

STC SimpleTrafficCreator

Installation guide, structure, hotkeys, files, waypoints, groups, special tasks, and Vehicle XML support

Based on the analyzed file: STC_SimpleTrafficCreator.cs

This manual describes the behavior observed in the script, with emphasis on the options configurable by the player.

1. Overview

STC SimpleTrafficCreator is a waypoint-based traffic spawner and manager for GTA V on ScriptHookVDotNet. It reads global settings from an INI file, loads one or more waypoint maps, and then spawns vehicles, on-foot peds, and parked vehicles within a distance window around the player. These entities follow A/B/C routes, can run scenarios, use model, weapon, and task groups, receive random tuning, and can even spawn full vehicles through Menyoo-style XML.

- Fast in-game waypoint creation through Ctrl hotkeys.
- Normal, ped, boost, route-only, and parked-vehicle waypoints.
- Dynamic per-hour limits for vehicles and peds.
- Support for vehicle, ped, weapon, and task groups through .ini files.
- Hardcoded special tasks for bodyguard and zombie.
- Vehicle XML support with mods, colors, extras, neon, livery, performance, and attachments.
- Full runtime reload to apply INI changes immediately.

2. File structure

Files and folders used by the script

File/Folder	Function
scripts\STC_Config.ini	Global script configuration: limits, distances, default models, hotkeys, messages, paths, and XML options.
scripts\STC_wpAreaMap	Folder containing waypoint map files. The script reads one specific file or all files, depending on loadAllAreaMaps.
scripts\STC_wpAreaMap\<name>.ini	Waypoint map in the new [area:'...'] key:value format or in the legacy CSV format.
scripts\STC_VehicleGroup.ini	Vehicle groups. The group name can be used in veh and vehicleModel.
scripts\STC_PedGroup.ini	Ped groups. The group name can be used in ped and pedModel.
scripts\STC_WeaponGroup.ini	Weapon groups. The group name can be used in weapon and pedWeapon.
scripts\STC_PedTaskGroup.ini	Task and scenario groups. The group name can be used in pedTask and scenarioTask.

scripts\STC_VehicleXML	XML vehicle folder. If the vehicle name points to an XML in this folder, the script tries XML spawning before regular model spawning.
scripts\STC_Log.txt	Text log when logsEnabled=true.

3. Operational flow

- At startup, the script loads config, groups, tasks, and waypoints.
- On each tick it may draw markers, process hotkeys, handle respawn and despawn, move vehicles, move peds, update bodyguards, and update zombies.
- Spawning only happens when the waypoint is inside the allowed distance band from the player and the point's spawnInterval has elapsed.
- Vehicles with a driver count toward maxVehicles. Parked vehicles do not count toward that limit.
- On-foot peds count toward maxPeds. Drivers and passengers inside vehicles are not part of that global limit.
- When reloading with Ctrl+C, the script clears runtime entities and state before reading the INI again, so changes to speed, pedTask, colors, tuning, blockEvents, and other fields apply immediately.

4. Hotkeys and in-game actions

Key combinations

Action	Combination	Note
Create normal waypoint	Ctrl + hotkeyCreate	Default: N. Creates a vehicle and a ped using the config defaults.
Reload config and waypoints	Ctrl + hotkeyReload	Default: C. Performs a hard runtime reload.
Delete last waypoint	Ctrl + hotkeyDelete	Default: X. Removes the last loaded waypoint and rewrites the current file.
Create boost waypoint	Ctrl + hotkeyBoost	Default: B. Uses boostVehicleModel and boostSpeed.
Show or hide markers	Ctrl + hotkeyShowMarkers	Default: M.
Create ped waypoint	Ctrl + H	The config reads hotkeySpawnPed, but the current handler uses a fixed H key.
Create route waypoint	Ctrl + hotkeyRoute	Default: E. Spawns nothing; acts only as a route node.
Create parked vehicle waypoint	Ctrl + hotkeyParkedVehicle	Default: R. Creates a vehicle with no driver.
Migrate legacy INI to the new format	Ctrl + 8	Fixed hotkey via D8. Not exposed in the config.

5. STC_Config.ini

The STC_Config.ini file controls the script's global behavior. Below are the options recognized in the analyzed file.

5.1 Spawn, despawn, and limits

Key	Default	Description
despawnDistance	235	Maximum distance from the player to keep spawned entities alive. Beyond this, they are removed.
spawnMinDistance	180	Minimum spawn range for normal waypoints with vehicle and driver.
spawnMaxDistance	230	Maximum spawn range for normal waypoints with vehicle and driver.
spawnMinDistanceVehicleNoDriver	180	Minimum range for parked vehicles. If missing, it inherits spawnMinDistance.
spawnMaxDistanceVehicleNoDriver	230	Maximum range for parked vehicles. If missing, it inherits spawnMaxDistance.
spawnMinDistancePedNoVehicle	180	Minimum range for on-foot peds. If missing, it inherits spawnMinDistance.
spawnMaxDistancePedNoVehicle	230	Maximum range for on-foot peds. If missing, it inherits spawnMaxDistance.
maxVehicles	30	Global limit for active vehicles with a driver.
maxPeds	40	Global limit for on-foot peds. Drivers and passengers inside vehicles do not count here.
maxVehiclesByHour	-	Optional. Format 0:10,1:10,2:5 to define per-hour limits based on the in-game clock.
maxPedsByHour	-	Optional. Same format as maxVehiclesByHour.

5.2 Entity defaults and behavior

Key	Default	Description
vehicleSpeed	15	Default speed for vehicles created by hotkey. In practice, treat it as m/s. Example: 20 \approx 72 km/h.
pedSpeed	1.0	Default speed for peds created without a vehicle.
autoSpawnEnabled	true	Enables the automatic spawn

		system on tick.
vehicleModel	coquette	Default vehicle model used when creating a normal waypoint.
pedModel	a_m_y_skater_01	Default ped model.
pedWeapon	WEAPON_UNARMED	Default ped weapon. It may also be a group from the weapon file.
pedHP	200	Default ped HP. Integer = absolute HP; decimal = multiplier over the model's base HP.
scenarioTask	(empty)	Default task applied to waypoints created in game.
vehicleRandomCustomization	false	Default tuning mode applied to created vehicles.
vehiclecolor1	default	Default primary color for the waypoint.
vehiclecolor2	default	Default secondary color for the waypoint.
driverBlockEventsDefault	false	Default blockEvents value on waypoints with a driver.

5.3 Logs, notifications, and messages

Key	Default	Description
logsEnabled	true	Enables writing to logFilePath.
notificationsEnabled	true	Enables on-screen messages.
messageWPAdded	traffic Waypoint added!	Text shown when creating a normal waypoint.
messageWPDeleted	traffic Waypoint deleted!	Text shown when deleting the last waypoint.
messageConfigReloaded	Settings and traffic waypoints reloaded!	Text shown on reload.
messageMarkerShown and Hidden	Markers shown and hidden	Messages for the marker toggle.
messagePedWPAdded	PED waypoint added!	Message for the ped waypoint.
messageBoostWPAdded	BOOST waypoint added!	Message for the boost waypoint.
messageRouteWPAdded	Route WP added!	Message for the route waypoint.
messageParkedWPAdded	Parked Vehicle WP added!	Message for the parked-vehicle waypoint.
messageMigrationSuccess and Nothing	-	Messages used by the legacy-format migration.

5.4 Hotkeys and quick creation

Key	Default	Description
hotkeyCreate	N	Key used by Ctrl+N for a normal waypoint.
hotkeyReload	C	Key used by Ctrl+C for reload.
hotkeyDelete	X	Key used by Ctrl+X to delete the last point.
hotkeyBoost	B	Key used by Ctrl+B for a boost waypoint.
hotkeyShowMarkers	M	Key used by Ctrl+M to show or hide markers.
hotkeySpawnPed	H	It is read from the config, but the current handler uses a fixed H key.
hotkeyRoute	E	Key used by Ctrl+E for a route waypoint.
hotkeyParkedVehicle	R	Key used by Ctrl+R for a parked-vehicle waypoint.
boostSpeed	30	Speed used for the boost waypoint.
boostVehicleModel	entityxf	Model used for the boost waypoint.

5.5 Markers and performance

Key	Default	Description
showMarkers	true	Shows cylinders and route lines around the player.
vehicleCheckRadius	5	Prevents vehicle spawn when another vehicle already exists close to the waypoint.
minWaypointDistance	1	Minimum radius used to consider that a waypoint has been reached.
showmarkersFrameSkip	0	Renders markers every value+1 ticks. 0 = every tick.
ontickFrameSkip	2	Runs heavy logic every value+1 ticks. 2 = once every 3 ticks.

5.6 Paths and map selection

Key	Default	Description
iniFileAreaMapname	TrafficWaypointSpawner	Base name of the current .ini file inside the map folder.
area	DefaultArea	Informational area name used when creating new lines in the new format.

wpAreaMapFolder	scripts\STC_wpAreaMap	Waypoint map folder.
vehicleGroupsFilePath	scripts\STC_VehicleGroup.ini	Vehicle group file.
pedGroupsFilePath	scripts\STC_PedGroup.ini	Ped group file.
weaponGroupsFilePath	scripts\STC_WeaponGroup.ini	Weapon group file.
pedTasksFilePath	scripts\STC_PedTaskGroup.ini	Task group file.
logFilePath	scripts\STC_Log.txt	Log file.
loadAllAreaMaps	false	If true, loads all .ini files in the folder. If false, loads only the file selected in iniFileAreaMapname.

5.7 Vehicle XML options

Key	Default	Description
vehicleXmlFolder	scripts\STC_VehicleXML	Folder where the script looks for XML files by name.
vehicleXmlAllowWpOverrides	false	If false, XML vehicles keep the XML colors and tuning. If true, the waypoint may override them.
vehicleXmlMaxSpeedIsKmh	false	If true, interprets VehicleProperties/MaxSpeed from the XML as km/h and converts it to m/s.
vehicleXmlPerfReapplyMs	1000	Interval in ms used to reapply MaxSpeed, Torque, and Power on XML vehicles.

6. Group files (.ini)

Group files let you use an alias instead of a fixed name. When the alias is found, the script randomly chooses one item from the group.

Group format

File	Syntax	Example
STC_VehicleGroup.ini	[groupName] item1,item2,item3	[sport] comet2,coquette,entityxf
STC_PedGroup.ini	[groupName] item1,item2,item3	[cops] s_m_y_cop_01,s_f_y_cop_01
STC_WeaponGroup.ini	[groupName] item1,item2,item3	[sidearms] WEAPON_PISTOL,WEAPON_COMB ATPISTOL
STC_PedTaskGroup.ini	[groupName] task1,task2,task3	[idle] WORLD_HUMAN_SMOKING,WORL D_HUMAN_STAND_IMPATIENT

Group names are treated case-insensitively. For vehicles, the chosen item may also be the base name of an XML file present in STC_VehicleXML.

7. Waypoint maps

The script accepts two line formats: the new key:value pair format and the legacy CSV format. The new format is strongly recommended.

7.1 Recommended new format

```
[area:'Downtown']
id:1,destA:2,destB:3,destC:4,posX:100.0,posY:200.0,posZ:30.0,dir:90,blockEvents:false,veh:'coquette',ped:'a_m_y_skater_01',speed:15,weapon:'WEAPON_PISTOL',spawnInterval:5,waitTime:2000,pedTask:'idle',pedHP:200,vehTuning:false,vehColor1:'default',vehColor2:'default',passengers:false
```

7.2 Legacy format

```
id,destA,destB,destC,x,y,z,heading,veh,ped,speed,weapon,spawnInterval,waitTime[,task,pedHP,tuning,color1,color2,blockEvents,passengers]
```

Ctrl+8 converts the current file from the legacy format to the new format. If no compatible lines exist, the migration reports that there is nothing to convert.

7.3 General waypoint fields

Field	Required	Description
id	Yes	Unique waypoint identifier. Duplicate IDs are ignored during loading.
destA / destB / destC	Yes	Three possible destinations. The script randomly chooses one as the next point.
posX / posY / posZ	Yes	Waypoint position.
dir	Yes	Waypoint heading.
area	In the new format	Informational area name. If missing in an old-format line, the fallback is the .ini file name.

7.4 Spawn and movement fields

Field	Description
veh	Vehicle name or group name. If empty and ped is filled, it creates an on-foot ped. If both are empty, the point becomes route-only.
ped	Ped name or group. If empty and a vehicle exists, the point creates a parked vehicle with no driver.
speed	Point speed. For vehicles, it is passed to the driving task; in practice use it as m/s. For on-foot peds, it is used in TASK_GO_STRAIGHT_TO_COORD.
weapon	Fixed weapon or weapon group.

spawnInterval	Respawn interval in seconds. The parser accepts 0 through 999.
waitTime	Wait time at the point in milliseconds.
blockEvents	true or false. Controls SET_BLOCKING_OF_NON_TEMPORARY_EVENTS for the driver when the car receives a new task.

7.5 Extra waypoint fields

Field	Description
pedTask	Ped task at point arrival. It may be a direct scenario, a group name from STC_PedTaskGroup.ini, or the special bodyguard and zombie aliases.
pedHP	Integer = absolute HP; decimal = multiplier. Examples: 200, 350, 1.0, 3.0. The script clamps it to 1 through 5000 when applying.
vehTuning	false, true, noliv, or full. Nearby aliases are also accepted.
vehColor1 and vehColor2	default = do not change. rgb = random RGB. R.G.B = custom color, e.g. 255.0.0.
passengers	false = no passengers. true = a random number of free seats. full = attempts to fill all free seats.

8. Waypoint types recognized by the script

Point types

Type	Result	Typical use
Normal waypoint	veh filled + ped filled	Standard traffic with a driver following a route.
Ped waypoint	veh empty + ped filled	Pedestrians following a route or running a scenario.
Boost waypoint	Same as normal, but created with boostVehicleModel and boostSpeed	Fast spawn of a specific car type.
Route waypoint	veh empty + ped empty	Route node. Spawns nothing by itself, but serves as destination for other points.
Parked vehicle waypoint	veh filled + ped empty	Parked vehicle, with no driver and no passengers.

9. Ped tasks and special behaviors

When a ped reaches the waypoint, the script handles the pedTask field in three different ways:

- If pedTask matches a group from STC_PedTaskGroup.ini, it randomly chooses a task from that group and runs TASK_START_SCENARIO_IN_PLACE.
- If pedTask is a regular non-special string, it uses that string directly as a GTA scenario.
- If pedTask is a special bodyguard or zombie alias, the ped leaves the normal scenario and route flow and enters a hardcoded AI mode from the script.

Hardcoded special aliases

Mode	Accepted aliases	Summary
bodyguard	bodyguard, guardacostas, guarda_costas, guarda costas, guarda-costas	Activates when the player approaches, gets a green blip, follows the player, tries to enter the player's vehicle, and defends against threats.
zombie	zombie, zumbi, walker, zombiewalker, zombie_walker, zombie-walker	Does not flee, uses a zombie clipset, may become a runner in some cases, and activates through vision, player-vehicle proximity, or player gunfire.

9.1 Bodyguard

- The bodyguard only activates when the player gets close to the ped, at roughly 6 units.
- Once activated, it leaves the waypoint system, joins the player's group, and keeps a green blip.
- If the player is threatened, it tries to attack. If it is inside the player's vehicle, it may shoot without getting out.
- If the player enters a vehicle, the bodyguard tries to find a free seat in a coordinated way to avoid seat conflicts among guards.

9.2 Zombie

- The zombie may activate when it sees the player at about 20 units, detects the player in a vehicle at about 50 units, or hears recent player gunfire at about 100 units.
- Once activated, it abandons its previous scenario and waypoint logic and begins to chase the target.
- Some zombies enter runner mode when the target is far away.
- If the weapon configured on the waypoint is melee or unarmed, the behavior prioritizes closing in and attacking at close range.

10. Tuning and color system

vehTuning modes

Value	Description
false	Does not apply tuning.
true	Applies default random tuning, but avoids wheelie-support parts and does not handle livery aggressively.
noliv	Similar to true, but avoids or resets livery and does not randomize wheels.

full	Applies everything: mods, wheelie support, livery, neon, pearl, rim, tyre smoke, and wheel type.
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The script tries to avoid wheelie-support parts on muscle vehicles when vehTuning is not set to full. It recognizes names and slots related to wheelie bars, drag bars, and similar terms.

Waypoint colors are custom RGB colors, not GTA paint IDs. To leave the color unchanged, use default. To randomize a custom color, use rgb. To define it manually, use the R.G.B format, for example 255.120.0.

11. Passengers

The passengers field only takes effect when the waypoint creates a vehicle and also has a valid ped, because the script requires a ped model for both the driver and passengers. In a parked-vehicle waypoint, passengers are never generated.

Passenger modes

Value	Description
false	Does not spawn passengers.
true	Randomly chooses a number of free seats and creates passengers in them.
full	Attempts to fill every free seat.

12. Vehicle XML (Menyoo)

If the waypoint or group vehicle name matches an XML file inside vehicleXmlFolder, the script tries to create the vehicle from that XML before attempting normal model spawn. If the XML exists but parsing or application fails, the vehicle is not spawned.

- The name can be used in the INI with or without the .xml extension.
- The script caches XML files and reloads them when the file changes.
- Attachments created through XML are deleted together with the vehicle on despawn.
- If vehicleXmlAllowWpOverrides=false, the waypoint does not override the XML colors or tuning.

XML features observed

Category	Support in script
ModelHash and InitialHandle	Yes. Resolves the main model and the attachment hierarchy.
Colours, custom primary-secondary, pearl, and rim	Yes.
Tyre smoke, neon, livery, wheel type, and window tint	Yes.
Plate text, plate index, and bullet proof tyres	Yes.
EngineHealth, BodyHealth, and DirtLevel	Yes.
Mods, ToggleMods, and Extras	Yes.

MaxHealth, Health, Opacity, LOD, gravity, invincibility, proofs, and only damaged by player	Yes.
RpmMultiplier, TorqueMultiplier, and MaxSpeed	Yes, with periodic reapply controlled by config.
SpoonerAttachments	Yes, with best-effort attach and cleanup on despawn.

13. Important spawn, movement, and despawn rules

- A route waypoint with no vehicle and no ped does not spawn anything by itself.
- If maxVehicles is reached, the script still allows on-foot peds and parked vehicles, but blocks new vehicles with a driver.
- A vehicle is only spawned if there is no other vehicle too close to the waypoint, according to vehicleCheckRadius.
- When spawning a vehicle with a driver, the script chooses a random A, B, or C destination and immediately applies a driving task and initial forward push. If speed is less than or equal to 0, the car spawns stopped.
- When arriving at the waypoint, both vehicle and ped may wait for waitTime. For peds running a scenario, waitTime applies while the scenario is active; after that, the ped continues to the next point.
- If all vehicle destinations are invalid, the vehicle remains stopped at the point. If the randomly chosen destination is the point itself, the script parks the vehicle on that waypoint.
- Entities are deleted when they move beyond despawnDistance from the player.

14. Practical notes and limitations

- loadAllAreaMaps=true requires unique IDs across all files. Duplicate IDs are ignored, and that can create confusing routes if the map is not well organized.
- hotkeySpawnPed is read from the config, but ped waypoint creation is currently hardcoded to Ctrl+H in the handler.
- The migration hotkey is fixed to Ctrl+8 and does not appear as a standard config option.
- Vehicle anti-stuck watchdog variables exist in the script, but the current movement logic is not actively using that watchdog.
- spawnInterval uses seconds; waitTime uses milliseconds.
- pedHP with a decimal is a multiplier; without a decimal it is absolute HP. This detail changes the final result a lot.
- For regular tasks, the script only forwards the name to TASK_START_SCENARIO_IN_PLACE. The scenario must exist and be valid in GTA V to work.

15. Practical examples

15.1 Simple traffic vehicle

```
[area:'Avenue']
id:10,destA:11,destB:12,destC:13,posX:100,posY:200,posZ:30,dir:90,blockEvents:false,veh:'sport',ped:'civmale',speed:
12,weapon:'WEAPON_UNARMED',spawnInterval:5,waitTime:0,pedTask:'',pedHP:1.0,vehTuning:false,vehColor1:'def
ault',vehColor2:'default',passengers:true
```

15.2 Ped in scenario

```
[area:'Square']
id:20,destA:21,destB:21,destC:21,posX:150,posY:250,posZ:30,dir:180,blockEvents:false,ped:'a_f_y_business_01',speed:1.0,weapon:'WEAPON_UNARMED',spawnInterval:10,waitTime:8000,pedTask:'WORLD_HUMAN_STAND_IMPATIENT',pedHP:200,vehTuning:false,vehColor1:'default',vehColor2:'default',passengers:false
```

15.3 Bodyguard

```
[area:'Base']
id:30,destA:31,destB:31,destC:31,posX:200,posY:300,posZ:30,dir:0,blockEvents:false,ped:'s_m_m_security_01',speed:1.0,weapon:'WEAPON_CARBINERIFLE',spawnInterval:15,waitTime:0,pedTask:'bodyguard',pedHP:3.0,vehTuning:false,vehColor1:'default',vehColor2:'default',passengers:false
```

15.4 Zombie

```
[area:'DarkStreet']
id:40,destA:41,destB:41,destC:41,posX:250,posY:350,posZ:30,dir:45,blockEvents:true,ped:'u_m_y_zombie_01',speed:1.2,weapon:'WEAPON_UNARMED',spawnInterval:12,waitTime:0,pedTask:'zombie',pedHP:2.5,vehTuning:false,vehColor1:'default',vehColor2:'default',passengers:false
```

15.5 XML vehicle

```
[area:'Showroom']
id:50,destA:51,destB:52,destC:53,posX:300,posY:400,posZ:30,dir:270,blockEvents:false,veh:'my_xml_car',ped:'drivergroup',speed:10,weapon:'WEAPON_UNARMED',spawnInterval:20,waitTime:0,pedTask:'',pedHP:200,vehTuning:false,vehColor1:'default',vehColor2:'default',passengers:full
```

16. Quick checklist for editing without breaking the map

- Keep every ID unique.
- Review destinations A, B, and C to make sure they point to existing IDs.
- Use route waypoints to draw the network without creating extra entities.
- If you want a stopped vehicle, set speed=0 or create a parked-vehicle waypoint.
- If you use several maps at the same time, prefer loadAllAreaMaps=true only when you have full control over all IDs.
- If a vehicle name does not spawn, check whether it is a valid game model, a valid group name, or a readable XML in the correct folder.