation	unavailable	-	
99_1	dangerousSituation	emergencyElectronicBrakeEngaged	-	
99_2	dangerousSituation	preCrashSystemEngaged	-	
99_3	dangerousSituation	espEngaged	-	
99_4	dangerousSituation	absEngaged	-	
99_5	dangerousSituation	aebEngaged	-	
99_6	dangerousSituation	brakeWarningEngaged	-	
99_7	dangerousSituation	collisionRiskWarningEngaged	-	