

Trolley Turbo: rules and balance sheet

There was no written design document for this game, so this sheet was made in October 2026 from the game's own code (its Unity scripts). It records the rules and numbers exactly as the game plays them. Speeds are in Unity units a second.

A race

Wagons	6: you and five friends. In an online race, friends join by QR code or room code and bots fill the empty spots
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Laps	3
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Tracks	Sofa Speedway (living room), Kitchen Chaos (kitchen), Backyard Blast (garden)
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Next track	Opens when you finish in the top 3. Online races give coins but no unlocks
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Driving (the same for every wagon)

Top speed	17
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Boost speed	25, about half as fast again
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Acceleration	14
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Off the road	62% of normal speed
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Boost

- Each fire extinguisher on the track gives one boost charge, and you can hold 3. Extinguishers come back a few seconds after someone takes one.
 - One boost lasts 1.3 seconds; firing again while boosting adds another 1.3.
 - You start every race with 1 charge. Bots start with 0 or 1.
 - Spinning out (from a Foam Blast, a Water Balloon or Marbles) stops a boost.
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Toy boxes: who gets what

A toy box gives a random item, and racers further back get the strong forward items more often:

Item	What it does	Chance in 1st place	Chance in last place
Foam Blast	Flies ahead, homing a little on the racer in front; a hit spins them out for 1.2 s	23%	48%
Water Balloon	Lobbed in an arc; spins out everyone near where it lands for 1.2 s	18%	29%
Marbles	Dropped behind you; a racer who drives into them spins out for 1.1 s	32%	13%

Item	What it does	Chance in 1st place	Chance in last place
Soap Slick	Dropped behind you; a racer who drives onto it slides for 1.6 s	27%	11%

The five friends

How fast each friend drives, as a share of the top speed, before corners and catching up:

Track	1	2	3	4	5
Sofa Speedway	94%	91%	89%	86%	83%
Kitchen Chaos	98%	95%	93%	90%	87%
Backyard Blast	102%	99%	97%	94%	91%

Friends slow to 86% of that on corners sharper than 60° and to 93% on corners sharper than 40°. A catch-up rule eases them off when they are far ahead of you and pushes them harder when they are far behind.

Coins

Place	1st	2nd	3rd	4th	5th	6th
Coins	100	70	50	30	20	10

Wagon paints: Fire Red is free; Sky Blue and Sunny Yellow cost 150; Grass Green and Grape Purple 250; Mango Orange 400.

What the numbers do

- One boost covers about 10 units more than driving at top speed, a gap of roughly 0.6 seconds. Three saved charges are worth almost 2 seconds, so when to spend them matters more than how many you grab.
- The items help whoever is behind: a racer in last place gets the Foam Blast twice as often as the leader, while the leader mostly gets things to drop behind. Races stay close.
- Each track's friends are faster than the last. On Backyard Blast the fastest friend is a little faster than your top speed, so you can only beat them with boosts and items.
- All five paints cost 1,200 coins together: twelve wins, or 24 third places.