

DATAFORTRESS 2.0.2.0

Presents:

HARD ROAD

TRAFFIC AND CHASE RULES

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The Traffic and Chase rules give detail to every possible aspect of overland travel, from random traffic generators to the reactions of other drivers, to common road hazards. Obviously using all the rules at once may bog down your game, feel free to pick and choose the rules as you see fit to suite situational needs.

The following rules are meant to be used with any system, however for the purposes of these rules, rounds are determined in 3 second intervals, many systems use different time allotments for round duration, D20 uses 6 second rounds, Gurps, 1 second, Rifts ten seconds... It should be a relatively simple matter to translate any game system to these rules, simply keep in mind that the traffic increments by default and unmodified, should be equal to 10 rounds.

DIFFICULTY MODIFIER LEVEL

CHART: (While you may wish to spread this out a bit further, this is merely here to give you a guide as to how best to implement the rules of whatever system you need these rules for. As these rules are specifically written to work with any system, translation should not be a problem if you are already at least vaguely familiar with the vehicle rules of whatever system you opt to use) Below are merely some examples of how this works with some sample systems.

Difficulty Modifier Level:	Cyberpunk 2020/ FUZION	Gurps	D20
Easy (roll is only required to insure a fumble does not occur)	5-10	16	1-5
Simple (piece of cake task, no real danger involved)	11-15	14-15	6-10
Average (anyone with basic knowledge can accomplish this without problem)	16-20	11-13	11-15
Difficult (slightly tricky, but not really dangerous or hard)	21-25	8-10	16-20
Very Difficult (Takes skill or luck to make it look easy, not for beginners)	26-30	6-7	21-25
Extremely Difficult (Pro level, don't try this one at home kids)	31-35	4-5	26-30
Near Impossible (Maxed out skills, Maxed out stats, and a maxed out die rolls, even then you might wanna use some luck)	36+	3-	31+

RANDOM TRAFFIC GENERATOR

Cars sharing the road in 10 round (30 second) increments: Roll 1d10

1	Road Clear
2-6	1d6 Vehicles
7-9	2d6 Vehicles
10	3d6 Vehicles

Default is for Daytime, (normal hours 5-7AM, 9AM-3PM, and 6PM to 9PM)

Rush Hour (7AM-9AM and 4PM-6PM) doubles the number of vehicles rolled

Nighttime (9PM-12PM) 1/2 of the vehicles rolled (round down)

Late night/early morning (12pm-5am) 1/3 of vehicles rolled, (round down)

High population Area = x2 Vehicles rolled

Rural Area = 1/2 vehicles rolled (round down)

Desolate area (interstates between cities, extreme back roads, etc...) = 1/4 vehicles rolled (round down)

Dirt Roads raise difficulty modifier level by 1

Road in severe disrepair raise difficulty modifier level by 2

Light rain, snow, = -10% of vehicles on road (round down), treat speed limit as if -10mph posted, increases difficulty modifier level by 1

Heavy Rain, Snow, Ice, fog, and Sandstorm = -50% of vehicles on road (round down), treat speed limit as if half posted, and Difficulty Modifier level raises by 2

For every 2 vehicles over 5 per lane in an increment, treat posted speed limit as being 10% lower in that lane

Roll on the table above once for traffic moving in your direction, and again for the traffic in the oncoming lanes.

The default is for a 4-lane road (2 lanes moving your direction, 2 lanes oncoming). For every additional lane add 1d6 vehicles,

Traffic Random Vehicle Generator:	
1D10	VEHICLE
1-2	Motorcycle
2-3	Compact Car, Midsize, Car Sedan,
6	Luxury Vehicle, Sportscar
7-8	SUV, Pickup Truck, or Minivan
9	Large SUV, Van, or Light Truck
10	Semi Truck or Large RV

Traffic is always assumed to be going the posted speed limit (or the speed limit as modified by road, traffic, and weather conditions). Individual traffic however, may deviate by 1d10 mph over or under the posted speed limit for an addition realistic touch).

For every 5mph difference over the posted speed limit, drop the re-roll time by 1 round (3 seconds), to a minimum of 1 round (3 seconds). Meaning if you are going the posted speed limit of 40mph, then you only re-roll the traffic generator every 10 rounds (equal to 30 seconds game time). However, if you are doing 70 in a 40mph zone, then you re-roll traffic every 3 rounds (12 seconds). If you are doing 95 or more in a 40mph zone, you re-roll every round (3 seconds), same as if you are doing 115mph in a 70mph zone.

MPH over posted speed	re-roll times modified by speed	MPH over posted speed	re-roll times modified by speed
Posted speed	10 rounds (30 seconds)	+25 mph	5 rounds (15 seconds)
+5 mph	9 rounds (27 seconds)	+30 mph	4 rounds (12 seconds)
+10 mph	8 rounds (24 seconds)	+35 mph	3 rounds (9 seconds)
+15 mph	7 rounds (21 seconds)	+40 mph	2 rounds (6 seconds)
+ 20 mph	6 rounds (18 seconds)	+50 mph	1 rounds (3 seconds)

MPH to KPH Simple Conversion
5 mph = ~10 km/h
10 mph = ~15 km/h
15 mph = ~25 km/h
20 mph = ~30 km/h
25 mph = ~40 km/h
30 mph = ~50 km/h
35 mph = ~55 km/h
40 mph = ~65 km/h
45 mph = ~70 km/h
50 mph = ~80 km/h
60 mph = ~100 km/h
70 mph = ~115 km/h
80 mph = ~130 km/h

OTHER TRAFFIC AND ROAD RULES:

Random side street availability, for every traffic re-roll increment :
(Roll for traffic at each street only if characters are turning or that street has right of way)

Roll 1d6	CITY	URBAN HIGHWAY	RURAL HIGHWAY	RURAL ROAD (50% CHANCE SIDE ROAD IS DIRT)
1	NO	NO	NO	NO
2	1	NO	NO	NO
3-4	2	1 EXIT RAMP	NO	1 ROAD
5	3	1 EXIT RAMP	NO	2 ROADS
6	4	2 EXIT RAMPS	1 EXIT RAMP	3 ROADS

CHASE POSITION

For every 10mph over the speed of traffic an individual vehicle is traveling, it may pull ahead at 1 car length per round. For vehicles involved in a chase or race, this rule only counts towards vehicles moving at the posted (modified) speed limit. Involved vehicles move relative to traffic, their position relative to each other is determined by individual speed, acceleration, and other modifiers.

ROUND BY ROUND

Acceleration - Roll a drive check, on a successful roll, every point over the target difficulty allows you to accelerate 5mph. Failure of this roll indicates a character has become nervous or unsure, and decelerates by 5mph instead. Alternatively, at any time a character may opt to decelerate safely at up to half his listed deceleration.

Making a full deceleration (equating to slamming on the brakes) requires a roll 1 difficulty level higher than the standard for driving (with modifiers for speed, weather, road conditions and traffic included). Slamming on the brakes also forces any vehicles behind you and within your threat range, to make an immediate maneuver roll with additional modifiers due to distance included.

THREAT RANGE

Every ten mph a vehicle is traveling increases the threat range by 1 vehicle length

Vehicles in a threat range have their difficulty modifier level increased by 1 for every vehicle length they are nearer to the vehicle in front of them.

When a vehicle gets within 20 percent of its maximum speed, increase the difficulty modifier by 1 level.

For every 20mph over 80, increase the difficulty modifier by one level. (add or reduce 10mph to the 80 for every bonus or minus to maneuverability a vehicle possesses.

TURNING

(this is the speed your vehicle must reduce to in order to turn without penalty, for every point of maneuverability, you may increase this speed by 5 mph (for the purposes of this, count all 0's as being -10 consecutively). If top speed is zero, the vehicle effectively comes to a complete stop.

Radius	Top Speed	Radius	Top Speed
15 degree	70 mph	105 degree	10 mph
30 degree	60 mph	120 degree	0
45 degree	50 mph	135 degree	0
60 degree	40 mph	150 degree	0
75 degree	30 mph	165 degree	0
90 degree	20 mph	180 degree	0

REACTIONS OF NON INVOLVED DRIVERS TO VEHICLES INVOLVED IN CHASE

Roll 1d10 On the following chart whenever an involved vehicle makes any maneuver that would cause a non-involved vehicle to react.

1D10	REACTION RESULT
1	Driver panics, loses control of vehicle (roll on vehicle fumble table)
2	Driver not paying attention, cannot react or evade
3	Road Rage, driver purposely does whatever he can to hinder involved vehicle, 20% chance he will join chase
4	Driver Speeds up
5-6	Driver slows down
7	Driver moves out of way violently, if driver is in outside lane he will move onto shoulder or sidewalk, if he is in inside lane he will move into oncoming traffic, if multiple lane, he will move into adjoining lane regardless of traffic.
8	Driver slams on breaks
9-10	Driver moves out of way easily

At every city or rural side street encountered roll 1D10

(If you are currently on a main thoroughfare, re-roll a 3-5 once and keep result.)

1-2	side streets have stop signs
3	you have stop sign
4-5	4-way stop sign
6-10	stop light

For a stop light roll 1d6

1-3 green, 4 yellow, 5-6 red (if yellow it will change to red in 1d6/3 rounds (3-6 seconds)

For every 15 seconds it takes you to reach the intersection, there is a 25% chance a light will change color.

RANDOM ROAD OCCURRENCES

(roll once every ten increments of random traffic, only during actual chases, or alternatively, a GM may simply use these instances as a guide for adding flavor a chase)

1D100	RESULT
1-3	Driver ahead slams on brakes
4-10	Opening in traffic, Road clear ahead for 2 increments (comes in to play next increment)
11-20	Vehicles ahead of you are side by side and blocking you from passing
21-24	Opportunity for cinematic maneuver (ramp allowing for jump, vehicle with loose cargo, etc...) (comes into play next increment)
25-29	As you move to pass a vehicle it suddenly swerves into your lane (18 difficulty to avoid)
30-35	Traffic closes behind you, hindering pursuit for 2 increments
36-38	Animal, person runs out into road ahead of you (18 difficulty to avoid)
39-42	Vacant lot, open field on side of road
43-45	Something falls from a vehicle in front of you (20 difficulty to avoid)
46-50	Emergency vehicle, lights and siren on, pulls onto road ahead of you, moves 20mph faster than posted speed limit, stays on road for 2d10 rounds
51-55	Collision between one or more vehicles in front of you (23 to avoid)
56-60	Road ends in a T-Junction (if on rural road, road becomes dead end, if on interstate, ignore and re-roll)
61-65	Road Damage (large potholes, etc..)
65-72	Road changes size (even larger, odd smaller), Roll 1D6/2 to determine additional lane increase/decrease. Even numbers always result in the lanes distributed equally to both outbound and inbound lanes, if the roll is odd, the GM determines placement of the lane (if the road gets smaller and decreases to 1 lane, the road becomes 1-way).
73-78	Oil, Ice (15 difficulty to keep control, or glass, nails, debris, etc.. (10% chance of blowout)
79-84	Sharp Curve ahead, increases difficulty modifier by one level.
85-87	Driver from side street runs light or stop sign (24 difficulty to avoid)
88-93	Traffic Jam ahead, all traffic comes to a complete stop
94-96	Oncoming traffic suddenly swerves into your lane (difficulty 26 to avoid)
97-100	Vehicle broken down in middle of the road

For every increment of random traffic rolled, there is a 10 percent chance of police presence

DRIVING OFF-ROAD

Fairly flat field = +1 difficulty modifier level
Partially wooded, rocky, and/or hilly terrain = +2 difficulty modifier levels
Densely wooded, very rocky, and/or steep hills = +3 difficulty modifier levels
Flat, hard packed desert = +0 difficulty modifier levels
Loose sand desert = +2 levels difficulty modifier levels
High dunes, drifting sands desert = +3 difficulty modifier levels
Off-road capable vehicles treat off-road conditions as being 1 difficulty modifier level lower
Treaded vehicles treat off-road conditions as being 2 difficulty levels lower

The GM should assign all primary vehicles (Characters Vehicle, involved NPC vehicles, etc.) a quality rating.

VEHICLE QUALITY RATING

Breakdown chance is rolled once per day vehicle is used. There is ALWAYS at least a 1% chance of vehicle breakdown.

For every 20% of SDP damage taken a vehicle drops one category and must make an immediate breakdown chance roll.

Quality Rating	Chance of breakdown per day
Last Legs	20%
Used and Abused	15%
Normal	10%
Maintained	5%
Showroom Quality	1%

Other quality rating modifiers

New vehicle (1 year old or less)	- 10%
Used (2-10 years old)	+5%
Well Used (11-20 years old)	+10%
Classic (21-30 years old)	+15%
Antique (31+ years old)	+20%
Standard Maintenance	0
Well Maintained	-5%
Lovingly Maintained by Top Grade Professional mechanics	-10%
No Maintenance	+10%

AV's, advanced hovers, and helicopters must adhere to the same penalties applied to ground level traffic when in an urban metropolis environment and involved in a chase. While aircraft have the luxury of traveling above the rooftops in normal situations, when involved in a chase, to be effective they must follow the streets that the vehicles they are pursuing are on. This is really only important in a metropolis type setting, where skyscrapers and other tall buildings are prevalent. In a smaller town, or even in a heavily urbanized area where the buildings are rarely more than 4 stories tall, Aircraft are not constrained by these rules. Alternatively, even in an urban metropolis, the Aircraft may gain elevation to escape the close confines, but this will take him out of attack range of the ground, and it will add two levels of difficulty to all rolls attempting to spot and follow the ground vehicles due to distance and altitude. If the chase is between aircraft alone, then rules apply as normal. All air traffic is to be treated as if having rolled 1D6 less than the result on the random traffic generator.

A BRIEF WORD ON AERODYNES

All AV's are equipped with a GPS linked Collision Avoidance (CAV) system. This system is one of the most advanced navigation systems in the world and monitors the activities (altitude, speed, and direction) of all aerodynes, helicopters, dirigibles, and other aircraft within a 5 mile radius (the military version is good to ten miles). Police Aerodynes and some ground vehicles can scan for the system, and every landing pad in the city is set up to detect the CAV System as well. Driving an AV in an urban environment (defined by law as any population center with at least 5,000 citizens in a ten mile radius) without the CAV system is a felony punishable by up to 20 years in prison. Also, since all AV's are required to have the system installed during manufacture, it requires an illegal modification (High Difficulty) to remove it. Though scratch building an AV without it is possible. Due to powerlines, bridges, overpasses, streetlights, walkways, and the like, it is extremely inadvisable for any aircraft to even attempt to operate lower than 50 feet from the ground in an urban environment. Doing so immediately raises the Difficulty Modifier level for the AV to Very Difficult, in addition to whatever modifiers it may be facing.

(Created and written by Deric Bernier, images by Deric Bernier)

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