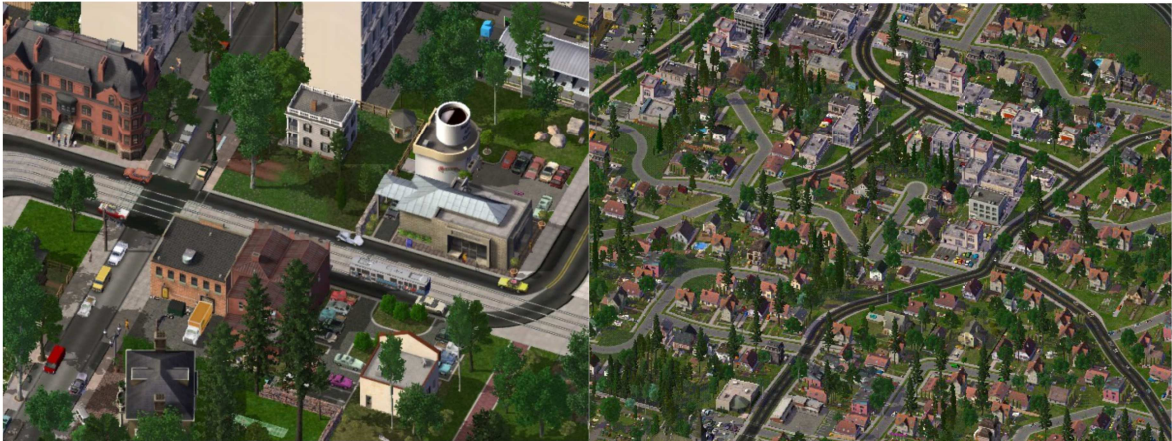


# ***Network Addon Mod User Manual***

## ***For NAM Version 35***



**NAM**  
Network Addon Mod

## DISCLAIMER

Please note that this document is still undergoing revision, to account for all the changes that have been made since the documentation was last updated (NAM 31). Some current features or changes may not be described from this manual. Further updates will be published as they become available. In the meantime, please visit the NAM Place board at [SC4 Devotion](#), or the NAM & Transit Networks board at [Simtropolis](#) to ask any questions pertaining to features that are unlisted or have undergone revision since this manual's original publication. We are always happy to help, and apologize for the inconvenience.

-The NAM Team

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# 1 Preface

The Network Addon Mod (NAM) combines all transportation network-related fixes, additions and new creations that have been released so far. It will add countless new features to the existing network tools, such as new overpasses, highway onramps, intersections, ped-malls, a ground light rail network, roundabouts and turning lanes.

## 1.1 Compatibility

The Network Addon Mod is only compatible with SimCity 4 with Rush Hour Expansion or SimCity 4 Deluxe. Attempting to use this addon with any other version of SimCity 4 will cause the game to crash upon loading. You also need the SimCity 4 Rush Hour/Deluxe EP1 Update 1 Patch (Version 1.1.638) for proper functionality. Note that digital copies, including those from Steam, GOG.com, Amazon, and other retailers, are pre-patched to Version 1.1.641. (Origin's copies were properly updated to this version in late August 2014.)

## 1.2 Installation

First, run the enclosed file *"NetworkAddonMod Setup 35 SFX.exe"*. This is a self-extractor that contains the actual installer for the mod, and is used to considerably shrink the size of the download (270MB vs. 1.1GB). Run it, and you will find the file *"NetworkAddonMod Setup 35.exe"* in the same folder. Run it and follow the instructions to install the NAM.

**DO NOT, UNDER ANY CIRCUMSTANCES, UNINSTALL YOUR PREVIOUS NAM VERSION** if you are an existing NAM user. The NAM installer can detect your previous installation options by reading the folder, and as such, it is safe (and recommended) to install NAM 35 on top of your old version. If you remove the previous install, however, you may not remember exactly which options you had selected, which could potentially cause issues in your cities.

## 1.3 Uninstallation

For uninstalling the Network Addon Mod, simply delete the files from the plugins folder. Make sure to remove any NAM content from your cities before uninstallation. **Do NOT, under any circumstances, move the uninstaller and attempt to run it from another directory.** It uses a recursive algorithm, which may result in unintended consequences if run in a different location.

## 1.4 Disclaimer

Users download, install, and run this mod completely and solely at their own risk. Maxis, the creators, and its individual contributors, are not responsible for any errors, crashes, problems, or any other issue that you may have if you have downloaded and applied this mod file to your game. Players should also expect that any future patches and/or expansion packs and SimCityscape may not function properly with the game if you have downloaded this mod and applied it to your game. The use of this document, the information within, and the Network Addon Mod is conditional upon the acceptance of this disclaimer and all that is within this document.

## 1.5 A Big Thank You

Thanks goes first and foremost to the SC4 fansite admins, for creating and slaving over their sites in order to make them a vibrant SimCity 4 community. Without them, none of this would be possible. A very special thank you goes to the entire **Simtropolis Modd Squad** and all the members of **Simtropolis** who have contributed to this Network Addon Mod in its current form. Simtropolis has given the NAM Team (and its predecessor, the Modd Squad) a valuable and necessary tool to create the contents of this Network Addon Mod. Without Simtropolis, this mod simply would not exist.

The NAM's continued growth has also been fostered by two more sites, SC4 Devotion, and SimCityPlaza. SC4 Devotion, founded by past NAM Team contributor Jeronij, has graciously given us a great private space to facilitate development, and SimCityPlaza and its associated forum and exchange have served and continue to serve admirably as the German language hub for the team.

While all the mods and website maintenance is done voluntarily, web hosting is not free—and running a file exchange can be quite an expense. If you enjoy and value this mod, either in part or whole, please consider making a donation to any of those three sites to help offset their bandwidth costs.



## 2 Installation instructions

The intention of this chapter is to get the Network Addon Mod and components installed and to get it working for you. While the content of this mod may be quite immense, especially to new users, it is important that you read the whole documentation before using the Network Addon Mod for the first time, especially these Installation Instructions. This will reduce the chances of any problems, conflicts, complications, and/or headaches that you might otherwise experience as a result of not reading the documentation.

The contents of this file and/or any other file(s) may change with future updates without notice.

### 2.1 Compatibility

This Network Addon Mod is for RH/Deluxe with RH/Deluxe Update1. This mod is not intended for anything else other than this.

**Note:** For Mac users: Aspyr has not provided a Mac-compatible version of this patch. The NAM includes files that will compensate for this omission, so it is not necessary to seek one out for the App Store or Steam versions.

In order to use this Network Addon (Mod) and associated features, please read the following very carefully.

The new Monolithic NAM installer introduced in March 2013 automatically cleans up your old NAM folder and scans for already installed components (and if you want to use them, keep them checked). This should ensure that your NAM installation works properly out of the box.

This version of the Network Addon Mod includes most of the above mentioned Transit related items, and contains any & all currently known bugfixes made to date (where possible and/or practical), created by the NAM Team, the former Simtropolis Modd Squad &/or others to date.

#### 2.1.1 A Note About Gameplay/Computer Performance

While this mod should work with the games minimum system requirements, for gameplay/computer performance reasons it is highly recommended that it be used on systems that exceed the games minimum system requirements. This recommendation is made due to the nature & amount of content that this mod adds. Modern computers should be able to run the game fine, though, although some modern Intel processors seem to have trouble with the large controller files. If you encounter this problem, please report it to the NAM Team so we can investigate the issues.

### 2.2 Dependencies

This mod does not have any dependencies. Some content in this mod though has resulted in community made items being made for them. These community-made items are currently considered enhancements to this mod and/or the game and as such are currently not included at this time. The locations of these community-made items are currently outside the scope of this mod. It is advised to search SC4 fansite's forums and/or download areas for any community-made items that may have been made based on the Contents of this mod.



## 2.3 Assumptions

This Network Addon Mod assumes that your Installation Files of RH/Deluxe [with EP1 Update 1] on your system is mostly in their original form still. If you have modified the Textures and/or anything else network related at all, then this may affect the look &/or functionality of this mod and/or vica-versa.

This mod assumes that your game has the Official Maxis RH/Deluxe Update1 applied to your game. Please do not ask for a conversion for non-RH/Deluxe/Patch1 version(s), as it will not be made.

We assume also that you have not "DatPacked" previous versions of the NAM or that you've installed it at another location than the standard location. This standard location is:

*...\(My) Documents\SimCity 4\Plugins\Network Addon Mod*

**Note:** For Mac users: a Mac compatible RH/Deluxe Update1 would be preferred, but until such time as a Mac compatible RH/Deluxe EP1 Update1 is made available, the above paragraph will not be applicable. Aspyr has informed the NAM Team that they have no intentions of producing a patch, and as such, we have included files to compensate for this omission on the Mac platform.

Additionally, the Aspyr Mac port (in its Steam/App Store incarnation) has a "number of files" limit, wherein the game will crash if a certain number of files is present in the Plugins folder (empty folders can in fact trigger this issue). While it is recommended that *Windows* users *refrain* from DatPacking their NAM installation, it is **required for Mac users**. This can be accomplished by using memo's JDatPacker program, available on the [SC4 Devotion LEX](#).

## 2.4 Traffic Plugin modification programs (Traffic Cop, NAM Tool etc.)

Since the NAM Traffic Plugins (aka. Traffic Simulators) have been overhauled completely, it is **no longer advisable** to use older programs like "Traffic Cop" or the "NAM Tool", which are **no longer updated** anymore. A new program called "**Traffic Simulator Configuration Tool**" has been created to replace those older programs. It reflects the latest findings regarding the pathfinding accuracy and also provides options to modify the traffic and zoning data views.

## 2.5 Where to find

You will find some of the additional Network items in the games Roads menu, Highways menu, Rails menu, & Miscellaneous menu. For some additional items though you will need to activate them yourself using the different Network tools in order for them to appear &/or be activated. An example of this is the OneWayRoad Bridges; you need to select the OneWayRoad Tool from the Menu and drag the tool across a body of water (or land gauge) before you are able to select which Bridge type you want built. Once you select the OneWayRoad Bridge type from the Selection Screen, the game will then build the bridge along with its cost. Please see the Contents for more details regarding the in-game location of the various items.

## 2.6 Point of Contact / Reporting Bugs & Issues

Before reporting a bug or issue with any of the content of this mod, please be sure to read the first regarding known game issues & limitations. For any Transit bugs and/or problems with any of the items &/or features that this Mod has, please see the the NAM forum

at [SC4Devotion](#), or the NAM & Transit Networks forum at [Simtropolis](#), and look for the appropriate thread. When reporting a problem, issue or bug, please include as much detail about the problem as possible, including what NAM version you have, what other NAM related files are installed and a picture of the problem.

## **2.7 Addendum**

If there is a particular item and/or feature about this Mod that you do not like, then it is simply asked that you do not use it. The complexity of the games' files means that a lot of the items in this mod are only possible if it is all done in the one mod, and as such no custom orders to do something specific will necessarily be done. By all means place a request in the NAM forum at [SC4Devotion](#), or the NAM & Transit Networks forum at [Simtropolis](#), and it may be considered for inclusion in a future update, if it is possible given time and technical constraints, and/or other issues.

### 3 Components

This file is a general outline to the contents that the Network Addon Mod has, and is intended for anyone and everyone to read, especially if you have trouble getting some aspects working. To install the mod file, please see the .

The contents of this Network Addon Mod includes, but is not limited to, the following [with extended explanations further on]:

- Additional Bridges
- Additional Overpasses
- Additional Interchanges
- Additional [Highway] Ramps
- Puzzle Pieces
- Pedestrian Mall Tiles
- Dual/Double-Decker Networking
- Additional U-Drive-It Functionality
- Additional Overrides
- Draggable FAR & Wide-Radius Curves
- Additional Intersections & Junctions
- Transit Bugfixes/Additions
- Known (Game) Issue(s) and/or Bugs

#### 3.1 Basic Additional Bridges

Fully functional OneWayRoad Bridges. Includes the following OneWayRoad Bridge Types:

- Level bridge
- Raised bridge
- Undertruss bridge
- Wooden covered bridge
- Medium suspension bridge
- Stone arch bridge
- Small steel arch bridge

- Cantilever truss bridge
- Overdeck truss bridge

OneWayRoad Bridges that have already been built should **not** have their direction changed. Changing the Flow of Direction for an **existing** OneWayRoad Bridge, without demolishing it, may result with it not functioning properly. For this reason if you want to change the Flow of Direction for a OneWayRoad bridge, it is best if you demolish the OneWayRoad bridge first & then Re-Build the OneWayRoad Bridge in the direction you want.

New styles of bridges. Includes the following bridge types:

- Plain Road bridge
- Plain OneWayRoad bridge
- Plain Avenue bridge
- Level Street bridge
- Raised OneWayRoad bridge
- Raised Avenue bridge
- Overdeck Truss Rail Viaduct and GLR bridge
- Warren Undertruss Rail Viaduct and GLR bridge
- Level Rail Viaduct bridge

More custom bridges are available in the NAM as well. Many of these are further documented in their own respective readmes. This can currently be found in the installation directory. Further information on these options will also be provided in a later edition of this manual.

## 3.2 Additional Overpasses

Fully functional Overpasses. The following additional Overpasses are now included with this mod.

**Note:** Unless specifically mentioned otherwise, all of these Overpasses only exist for the game when following the game's square grid, & not against it.

**Road Overpasses** Menu button contains the following overpasses:

- Road over Road
- Road over Rail
- Road over Street
- Road over OneWayRoad
- Road over Avenue

**OneWayRoad Overpasses** Menu button contains the following overpasses:

**Note:** OneWayRoad Overpasses now contain Directional Arrows & should be placed accordingly

- OneWayRoad over OneWayRoad
- OneWayRoad over Rail
- OneWayRoad over Street
- OneWayRoad over Road
- OneWayRoad over Avenue
- OneWayRoad over Ground Highway [this is without ramps]

**Avenue Overpasses** Menu button contains the following overpasses:

- Avenue over Avenue
- Avenue over Rail
- Avenue over Street
- Avenue over Road
- Avenue over OneWayRoad

Other additional overpasses [Currently, there is no Menu Button for these. If the conditions are right, the game will build these ones automatically when using the applicable network tools to draw them]

- Elevated Rail over Elevated Highway
- Elevated Rail over Monorail
- Monorail over Elevated Highway
- Ground Rail over Ground Highway
- Orthogonal Elevated Highway (Raised) over Diagonal Elevated Highway (Flat)
- Orthogonal Ground Highway (Raised) over Diagonal Ground Highway (Flat)

More overpasses may [or may not] be added with future updates.

To build these Overpasses etc, either select them from the Menu or just simply drag one network type over the other. If you don't see a particular Overpass in the Menu, then use the Network tools to create them. For Example: build a stretch of Monorail track; then using the Elevated Rail Network tool, drag a long-enough stretch of Elevated Rail over the Monorail Network [like: '+'] and the Elevated Rail over Monorail overpass will build automatically if the conditions are right.

With some of the Overpasses, especially where OneWayRoads are involved, it may be a little difficult sometimes to actually be able to build the overpass. So some patience, trial & error may be needed.

Each of the different **Menu Buttons** for these overpasses works by using the HOME/END and TAB key(s) on your keyboard. HOME/END rotates the overpasses on the cursor [where possible], and TAB (&/or SHIFT+TAB) cycles through the different overpasses that belongs to that menu button. When you TAB from one overpass to another, the type of overpass is displayed in the TEXT on the cursor itself [where possible].

**Overpasses come under the same scope as being Interchange-base Related Item(s).**

### 3.3 Additional Interchanges

The following Custom Interchanges are now included with this mod:

#### 3.3.1 Avenue Intersection(s)

Includes the following Avenue Interchanges:

- Avenue Roundabout 4x4 (includes Flexible Underpass (FLUPs) support)
- Avenue Roundabout 4x4 with offset diagonal connection (includes Flexible Underpass (FLUPs) support)
- Avenue Roundabout 4x4 with Elevated Highway overpass
- Avenue Roundabout 4x4 with GLR straight
- Avenue Roundabout 4x4 with GLR T intersection
- Avenue Roundabout 4x4 with GLR + intersection
- Avenue Roundabout 4x4 with GLR intersection below Elevated Highway
- Avenue Y-Stack
- Avenue x Road Ramp
- Avenue Wide Radius 45-Curve
- Avenue Wide Radius 90-Curve
- Avenue to FAAVE-4 (Fractional Angle Avenue) Short Curve
- FAAVE-4 Straight Piece

**Note:** You can bulldoze the inner 2x2 tile statue/fountain prop after building the Avenue Roundabout and use them for plopping lots or other items. This will, however, remove the native FLUPs support.

#### 3.3.2 Custom Interchange(s)

Includes the following Custom Interchanges:

- Ground Highway Trumpet Interchange
- Ground Highway Partial Y Interchange
- Ground Highway Y Interchange
- Orthogonal Elevated Highway by Diagonal Elevated Highway Interchange
- Elevated Highway over Ground Highway Stack
- Elevated Highway - 3 Leaf Clover
- Elevated Highway - 2 Leaf Clover-Adjacent



- Elevated Highway - 2 Leaf Clover-Opposite
- Elevated Highway - 1 Leaf Clover
- Elevated Highway <~> Ground Highway **Extended** Transition
- 'T' Highway OnSlope Puzzle Piece Orthogonal/Diagonal
- Double 'T' Highway OnSlope Puzzle Piece Orthogonal/Diagonal
- Highway OnSlope Puzzle Piece Orthogonal/Diagonal
- Ground Highway 45-Curve
- Elevated Highway 45-Curve

**Note:** If you use the **Maxis Highway Override** AKA **Project Symphony**, all standard interchanges and additional interchanges are disabled. For more information, see the **Maxis Highway Override User Manual**.

Additionally, Elevated Highway over Tram-in-Avenue Orthogonal/Diagonal interchanges can be found at the end of the Perpendicular Ramps button.

There currently exist some Path issues with some of these interchanges. Unfortunately, for technical reasons some of these path issues are not possible to fix at all.

Each of the different Custom Interchanges is currently contained in the one **Menu Button** in the Highway Menu. Use the HOME/END and TAB key(s) on your keyboard. HOME/END rotates the item on the cursor [where possible], and TAB (&/or SHIFT+TAB) cycles through the different items that belongs to that menu button. When you TAB from one item to another, the type is displayed in the TEXT on the cursor itself [where possible].

**Interchanges come under the same scope as being Interchange-base Related Item(s).**

### 3.4 Additional [Highway] Ramps

The following ramps are now included with this mod:

**Note 1:** Unless mentioned otherwise; these ramps only exist for the game when following the game's square grid, & not against it.

**Note 2:** If you use the **Maxis Highway Override** AKA **Project Symphony**, all standard interchanges and additional interchanges are disabled. For more information, see the **Project Symphony User's Manual**

**Single-Sided Perpendicular Ramps** Menu button contains the following ramps:

- Elevated Highway OnRamp-Road
- Elevated Highway OffRamp-Road
- Elevated Highway Straight OnRamp-Road
- Elevated Highway Straight OffRamp-Road

- Elevated Highway Straight OnRamp-OneWayRoad
- Elevated Highway Straight OffRamp-OneWayRoad
- Elevated Highway OnRamp-OneWayRoad Forward
- Elevated Highway OffRamp-OneWayRoad Forward
- Elevated Highway OnRamp-OneWayRoad Reverse
- Elevated Highway OffRamp-OneWayRoad Reverse

**Single-Sided Parallel Ramps** Menu button contains the following ramps:

\*All of these particular parallel ramps contain diagonal ramps\*

- Elevated Highway OnRamp-Road
- Ground Highway OnRamp-Road
- Elevated Highway OffRamp-Road
- Ground Highway OffRamp-Road
- Elevated Highway Ramp-OneWayRoad Forward 01
- Elevated Highway Ramp-OneWayRoad Reverse 01
- Elevated Highway Ramp-OneWayRoad Forward 02
- Elevated Highway Ramp-OneWayRoad Reverse 02
- Ground Highway Ramp-OneWayRoad Forward 01
- Ground Highway Ramp-OneWayRoad Reverse 01
- Ground Highway Ramp-OneWayRoad Forward 02
- Ground Highway Ramp-OneWayRoad Reverse 02
- Highway Entrance/Exit for raised roads
- Lateral Ground Highway Exit (orthogonal)
- Lateral Ground Highway Exit (diagonal)
- Straight Ground Highway Exit (orthogonal)
- Straight Ground Highway Exit (diagonal)

**Other Ramps** [Currently, there is no Menu Button for this. If the conditions are right, the game will prompt you for these one(s)]

Elevated Highway Avenue Orthogonal **One Sided** Dual Ramp

[If you have a UK version of the game, or left-hand side driving; then some of these Ramps above will be the opposite. i.e. OnRamp becomes OffRamp. OffRamp becomes OnRamp. Some of the names above have been done intentionally for a reason. They are all different types of Ramps, for now it was just figured the best way to deal with some of them was to name them in this particular manner for easier identifying in-game. This may change though].

Each of the different **Menu Buttons** for these ramps works by using the HOME/END and TAB key(s) on your keyboard. HOME/END rotates the item on the cursor [where possible], and TAB (&/or SHIFT+TAB) cycles through the different items that belongs to that menu button. When you TAB from one item to another, the type is displayed in the TEXT on the cursor itself [where possible].

**Ramps come under the same scope as being Interchange-base Related Item(s).**

### 3.5 Starter Pieces and FLEX Items

The following Starter Pieces and FLEX Items are included with this mod:

Diagonal Street Helper Puzzle Pieces Menu button contains the following Puzzle Pieces:

- Construction Piece (FLEX) (long version)
- Construction Piece (FLEX) (medium version)
- Construction Piece (FLEX) (short version)
- Diagonal Street Piece (Filler Puzzle Piece)
- Diagonal Street Puzzle Piece (Filler Puzzle Piece)
- Diagonal Street Puzzle Piece (Filler Puzzle Piece)

Draggable Ground Light Rail Starter Pieces Menu button contains the following Items:

- Ground Light Rail Straight with draggable Ground Light Rail Connection
- Ground Light Rail Diagonal with draggable Ground Light Rail Connection
- Ground Light Rail Straight with draggable Ground Light Rail Connection ~ Rural
- Ground Light Rail Diagonal with draggable Ground Light Rail Connection ~ Rural
- Elevated to Ground Light Rail with draggable Ground Light Rail Connection Rail
- Elevated to Ground Light Rail with draggable Ground Light Rail Connection Rail ~ Rural
- Ground Light Rail Loop with draggable Ground Light Rail Connection
- Ground Light Rail Loop with draggable Ground Light Rail Connection ~ Rural

Draggable Ground Light Rail Extension Starter Pieces Menu button contains the following Items:

- Draggable Ground Light Rail Starter Alt-Style 1
- Draggable Ground Light Rail Starter Alt-Style 2

Elevated Road Viaducts Menu button contains the following Items:

- L1 Road Starter
- L2 Road Starter

- L1 One-Way Road Starter
- L2 One-Way Road Starter
- L1 Avenue Starter
- L2 Avenue Starter
- 1-Level Road FLEX Height Transition
- 2-Level Road FLEX Height Transition
- 1-Level One-Way Road FLEX Height Transition
- 2-Level One-Way Road FLEX Height Transition
- 1-Level Avenue FLEX Height Transition
- 2-Level Avenue FLEX Height Transition
- 1-Level FLEX On-Slope Transition (can be converted to cover all three)
- 2-Level FLEX On-Slope Transition (can be converted to cover all three)

### 3.6 Puzzle Pieces

The following Puzzle Pieces are included with this Mod:

Please note: Many Puzzle Piece items now contain a Diagonal component (where applicable) & cover many possible configurations, with either the lower &/or upper portion of the Puzzle Piece.

Road Puzzle Pieces Menu button contains the following Puzzle Pieces:

- Road Starting/Ending Section Orthogonal/Diagonal
- Road Blank Terrain - Orthogonal/Diagonal
- Road Blank Terrain - Orthogonal to Diagonal Transition
- Road Blank Terrain - Corner
- Road over Orthogonal Road
- Road over Double Diagonal Road
- Road over Diagonal Road
- Road over Orthogonal Rail
- Road over Double Diagonal Rail
- Road over Diagonal Rail
- Road over Orthogonal Street

- Road over OneWayRoad
- Road over Double Diagonal OneWayRoad
- Road over Diagonal OneWayRoad
- Road over Orthogonal Avenue
- Road over Diagonal Avenue
- Road over Orthogonal GroundHighway
- Road over Diagonal GroundHighway
- Road x Road/OneWayRoad + Intersection
- Road x Road/OneWayRoad T Intersection
- Road x Rail + Intersection
- Road over Orthogonal Ground Light Rail
- Road over Diagonal Ground Light Rail
- 'T' Road OnSlope
- Straight Road OnSlope



OneWayRoad Puzzle Pieces Menu button contains the following Puzzle Pieces:

Note: OneWayRoad Puzzle Pieces now contain Directional Arrows (where applicable) & should be placed & linked accordingly in order to work. To view these Directional Arrows after an item has been built, use either query tools &/or the bulldoze tool & hover the tool over applicable OneWayRoad Puzzle Pieces (one tile at a time only). Note that not all OneWayRoad Puzzle Piece items contain these Directional Arrows.

- OneWayRoad ON/OFF Orthogonal/Diagonal
- OneWayRoad Blank Terrain - Orthogonal/Diagonal
- OneWayRoad Blank Terrain - Orthogonal-to-Diagonal Transition
- OneWayRoad Blank Terrain - Corner
- OneWayRoad over Orthogonal OneWayRoad
- OneWayRoad over Double Diagonal OneWayRoad
- OneWayRoad over Diagonal OneWayRoad
- OneWayRoad over Orthogonal Rail
- OneWayRoad over Double Diagonal Rail
- OneWayRoad over Diagonal Rail
- OneWayRoad over Street
- OneWayRoad over Orthogonal Road
- OneWayRoad over Double Diagonal Road
- OneWayRoad over Diagonal Road
- OneWayRoad over Orthogonal Avenue
- OneWayRoad over Diagonal Avenue
- OneWayRoad over Orthogonal GroundHighway
- OneWayRoad over Diagonal GroundHighway
- OneWayRoad x OneWayRoad/Road + Intersection
- OneWayRoad x OneWayRoad/Road T Intersection
- OneWayRoad x Rail + Intersection
- OneWayRoad over Orthogonal Ground Light Rail
- OneWayRoad over Diagonal Light Rail

- 'T' OneWayRoad OnSlope
- Straight OneWayRoad OnSlope

Avenue Puzzle Pieces Menu button contains the following Puzzle Pieces:

Note: Avenue Filler Puzzle Pieces have specifically been provided for use in situations where the use of normal Avenue Puzzle Pieces may not be suitable or possible to use in a given situation. Note that some Avenue Filler Pieces contain Directional Arrows & should be placed accordingly in order to work.

- Avenue Starting/Ending Section Orthogonal/Diagonal
- Avenue Blank Terrain - Orthogonal/Diagonal
- Avenue Blank Terrain - Orthogonal-to-Diagonal Transition
- Avenue 1x1 Filler Pieces [see note above]
- Avenue Corner
- Avenue over Orthogonal Avenue
- Avenue over Diagonal Avenue
- Avenue over Orthogonal Rail
- Avenue over Double Diagonal Rail
- Avenue over Diagonal Rail
- Avenue over Orthogonal Street
- Avenue over Orthogonal Road
- Avenue over Double Diagonal Road
- Avenue over Diagonal Road
- Avenue over Orthogonal OneWayRoad
- Avenue over Double Diagonal OneWayRoad
- Avenue over Diagonal OneWayRoad
- Avenue over Orthogonal GroundHighway
- Avenue over Diagonal GroundHighway
- Avenue by Highway Connector (this is an elevated connection)
- Avenue x Avenue + Intersection
- Avenue x Avenue T Intersection
- Avenue x Road/OneWayRoad + Intersection
- Avenue x Road/OneWayRoad T1 Intersection (Avenue continues)

- Avenue x Road/OneWayRoad T2 Intersection (Avenue ends)
- Avenue x Rail + Intersection
- Avenue over Orthogonal Ground Light Rail
- Avenue over Diagonal Ground Light Rail
- 'T' Avenue OnSlope
- Straight Avenue OnSlope

Wide Radius Road Curve Puzzle Pieces Menu button contains the following Puzzle Pieces:

- Road S-Curve
- Road 45-Curve
- Road 90-Curve (small)
- Road 90-Curve (large)
- FAR Short Curve
- FAR Long Curve
- FAR Straight Piece
- At-Grade Crossing-FAR Straight/Orthogonal Rail
- 45 Degree to FAR Transition
- FAR/Ortho Crossroads
- FAR to Ortho T Intersection
- Ortho to FAR T Intersection
- FAR Crossroads
- FAR T Intersection
- Street 45-Curve
- Street 90-Curve (Small)
- Street 90-Curve (Large)

Ground (Heavy) Rail Puzzle Pieces Menu button contains the following Puzzle Pieces:

- Rail Starting/Ending Section
- Rail Starting/Ending Section Diagonal
- Rail over Blank Terrain - Straight and Diagonal
- Rail over Blank Terrain - 45° Turn Left and Right
- Rail over Blank Terrain - Wide Radius Curve Left and Right
- Rail over Blank Terrain - Switch Left and Right
- Rail over Blank Terrain - Switch Left and Right Diagonal
- Rail over Straight Rail
- Rail over Double Diagonal Rail

- Rail over Diagonal Rail
- Diagonal Rail over Diagonal Rail
- Diagonal Rail over Straight Rail
- Rail over Street
- Diagonal Rail over Street
- Diagonal Rail over Diagonal Street
- Rail over Straight Road
- Rail over Double Diagonal Road
- Rail over Diagonal Road
- Diagonal Rail over Straight Road
- Diagonal Rail over Diagonal Road
- Diagonal Rail over Double Diagonal Road
- Rail over Straight OneWayRoad
- Rail over Double Diagonal OneWayRoad
- Rail over Diagonal OneWayRoad
- Diagonal Rail over Straight OneWayRoad
- Diagonal Rail over Diagonal OneWayRoad
- Diagonal Rail over Double Diagonal OneWayRoad
- Rail over Straight Avenue
- Rail over Diagonal Avenue
- Diagonal Rail over Avenue
- Diagonal Rail over Diagonal Avenue
- Rail over Straight GroundHighway
- Rail over Diagonal GroundHighway
- Diagonal Rail over GroundHighway
- Diagonal Rail over Diagonal GroundHighway
- Rail x Rail + Intersection

- Rail over GroundLightRail
- Rail over Diagonal GroundLightRail
- Diagonal Rail over GroundLightRail
- Diagonal Rail over Diagonal GroundLightRail
- Rail over Pedmall 1
- Rail over Pedmall 2
- 'T' Rail OnSlope
- Straight Rail OnSlope
- Diagonal Rail OnSlope

Wide Radius Rail Curve Puzzle Pieces Menu button contains the following Puzzle Pieces:

- Rail S-Curve
- Rail 45° Curve
- Rail 90° Curve
- FARR 18.4° Curve
- FARR 71.6° Curve
- FARR Straight Puzzle Piece
- At-Grade Crossing-FARR Straight/Orthogonal Road
- Rail Y-Stack
- Rail Diagonal S-Curve
- FARR to Diagonal Curve
- Double Track to Parallel Double Track Switch
- Double Track to 45° Double Track Switch
- Double Track to FARR Double Track Switch
- Diagonal Double Track to Double Track Switch



Ground Light Rail Puzzle Pieces Menu button contains the following Puzzle Pieces:

This particular item has Transit Enabled Lots for them that are not included in this mod; please visit the NAM forum at SC4Devotion & look for the appropriate thread for more details.

- Ground Light Rail Straight
- Ground Light Rail Straight Alt-Style 1
- Ground Light Rail Straight Alt-Style 2
- Ground Light Rail Straight Rural
- Ground Light Rail Turn 45
- Ground Light Rail + Crossing
- Ground Light Rail Multi-switch Crossing
- Ground Light Rail T-Junction
- Ground Light Rail Turn 90
- Ground Light Rail x Road
- Ground Light Rail x Street
- Ground Light Rail x OneWayRoad
- Ground Light Rail x Avenue
- Ground Light Rail x Rail
- Ground Light Rail Diagonal
- Ground Light Rail Junction
- Ground Light Rail Diagonal Junction
- Ground Light Rail S-curve
- Ground Light Rail Y-junction
- Ground Light Rail W-junction
- Ground Light Rail on Ped Mall Tile ~ Paved
- Ground Light Rail on Ped Mall Tile ~ Cobblestone
- Ground Light Rail on Ped Mall Tile ~ Open Paved
- Ground Light Rail on Ped Mall Tile ~ Sandstone

- Ground Light Rail Rural Straight Puzzle Piece
- Ground Light Rail Rural Diagonal Junction Puzzle Piece
- Ground Light Rail Rural Diagonal Puzzle Piece
- Ground Light Rail x Elevated Light Rail
- Ground Light Rail x Elevated Highway
- Ground Light Rail x MonoRail
- Elevated to Ground Light Rail
- 'T' Ground Light Rail OnSlope
- Straight Ground Light Rail OnSlope
- Ground Light Rail Loop
- Ground Light Rail Loop with gap for station
- Ground Light Rail straight and Loop with gap for station

Double-height Elevated Rail Puzzle Pieces Menu button contains the following Puzzle Pieces:

- High Elevated Rail Ramp Puzzle Piece
- High Elevated Rail over Blank Terrain - straight Puzzle Piece
- High Elevated Rail over Blank Terrain - no pylon
- High Elevated Rail over Rail Puzzle Piece
- High Elevated Rail over Street Puzzle Piece
- High Elevated Rail over Road Puzzle Piece
- High Elevated Rail over OneWayRoad Puzzle Piece
- High Elevated Rail over Avenue Puzzle Piece
- High Elevated Rail over GroundHighway Puzzle Piece
- High Elevated Rail over Elevated Highway Puzzle Piece
- High Elevated Rail over Elevated Rail Puzzle Piece
- High Elevated Rail over Monorail Puzzle Piece
- High Elevated Rail over Ground Light Rail Puzzle Piece
- High Elevated Rail over Rail Viaduct Puzzle Piece
- High Elevated Rail over Road Viaduct Puzzle Piece
- High Elevated Rail over OneWay Road Viaduct Puzzle Piece
- High Elevated Rail over Avenue Viaduct Puzzle Piece
- T Elevated Rail OnSlope Puzzle Piece
- Straight Elevated Rail OnSlope Puzzle Piece

Double-height Monorail Puzzle Pieces Menu button contains the following Puzzle Pieces:

- High Monorail Ramp Puzzle Piece
- High Monorail over Blank Terrain - straight Puzzle Piece
- High Monorail over Blank Terrain - no pylon
- High Monorail over Rail Puzzle Piece
- High Monorail over Street Puzzle Piece
- High Monorail over Road Puzzle Piece
- High Monorail over OneWayRoad Puzzle Piece
- High Monorail over Avenue Puzzle Piece
- High Monorail over GroundHighway Puzzle Piece
- High Monorail over Elevated Highway Puzzle Piece
- High Monorail over Elevated Rail Puzzle Piece
- High Monorail over Monorail Puzzle Piece
- High Monorail over Ground Light Rail Puzzle Piece
- High Monorail over Rail Viaduct Puzzle Piece
- High Monorail over Road Viaduct Puzzle Piece
- High Monorail over Oneway Road Viaduct Puzzle Piece
- High Monorail over Avenue Viaduct Puzzle Piece
- T Monorail OnSlope Puzzle Piece
- Straight Monorail OnSlope Puzzle Piece

Canal Addon Mod (CAN-AM) Puzzle Pieces Menu button contains the following Puzzle Pieces:

- Straight Canal Path Puzzle Piece
- Corner Canal Path Puzzle Piece
- T Crossing Canal Path Puzzle Piece
- + Crossing Canal Path Puzzle Piece
- Road-over-Canal Straight Puzzle Piece
- Road-over-Canal Edge Puzzle Piece
- Road-under-Canal Edge Puzzle Piece

- OneWayRoad-over-Canal Straight Puzzle Piece
- OneWayRoad-over-Canal Edge Puzzle Piece
- Avenue-over-Canal Straight Puzzle Piece
- Avenue-over-Canal Edge Puzzle Piece
- Highway-over-Canal Straight Puzzle Piece
- Highway-over-Canal Edge Puzzle Piece
- Monorail-over-Canal Straight Puzzle Piece
- Monorail-over-Canal Edge Puzzle Piece
- ElevatedLightRail-over-Canal Straight Puzzle Piece
- ElevatedLightRail-over-Canal Edge Puzzle Piece
- ViaductRail-over-Canal Straight Puzzle Piece
- ViaductRail-over-Canal Edge Puzzle Piece

The preview shows a red line for some pieces. This red line indicates that the puzzle piece does also allow creating a Flexible Underpass across the canal.

Turning Lane (TuLEP) Puzzle Pieces Menu button contains the following Puzzle Pieces:

- Road Type A Transition/T-End Transition
- Road Type A1/A2
- Road Type A-Blank and A-Dashed
- Road Type A Compact Transition
- Avenue Type A/B Transition
- Avenue Type A1/A2
- Avenue Type A-Blank1/Blank 2
- Avenue Type B1
- Avenue Type B-Blank
- Road Type A +/T Intersection
- Avenue Type A +/T Intersection
- Avenue Type B + / AB + Intersection
- Avenue/Road Type A +/T

- Road Type AxDTR / STR
- Road Type AxGLR
- Avenue Type AxDTR
- Avenue Type AxSTR
- Avenue Type AxGLR
- 1-Tile Slip Lane
- Road Slip Lane
- Road Dual Slip Lane
- OWR Slip Lane
- Avenue Slip Lane
- Road Type A/Slip Lane
- Road Type A/Dual Slip Lane
- Road T-End Slip Lane
- Avenue Type A/Slip Lane
- Avenue Type A/Dual Slip Lane
- NWM TLA-3/AVE-2-Road Type A Transition

More puzzle pieces may [or may not] be added with future updates.

Each of the different **Menu Buttons** for these Puzzle Pieces works by using the HOME/END and TAB key(s) on your keyboard. HOME/END rotates the Puzzle Piece on the cursor [where possible], and TAB (&/or SHIFT+TAB) cycles through the different Puzzle Pieces that belongs to that menu button item. When you TAB from one Puzzle Piece to another, the type of Puzzle Piece is displayed in the TEXT on the cursor itself [where possible]. Puzzle Pieces must be built manually from the Menu.

### 3.6.1 So what are Puzzle Pieces?

**(Please note:** That there are some exceptions to the following section. Typical Puzzle Piece placement rules as described & depicted further below do not apply to every single Puzzle Piece item. Some Puzzle Piece based items may differ slightly in their placement &/or use due to their design. The following section is only meant as a guide.)

Puzzle Pieces are essentially like jigsaw puzzles; many smaller pieces making up a bigger picture. Puzzle Pieces came about as a result of Overpasses, from the previous section. With Overpasses you are restricted to having an Overpass at a set length, with the overpass only passing over one network. With using Puzzle Pieces though this set length can be overcome; and you can now build extended Overpasses [extended overpasses must be built **manually** using the Puzzle Pieces]. You can also have two or more networks, whether they're the same or not, going underneath extended overpass(es); these too must be built **manually** using the Puzzle Pieces. Puzzle Pieces now also have raised intersections, which should increase their flexibility even more.

Puzzle Pieces can typically be placed on uneven &/or unlevel terrain; including placing Puzzle Pieces next to each other on uneven/unlevel terrain. The more level the terrain is though, the less the Puzzle Piece Model has to conform to the terrain, thus giving a much better visual look. This also includes being able to place Puzzle Pieces on water (any Puzzle Pieces placed on water will still function properly & carry commuters, as long as everything is linked up properly). **Note:** That this is by design that this is possible.

**Intersection-Based** Puzzle Pieces: Where there exists Intersection Puzzle Pieces like "Road x Road/OneWayRoad", this is an Intersection Puzzle Piece aimed at and primarily for Road + Intersection, but is compatible & will work with OneWayRoad Puzzle Piece connections. Where there exists Intersection Puzzle Pieces like "Avenue x Road/OneWayRoad", this is an Intersection Puzzle Piece primarily for Avenue intersection, **and** is aimed for use with Road &/or OneWayRoad Puzzle Piece connections. In other words, these intersection-based puzzle pieces are flexible. Because of this flexibility though, some minor oddities may occur (please see for more details regarding path oddities).

### 3.6.2 How To Use Puzzle Pieces?

Most Puzzle Pieces had to be made in a very particular way. For this reason some people may have a little trouble using them sometimes. There is a particular method in which Puzzle Pieces must generally be used, otherwise they may not function properly as intended. Puzzle Pieces that have a dual network, for example Road over Road Puzzle Piece &/or Road over Avenue Puzzle Piece, must typically be placed on top of an existing section of the network in order to implement and use them in the game properly. This is something that may take some practice, a little patience, and some trial and error to do.

### 3.6.3 Auto-Resolving & how it can help

Because some Puzzle Piece network buttons, especially OneWayRoad Puzzle Piece menu button, contain numerous items on the Home/End keys, trying to find the item you want for a given situation can be impractical. **Auto-Resolving** helps overcome this impracticality (thanks to Maxis!). Auto-resolving occurs when hovering the cursor of an interchange-based related item, such as Puzzle Pieces or interchange items, over existing sections of (non-reserved) network & Tabbing &/or Cycling through the different items attached to an Interchange-Based Related Menu Button. The game will automatically resolve only



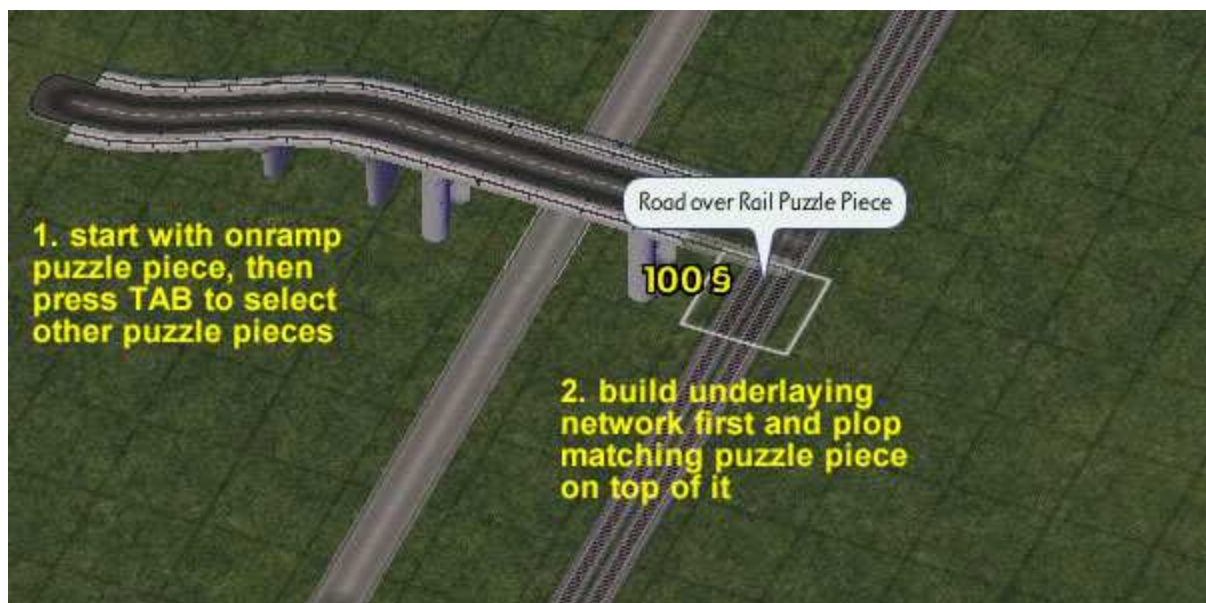
appropriate possible items for a given network in a given situation, when pressing the Tab &/or Home/End keyboard keys. Puzzle Pieces involving a two-tiled network, such as avenue & ground highway, may require the cursor be moved across the two-tiled area of the network when using the Home/End keys to access any/all of the possible configurations an item contains. There are some exceptions to this Auto-Resolving ability for some items, which typically depends on an items internal design. If in doubt, please experiment.

#### 3.6.4 Diagonal-Based Puzzle Pieces

Many of the Network Puzzle Piece Menu Buttons &/or items now contain their Diagonal equivalent. In order to access Diagonal Puzzle Pieces, select a Puzzle Piece menu item & use the Home/End keyboard keys to rotate an item (where applicable). Note that not all items contain a Diagonal equivalent.

The same “How To Use” principles described above & depicted below apply to Diagonal-Based Puzzle Pieces, as they do with normal (straight-based) Puzzle Pieces. Diagonal-Based Puzzle Pieces though may take a little bit more practice, patience, and trial and error to fully utilise. Please note that all of the Diagonal-Based Puzzle Pieces have specifically been made the way they are for a reason - their (unorthodox) design makes them much more interchangeable with each other & all the rest of the puzzle pieces, thus making them much more versatile.

The following tries to illustrate how Puzzle Pieces must be used in order for them to work properly as intended:



You must have 3 Tiles of Street laid down already before you build the Road over Street Puzzle Piece. It must be done like this. With Puzzle Pieces that are 1x2, 2x1, or 2x2 etc tiles, the arrangement & set-up may be a little different but the same principles as this apply.

#### 3.6.5 OneWayRoad Puzzle Pieces: How to use?

Because OneWayRoad Puzzle Pieces flow of traffic only travels in any one direction, using them is a little different from other Puzzle Pieces. The same principles above apply to OneWayRoad Puzzle Pieces. The only difference is the Starting & Ending Pieces. If you use

“OneWayRoad Starting Piece - ON” on one end of an extended overpass, you must use “OneWayRoad Ending Piece - OFF” on the other end of the extended overpass.

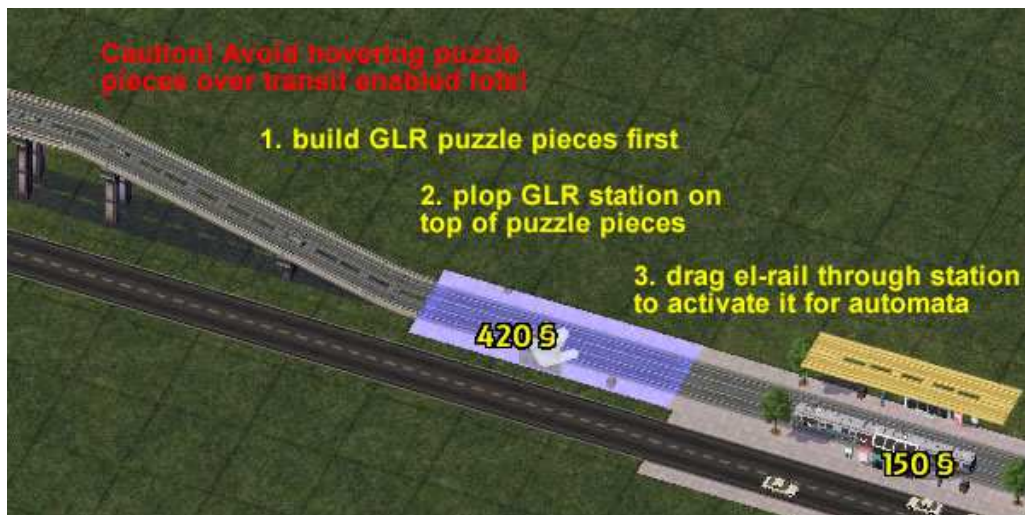
Many of the OneWayRoad Puzzle Pieces now contain Directional Arrows to assist with their placement & general use. OneWayRoad Puzzle Pieces should be placed & linked together according to these Directional Arrows, where applicable, in order for them to work & function properly. Fail to do so may result with whole sections of raised OneWayRoad Puzzle Pieces not working properly at all.

The following gives an example illustration on how this should be done with OneWayRoad Puzzle Pieces in order for them to work properly as intended:



### 3.6.6 GLR Puzzle Pieces: How to use?

Ground Light Rail (GLR) Puzzle Pieces are basically Elevated Rail tracks on ground level. Use the Elevated to Ground Light Rail transition to connect both. It is recommended that you use Draggable GLR instead of GLR Puzzle Pieces whenever possible. Since the NAM doesn't contain lots, you have to install GLR stations separately. vester\_DK has created a [list of all available GLR stations](#) in the Simtropolis forums. (Note: as of NAM 31 in March 2013, the NAM now includes a basic set of GLR stations.)



### 3.6.7 Draggable GLR: How to use it?

Draggable GLR can be used similar like the in-game network tools. You have to place a special starter puzzle piece first that will indicate the direction of the draggable GLR. Use the in-game el-rail tool for dragging GLR tracks. Please note: Due to certain restrictions, the preview still shows up in the same height as the el-rail tracks. At the moment, this cannot be changed. With draggable GLR, you have almost the same liberties as with any other draggable network. For some special cases it's still necessary to use puzzle pieces, though, such as a GLR x El-Rail intersection.

The existing GLR stations need to be updated for placing them directly onto draggable GLR. A patch with updated files is available as a separate download. There's no need to bulldoze the existing GLR network or existing stations in your city, and the patch won't affect stations that have been placed already, however you might want to update your GLR setup to draggable GLR anyway, since it's more flexible and less prone to crashes. You can connect GLR puzzle pieces and draggable GLR with the starter puzzle pieces (which also serve as transition pieces) at any time.

### 3.6.8 Turn Lane Extension Pieces (TuLEPs): How to use them?

The Turn Lane Extension Pieces, or TuLEPs, are a series of puzzle pieces that allow for the construction of modular turn lane setups and slip lanes. The TuLEPs set in the NAM includes turn lane pieces for Roads and Avenues (which can also be used by some Network Widening Mod networks), and slip lane pieces for Roads, One-Way Roads and Avenues. There are two varieties of Turn Lane setups included, Type A (single left-turn lane/right-turn in LHD, included for Road and Avenue), and Type B (dual left-turn lanes/right-turn in LHD, included for Avenue), plus transitions to connect them to their base networks.

It is highly recommended to first drag out the base layout of the intersection on which you'd like to have turn lanes, and then simply place the puzzle pieces on top of this. Because of the way in which the pieces had to be configured to allow them to be plopped over an existing network, it is **highly recommended** that one avoid using the bulldozer tool after "mistakes", as it can create a "cascade" that will require more rebuilding. Most TuLEPs puzzle pieces of the same base network type can be plopped over top of one another, and it is advised that one take this approach instead.

### 3.6.9 What are FLEX Pieces?

FLEX Pieces are ploppable network items, which look like standard Puzzle Pieces, and are initially built in a somewhat similar manner, but can be overridden by Starter Pieces and their derivatives. They may even have Starter functionality embedded in them already. Typical items that exist in FLEX form are transitions and Wide-Radius Curves, though the Diagonal Street Helpers and Avenue Roundabouts are also FLEX items.

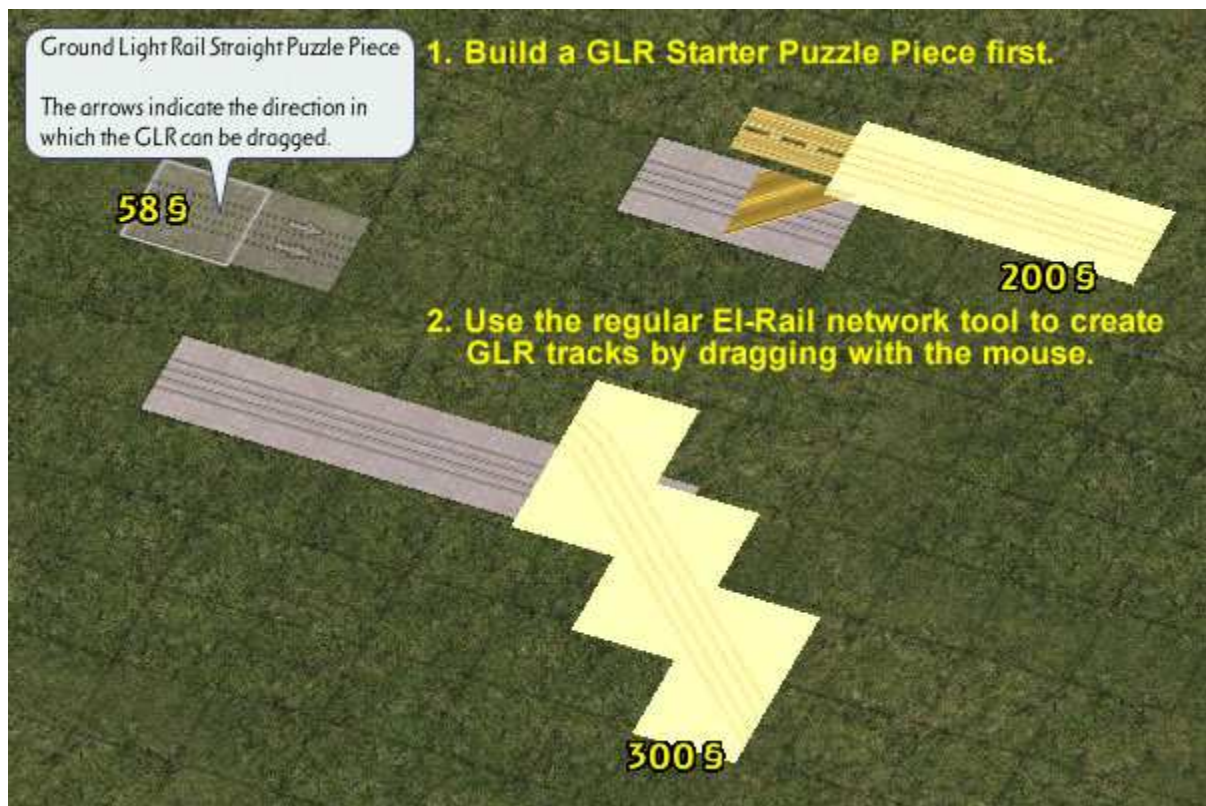
Any embedded Starter functionality is activated typically by dragging a Maxis network (or in the case of the RealHighway mod, the base RHW-2 network) through the FLEX piece. The one exception is with FLEX On-Slopes, in which the Starter functionality is activated by dragging up to the edge of the piece (but not through, as this can destroy the surrounding terrain).

To override a FLEX piece with an Override Network, simply drag the desired network into the appropriate end. If the FLEX piece supports that particular override, it will then transform to match the Override Network. Most FLEX pieces will give some indication as to what Override Network setups they will support.



### 3.6.10 Limitations

Puzzle Pieces currently have some limitations &/or known issues with them, and are as follows:



The Data View Map Congestions & Data View Map Volume Traffic Overlays do not always appear fully on all the different Puzzle Pieces (there is a reason for this). They will still show up in the Data View Map itself though.

**Puzzle Pieces come under the same scope as being Interchange-base Related Item(s).**

### 3.7 Pedestrian Mall Tiles

The following Ped Mall Tiles are now included with this mod:

**Pedestrian Mall Tiles** Menu button contains the following items:

- 1x1 Tile Piece with a centre pole
- 1x1 Open Paved Area
- 1x1 Cobble Stone
- 1x1 Pavement/Brick
- 1x1 Sandstone
- 1x1 Grass
- Ped Footbridge - Start/End Piece (This is a 1x1 tile piece; which is supposed to be an Elevator.)
- Ped Footbridge - Blank Terrain - Straight Piece
- Ped Footbridge over Street
- Ped Footbridge over Road
- Ped Footbridge over Rail
- Ped Footbridge over OneWayRoad
- Ped Footbridge over Avenue
- Ped Footbridge over GroundHighway
- Ped OnSlope
- Mountain Trail - Straight
- Mountain Trail - Curved
- Mountain Trail - T Intersection
- Mountain Trail - Cross Intersection
- Ped Mall x Elevated Highway Puzzle Piece

#### 3.7.1 What are Ped Mall Tiles?

**Ped Mall Tiles** are essentially just like real Pedestrian Malls [though with some differences of course] & even have a Y.I.M.B.Y impact on immediate surroundings, reducing pollution & boosting desirability. Ped Mall Tiles allows for Commercial and Industrial development to occur/sustain, while only allowing Sims to use the Ped Mall Tiles to Walk on. In other words; no other form of transport is possible on Ped Mall Tiles, other than walking.

### 3.7.2 How to use Ped Mall Tiles?

Ped Mall Tiles had to be made in a very particular way. For this reason some people may have a little trouble using them sometimes. There is currently a particular method in which Ped Mall Tiles must be used; otherwise they won't function as intended. For Sims to access & make use of Ped Mall Tiles, typically they must enter either through an orthogonal network, or via a MT [Mass Transit] based building/lot; from where they can continue to use Ped Mall Tiles. Any adjoining Ped Mall Tiles will work so long as it is connected. Think of this aspect like a link in a chain; without the link, there is no chain.

The following gives just one example illustration on how Ped Mall Tiles may be used, in order for them to work properly as intended (note that as of NAM 34, the mass transit station in the below diagram is no longer required, and can be replaced with a Ped Mall Tile):



**Note:** Ped Mall Tiles can **NOT** be used as a replacement for Street/Road/OneWayRoad/Avenue access for direct access to Residential Zones. Sims can however access Ped Mall Tiles directly from their homes (from their backyard for example), just **not** in front of their Residential Zoning Arrow. Residential zones must still have Street/Road/OneWayRoad/Avenue (with 'Car' access) at the front of their zoning arrow in order to develop - This particular characteristic is effectively controlled by the games' EXE & can not be changed. Also; if Sims do not use the Ped Mall Tiles [i.e. no usage], &/or buildings lining Ped Mall Tiles do not have any commuters, then it will have to do with the set-up & how they're being used &/or other factors. The Ped Mall Tiles work just fine, & carry Pedestrians just fine. If in doubt, please experiment.

### 3.7.3 Limitations

The limitations for **Ped Mall Tiles** are the same as per Puzzle Pieces above.

### 3.7.4 Side effects

Using Ped Mall Tiles 'in place of' Street/Road/OneWayRoad/Avenue where there exist highly busy commercial areas may have an impact on the Customer rating [low/medium/high].

**Ped Mall Tiles come under the same scope as being Interchange-base Related Item(s).**

### 3.8 Dual/Double-Decker Networking

The following Dual/Double-Decker Networking pieces are now included with this mod:

**Flexible Underpass Puzzle Pieces** Menu button contains the following Puzzle Pieces:

- Road and Oneway Ramps
- Avenue ramp
- Tram-avenue ramp
- Street Pedestrian and tunnel-street ramps
- Underpass under straight road
- Underpass under straight Street
- Underpass under straight onewayroad1
- Underpass under straight onewayroad2
- Underpass under Avenue
- Underpass under Highway
- Underpass under Rail
- Underpass junction under ped or rail
- Underpass under pedmall 1
- Underpass under pedmall 2
- Underpass under Tram
- Underpass under Tram-Avenue
- straight Underpass under curved Road
- curved Underpass under curved Road
- straight Underpass under diagonal Road
- curved Underpass under diagonal Road
- straight Underpass under diagonal Road
- curved Underpass under diagonal Road
- Underpass under Custom Textures 1-3
- Underpass under Custom Textures 4-6



- Underpass junction under park
- Underpass under park

More Flexible Underpass puzzle piece are located in the following rotation rings:

- Canal Addon Mod
- High Speed Rail (HSR)
- Real Highway Mod (RHW)

Please note that despite the name, Flexible Underpasses/FLUPs are **NOT** FLEX pieces, but rather, standard static Puzzle Pieces.

**Elevated Rail Dual/Double-Decker Networking** Menu button contains the following Pieces:

- ElevatedRail on Road - Straight
- ElevatedRail on Road - Straight without pylon
- ElevatedRail on Road - Road Corner Piece
- ElevatedRail on Road - Road T Intersection - Straight Road
- ElevatedRail on Road - Road T Intersection - Dead End Road
- ElevatedRail on Road - Road + Intersection
- ElevatedRail on Road - RoadxStreet + Intersection
- ElevatedRail on Road - RoadxRail + Intersection
- ElevatedRail on Road - RoadxAvenue + Intersection
- ElevatedRail on Road - Corner Piece
- ElevatedRail on Road - Straight Road with diagonal LightRail access
- ElevatedRail on Road - RoadxLightRail T Intersection
- ElevatedRail on Road - RoadxLightRail + Intersection
- ElevatedRail on Street - Straight
- ElevatedRail on Street - Straight without pylon
- ElevatedRail on Street - Street T Intersection - Straight Street
- ElevatedRail on Street - Street T Intersection - Dead End Street
- ElevatedRail on Street - Street + Intersection
- ElevatedRail on Road - RoadxStreet T Intersection - Dead End Street
- ElevatedRail over PedMall - center pole
- ElevatedRail over PedMall - open paved
- ElevatedRail over PedMall - cobblestone
- ElevatedRail over PedMall - paved
- ElevatedRail over PedMall - sandstone

**Underground Rail Dual Networking Puzzle Pieces** Menu button contains the following Pieces:

- Railtunnel straight below Road straight

- Raitunnel straight below Road curve
- Raitunnel below Road T Intersection dead end
- Raitunnel below Road T Intersection right
- Raitunnel below Road Crossing
- Raitunnel below Road, Street Crossing
- Raitunnel below Road, Street T Intersection
- Raitunnel below Road, Avenue Crossing
- Raitunnel below Road 45°curve, Rail 45° curve
- Raitunnel below diagonal Road, Rail diagonal
- Raitunnel below straight Road, Rail 45° curve
- Raitunnel below diagonal Road, Rail 45° curve
- Raitunnel below straight Road, Rail straight/perpendicular
- Raitunnel below diagonal Road, Rail straight
- Raitunnel below Road 45° curve, Rail straight
- Raitunnel below straight Road, Rail Switch A
- Raitunnel below diagonal Road, Rail Switch A
- Raitunnel below Road 45° curve, Rail Switch A
- Raitunnel below straight Road, Rail Switch B
- Raitunnel below diagonal Road, Rail Switch B
- Raitunnel below Road 45° curve, Rail Switch B
- Raitunnel below straight Road, Rail diagonal
- Raitunnel below diagonal Road, Rail diagonal
- Raitunnel below Road 45° cuve, Rail diagonal
- Raitunnel below Pedestrian bridge
- Raitunnel Ramp

**Underground Rail/Maxis Roadways Interface Puzzle Pieces** Menu button contains the following Pieces:

- Railtunnel Road Straight Rail Straight Perpendicular
- Railtunnel Road Diagonal Rail Straight
- Railtunnel Road Straight Rail Diagonal
- Railtunnel Road Diagonal Rail Diagonal Perpendicular
- Railtunnel Street Straight Rail Straight Perpendicular
- Railtunnel Street Diagonal Rail Straight
- Railtunnel Street Straight Rail Diagonal
- Railtunnel Street Diagonal Rail Diagonal Perpendicular
- Railtunnel OneWayRoad Straight Rail Straight Perpendicular
- Railtunnel OneWayRoad Diagonal Rail Straight
- Railtunnel OneWayRoad Straight Rail Diagonal
- Railtunnel OneWayRoad Diagonal Rail Diagonal Perpendicular
- Railtunnel Avenue Straight Rail Straight Perpendicular
- Railtunnel Avenue Diagonal Rail Straight
- Railtunnel Avenue Straight Rail Diagonal
- Railtunnel Avenue Diagonal Rail Diagonal Perpendicular
- Railtunnel Ground Highway Straight Rail Straight Perpendicular
- Railtunnel Ground Highway Diagonal Rail Straight
- Railtunnel Ground Highway Straight Rail Diagonal
- Railtunnel Ground Highway Diagonal Rail Diagonal Perpendicular
- Railtunnel Highway Straight Rail Straight Perpendicular
- Railtunnel Highway Diagonal Rail Straight
- Railtunnel Highway Straight Rail Diagonal
- Railtunnel Highway Diagonal Rail Diagonal Perpendicular

**Underground Rail/ Railways Interface Puzzle Pieces** Menu button contains the following Pieces:

- Raitunnel Dual-Track Rail Straight Rail Straight Perpendicular
- Raitunnel Dual-Track Rail Diagonal Rail Straight
- Raitunnel Dual-Track Rail Straight Rail Diagonal
- Raitunnel Dual-Track Rail Diagonal Rail Diagonal Perpendicular
- Raitunnel Elevated Dual-Track Rail Straight Rail Straight Perpendicular
- Raitunnel Elevated Dual-Track Rail Diagonal Rail Straight
- Raitunnel Elevated Dual-Track Rail Straight Rail Diagonal
- Raitunnel Elevated Dual-Track Rail Diagonal Rail Diagonal Perpendicular
- Raitunnel Single-Track Rail Straight Rail Straight Perpendicular
- Raitunnel Single-Track Rail Diagonal Rail Straight
- Raitunnel Single-Track Rail Straight Rail Diagonal
- Raitunnel Single-Track Rail Diagonal Rail Diagonal Perpendicular
- Raitunnel Elevated Light Rail Straight Rail Straight Perpendicular
- Raitunnel Elevated Light Rail Diagonal Rail Straight
- Raitunnel Elevated Light Rail Straight Rail Diagonal
- Raitunnel Elevated Light Rail Diagonal Rail Diagonal Perpendicular
- Raitunnel HighElevated Light Rail Straight Rail Straight Perpendicular
- Raitunnel HighElevated Light Rail Straight Rail Diagonal
- Raitunnel Monorail Straight Rail Straight Perpendicular
- Raitunnel Monorail Diagonal Rail Straight
- Raitunnel Monorail Straight Rail Diagonal
- Raitunnel Monorail Diagonal Rail Diagonal Perpendicular
- Raitunnel High Monorail Straight Rail Straight Perpendicular
- Raitunnel High Monorail Straight Rail Diagonal

**Underground Rail/PedMall Dual Networking Puzzle Pieces** Menu button contains the following Pieces:

- Raitunnel Under PedMall Cobblestone
- Raitunnel Under PedMall Cobblestone Diagonal
- Raitunnel Under PedMall Cobblestone Curve
- Raitunnel Under PedMall Cobblestone Switch A
- Raitunnel Under PedMall Cobblestone Switch B
- Raitunnel Under PedMall Cobblestone x Ground Light Rail
- Raitunnel Under PedMall Cobblestone x Elevated Rail
- Raitunnel Under PedMall Concrete
- Raitunnel Under PedMall Concrete Diagonal
- Raitunnel Under PedMall Concrete Curve
- Raitunnel Under PedMall Concrete Switch A
- Raitunnel Under PedMall Concrete Switch B
- Raitunnel Under PedMall Concrete x Ground Light Rail
- Raitunnel Under PedMall Concrete x Elevated Rail
- Raitunnel Under PedMall Open Paved
- Raitunnel Under PedMall Open Paved Diagonal
- Raitunnel Under PedMall Open Paved Curve
- Raitunnel Under PedMall Open Paved Switch A
- Raitunnel Under PedMall Open Paved Switch B
- Raitunnel Under PedMall Open Paved x Ground Light Rail
- Raitunnel Under PedMall Open Paved x Elevated Rail
- Raitunnel Under PedMall Paved
- Raitunnel Under PedMall Paved Diagonal
- Raitunnel Under PedMall Paved Curve
- Raitunnel Under PedMall Paved Switch A
- Raitunnel Under PedMall Paved Switch B

- Raitunnel Under PedMall Paved x Ground Light Rail
- Raitunnel Under PedMall Paved x Elevated Rail
- Raitunnel Under PedMall Sandstone
- Raitunnel Under PedMall Sandstone Diagonal
- Raitunnel Under PedMall Sandstone Curve
- Raitunnel Under PedMall Sandstone Switch A
- Raitunnel Under PedMall Sandstone Switch B
- Raitunnel Under PedMall Sandstone x Ground Light Rail
- Raitunnel Under PedMall Sandstone x Elevated Rail
- Raitunnel Under PedMall Grass
- Raitunnel Under PedMall Grass Diagonal
- Raitunnel Under PedMall Grass Curve
- Raitunnel Under PedMall Grass Switch A
- Raitunnel Under PedMall Grass Switch B

**Underground Rail/Tramways Crossing Puzzle Pieces** Menu button contains the following Pieces:

- RailUTram GLR Straight Rail Straight Perpendicular
- RailUTram GLR Diagonal Rail Straight
- RailUTram GLR Straight Rail Diagonal
- RailUTram GLR Diagonal Rail Diagonal Perpendicular
- RailUTram Rural GLR Straight Rail Straight Perpendicular
- RailUTram Rural GLR Diagonal Rail Straight
- RailUTram Rural GLR Straight Rail Diagonal
- RailUTram Rural GLR Diagonal Rail Diagonal Perpendicular
- RailUTram TramOnStreet Straight Rail Straight Perpendicular
- RailUTram TramOnStreet Diagonal Rail Straight
- RailUTram TramOnStreet Straight Rail Diagonal

- RailUTram TramOnStreet Diagonal Rail Diagonal Perpendicular
- RailUTram TramInAvenue Straight Rail Straight Perpendicular
- RailUTram TramInAvenue Diagonal Rail Straight
- RailUTram TramInAvenue Straight Rail Diagonal
- RailUTram TramInAvenue Fillers
- RailUTram TramInAvenue Diagonal Rail Diagonal Perpendicular

**Underground Rail/Miscellaneous Puzzle Pieces** Menu button contains the following Pieces:

- RailURoad Rail 4-way Road Straight
- RailURoad Rail 4-way Road T-intersection dead end
- RailURoad Rail 4-way Road Crossing
- RailUPedMall Cobblestone Rail 4-way
- RailUPedMall Concrete Rail 4-way
- RailUPedMall Open Paved Rail 4-way
- RailUPedMall Paved Rail 4-way
- RailUPedMall Sandstone Rail 4-way
- RailUPedMall Grass Rail 4-way



**Underground Tram Underpass Dual Networking Puzzle Pieces** Menu button contains the following pieces:

- Tram Ramp
- Tram-Road Ramp
- Tram-avenue Ramp
- Tram Crossing - Straight Road Piece
- Tram 4way underpass under Straight Road Piece and Road 4way junction
- Tram 4way underpass under Road T junction
- Tram 4way underpass under Road curve
- Tram parallel below avenue
- Tram parallel below avenue with tram underpass exits and below avenue junction with road
- Tram parallel below avenue junction with T road
- Tram parallel below avenue 4way junction
- Tram parallel below avenue T junction
- Tram below avenue curve

**Ground Light Rail/Avenue (Tram-Avenue) Dual Networking Puzzle Pieces** Menu button contains the following Pieces:

- Tram-in-Avenue - Straight Piece
- Tram-in-Avenue - corner piece
- Tram-in-Avenue - Orthogonal Transition
- Tram-in-Avenue - Avenue x Road Intersection - dead end road
- Tram-in-Avenue - Avenue x Road Intersection
- Tram-in-Avenue - Avenue x Street Intersection - dead end street
- Tram-in-Avenue - Avenue x Street Intersection
- Tram-in-Avenue - Avenue x OneWayRoad Intersection - dead end onewayroad
- Tram-in-Avenue - Avenue x OneWayRoad Intersection
- Tram-in-Avenue - Avenue x Avenue T-Intersection - GLR straight
- Tram-in-Avenue - Avenue x Avenue +-Intersection - GLR straight

- Tram-in-Avenue - Avenue x Avenue T-Intersection - GLR corner
- Tram-in-Avenue - Avenue x Avenue +-Intersection - GLR corner
- Tram-in-Avenue - T-Intersection
- Tram-in-Avenue - Avenue x Avenue +-Intersection - GLR T-Intersection
- Tram-in-Avenue - +-Intersection
- Tram-in-Avenue - +-Intersection
- Tram-in-Avenue - Intersection with GLRroad
- Tram-in-Avenue - avenue curve and straight tram
- Tram-in-Avenue - avenue curve to diagonal and straight tram
- Tram-in-Avenue - Avenue straight - GLR T-Intersection
- Tram-in-Avenue - Avenue-GLR-transition piece
- Tram-in-Avenue - Avenue-GLR GLR diagonal exit
- Tram-in-Avenue - Avenue x Road End Transition to Left/Right GLRTram-in-Avenue
- Tram-in-Avenue - Avenue x Road Transition to Left/Right GLR + ROADTram-in-Avenue
- Tram-in-Avenue - Avenue x Road Transition to Left GLR + left/right ROADTram-in-Avenue
- Tram-in-Avenue - Avenue x Road Transition to Right GLR + left/right ROADTram-in-Avenue
- Tram-in-Avenue - Avenue GLR CloverTram-in-Avenue
- Tram-in-Avenue - Avenue GLR End TriangleTram-in-Avenue
- Tram-in-Avenue - Avenue GLR Side TriangleTram-in-Avenue
- Tram-in-Avenue - Avenue GLR left/right CurveTram-in-Avenue
- Tram-in-Avenue - under elevated highway
- Tram-in-Avenue - under viaduct rail
- Tram-in-Avenue - under monorail
- Tram-in-Avenue - under Elevated Lightrail
- Tram-in-Avenue - transition to road/GLRTram-in-Avenue
- Tram-in-Avenue - GLR turning circle

- Tram-in-Avenue - GLR turning circle with straight tram avenue
- Tram-in-Avenue - Diagonal half-avenue Piece
- Tram-in-Avenue - Diagonal Piece half
- Tram-in-Avenue - Diagonal tram-avenue with orthogonal tram exit
- Tram-in-Avenue - Straight to diagonal cross
- Tram-in-Avenue - Orthogonal and diagonal tram-avenue junction
- Tram-in-Avenue - Triangle tram-avenue junction with straight avenue
- Tram-in-Avenue - Triangle tram-avenue junction
- Tram-in-Avenue - Straight to diagonal triangle and orthogonal avenue
- Tram-in-Avenue - Straight to diagonal triangle
- Tram-in-Avenue - Straight to diagonal tram-avenue junction with two straight avenue
- Tram-in-Avenue - Straight to diagonal tram-avenue junction with straight avenue
- Tram-in-Avenue - Diagonal tram-avenue crossing with diagonal avenue single sided
- Tram-in-Avenue - Diagonal tram-avenue crossing with diagonal avenue
- Tram-in-Avenue - Diagonal tram-avenue crossing with orthogonal avenue
- Tram-in-Avenue - Diagonal tram-avenue crossing with orthogonal avenue
- Tram-in-Avenue - Diagonal tram-avenue crossing with diagonal onewayroad single sided
- Tram-in-Avenue - Diagonal tram-avenue crossing with diagonal onewayroad single sided
- Tram-in-Avenue - Diagonal tram-avenue crossing with diagonal onewayroad
- Tram-in-Avenue - Diagonal tram-avenue crossing with orthogonal onewayroad single sided
- Tram-in-Avenue - Diagonal tram-avenue crossing with orthogonal onewayroad single sided
- Tram-in-Avenue - Diagonal tram-avenue crossing with orthogonal onewayroad
- Tram-in-Avenue - Diagonal tram-avenue crossing with diagonal road single sided
- Tram-in-Avenue - Diagonal tram-avenue crossing with diagonal road
- Tram-in-Avenue - Diagonal tram-avenue intersection with orthogonal road on one side

- Tram-in-Avenue - Diagonal tram-avenue crossed by orthogonal road
- Tram-in-Avenue - Orthogonal-Diagonal Piece
- Tram-in-Avenue - Diagonal-Orthogonal Transition
- Tram-in-Avenue - Diagonal Piece double

**Note:** The word "Tram" is equivalent to "Ground Light Rail" and "GLR".

**Ground Light Rail/Road (Tram-in-Road) Dual Networking Puzzle Pieces** Menu button contains the following Pieces:

- Tram-in-Road - Straight
- Tram-in-Road - Curve
- Tram-in-Road - Smooth S-Curve (Urban and Rural)
- Tram-in-Road - Straight 1 Street - no crossing
- Tram-in-Road - Straight 1 Street
- Tram-in-Road - Straight 2 Street
- Tram-in-Road - Straight Street and Road
- Tram-in-Road - Straight 1 Road
- Tram-in-Road - Straight 2 Road
- Tram-in-Road - Straight 1 Onewayroad
- Tram-in-Road - Straight 2 Onewayroad
- Tram-in-Road - Straight Tram Triangle (T) Intersection
- Tram-in-Road - Straight Tram Clover (+) Intersection
- Tram-in-Road - Curve1 Road
- Tram-in-Road - Curve 2 Road
- Tram-in-Road - Curve Street and Road
- Tram-in-Road - Curve 1 Street
- Tram-in-Road - Curve 2 Street
- Tram-in-Road - Transition to Tram Curve and Straight Road
- Tram-in-Road - Tram T-Junction
- Tram-in-Road - Triangle (T)

- Tram-in-Road - Triangle 1 Road
- Tram-in-Road - Triangle 1 Street
- Tram-in-Road - Dual - Tram Triangle on Reverse Road Triangle
- Tram-in-Road - Dual - Tram Triangle on Rotated Road Triangle
- Tram-in-Road - Dual - Tram Triangle on Straight Road
- Tram-in-Road - Dual - Tram Curve on Road Triangle
- Tram-in-Road - Dual - Tram Curve on Opposite Road Curve
- Tram-in-Road - Clover (+)
- Tram-in-Road - Tram Clover on Road Triangle
- Tram-in-Road - Transition to Tram
- Tram-in-Road - Transition to Tram - Bending Road
- Tram-in-Road - Transition to Tram - Bending Roads
- Tram-in-Road - Transition to Tram - Bending Road and Street
- Tram-in-Road - Transition to Tram - Bending Streets
- Tram-in-Road - Transition to Tram - Bending Streets
- Tram-in-Road - Transition to Tram-in-Avenue with 2 Roads
- Tram-in-Road - Transition to Tram-in-Avenue with 1 Road A
- Tram-in-Road - Transition to Tram-in-Avenue with 1 Road B
- Tram-in-Road - Transition to Tram-in-Avenue with Turnaround
- Tram-in-Road - Transition to Tram-in-Avenue
- Tram-in-Road - Crossing Tram-Avenue - two tram-avenues and two tram-roads
- Tram-in-Road - Crossing Tram-Avenue- two tram-avenues - tram-road on right - tram-pedmall on left
- Tram-in-Road - Crossing Tram-Avenue- two tram-avenue - tram-road on right - pedmall on left
- Tram-in-Road - Crossing Tram-Avenue - two tram-avenue - tram-road on right - road on left
- Tram-in-Road - Crossing Tram-Avenue- two tram-avenue - tram-road on right - street on left

- Tram-in-Road - Crossing Tram-Avenue- tram-avenue - tram-road - avenue - tram-road
- Tram-in-Road - Crossing Tram-Avenue- tram-avenue - tram-pedmall - avenue - tram-road
- Tram-in-Road - Crossing Tram-Avenue- tram-avenue - tram-road - avenue
- Tram-in-Road - Crossing Tram-Avenue- tram-avenue - tram-road - avenue - road
- Tram-in-Road - Crossing GLRAvenue - tram-avenue - tram-road - avenue - street
- Tram-in-Road - Crossing Tram-Avenue- two tram-avenue - two tram-road
- Tram-in-Road - Crossing Tram-Avenue- two tram-avenue - tram-road - tram
- Tram-in-Road - Below Highway
- Tram-in-Road - Below Viaduct Rail
- Tram-in-Road - Below monorail
- Tram-in-Road - Below Elevated Lightrail
- Tram-in-Road Dual - transition to GLR and straight road
- Tram-in-Road Dual - transition to straight GLR and road diag
- Tram-in-Road Dual - transition to straight GLR and road vertical
- Tram-in-Road Dual - transition to straight GLR and road parallel
- Tram-in-Road - split Dual
- Elevated Light Rail to Tram-in-Road Connector Puzzle Piece
- Tram-in-Road Dual - GLR turning circle
- Tram-in-Road Dual - GLR turning circle with straight road
- Tram-in-Road Dual - Tram-in-Road diagonal center turn
- Tram-in-Road Dual - Tram-in-Road diagonal center
- Tram-in-Road Dual - Tram-in-Road diagonal outside

**Note:** The word "Tram" is equivalent to "Ground Light Rail" and "GLR".

**Ground Light Rail/Road (Tram-on-Road) Dual Networking and various Texture Variation Puzzle Pieces** Menu button contains the following Pieces:

- Tram-on-Road - Transition to Tram-in-Road
- Tram-on-Road - Straight

- Tram-on-Road - Straight 1 Street
- Tram-on-Road - Straight 2 Street
- Tram-on-Road - Straight 1 Road
- Tram-on-Road - Straight 2 Road
- Tram-on-Road - Smooth S-Curve (Urban and Rural)
- Tram-on-Road - Straight Dual Transition to GLR and 2 Roads Perpendicular
- Tram-on-Road - Straight Dual Curved Transition to GLR and 2 Roads
- Tram-on-Road - Curve
- Tram-on-Road - Curve 1 Street
- Tram-on-Road - Curve 2 Street
- Tram-on-Road - Curved 1 Road
- Tram-on-Road - Curved 2 Road
- Tram-on-Road - Tram-in-Road Diagonal Center
- Tram-on-Road - Tram-in-Road Diagonal Outside
- Tram-on-Road - Tram-in-Road Orthogonal to Diagonal Wide
- Tram-on-Road - Transition to Tram-in-Avenue
- Tram-on-Road - Transition to Tram-in-Avenue (No turn)
- Tram-on-Road - Split to Dual One-Way Roads
- Tram-on-Road - Straight below highway
- Tram-on-Road - Straight Rail
- Tram-on-Road - Straight Crossing Tram-in-Avenue
- Tram-on-Road - Straight Below ELightrail
- Tram-in-Road - Straight Straight Grass
- Tram-in-Road - Straight Curve Grass
- Tram-on-Road - Roundabout Tram-in-Road Entry
- Tram-on-Road - Roundabout Tram-on-Road Entry
- Tram-on-Road - Roundabout Curve

- Tram-on-Road - Roundabout No Entry
- Tram-on-Road - Roundabout Road entry
- Tram-on-Road - Roundabout Oneway entry
- Tram-on-Road - Roundabout Street entry
- Tram-on-Road - Roundabout street entry
- Tram-on-Road - Roundabout Tram Entry
- Tram-on-Road - Roundabout Transition to Tram-in-Avenue
- Tram-in-Avenue - Straight Piece Grass Texture
- Tram-in-Avenue - Corner Piece Grass Texture
- Tram-in-Avenue - Diagonal Piece Grass Texture
- Tram-in-Avenue - Orthogonal-Diagonal Piece Grass Texture
- Tram-in-Avenue - Tram Turning Circle Grass Texture with Transition to Avenue
- Tram-in-Avenue - Tram Turning Circle Grass Texture with Straight Tram-in-Avenue

**Note:** The word "Tram" is equivalent to "Ground Light Rail" and "GLR".



**Ground Light Rail/Street (Tram-on-Street) Dual Networking Puzzle Pieces** Menu button contains the following Pieces:

- Tram-on-Street - Straight
- Tram-on-Street - Straight 1 Street
- Tram-on-Street - Straight 2 Streets
- Tram-on-Street - Straight Roads Crossing
- Tram-on-Street - Straight Tram - Street T Junction
- Tram-on-Street - Transition to Tram - Street Ends
- Tram-on-Street - Curve
- Tram-on-Street - Curve 1 Street
- Tram-on-Street - Curve 2 Street
- Tram-on-Street - 4-way Junction
- Tram-on-Street - 4-way Junction with 1 Street
- Tram-on-Street - 3-way Junction
- Tram-on-Street - Transition to Tram Curve and Straight Street
- Tram-on-Street - Transition to Straight Tram and Street Curve
- Tram-on-Street - Junction to Straight and Diagonal
- Tram-on-Street - Curve to Diagonal
- Tram-on-Street - Diagonal
- Tram-on-Street - Diagonal with Orthogonal Street
- Tram-on-Street - Diagonal with Orthogonal Roads
- Tram-on-Street - Roundabout Base
- Tram-on-Street - Roundabout with Street Entry
- Tram-on-Street - Roundabout with No Entry
- Tram-on-Street - Transition to Street and Diagonal Tram
- Tram-on-Street - Transition to Tram-on-Road
- Tram-on-Street - GLR Turning Circle 1
- Tram-on-Street - GLR Turning Circle 2

- Tram-on-Street - GLR Turning Circle 3

**Note:** The word "Tram" is equivalent to "Ground Light Rail" and "GLR". Tram-on-Street uses Cobblestone by default.

More Dual/Double-Decker Network Pieces may or may not be added with future updates.

The above Dual/Double-Decker Network Pieces works by using the HOME/END and TAB key(s) on your keyboard. HOME/END rotates the Piece on the cursor [where possible], and TAB cycles through the different Pieces that belongs to that menu button. When you TAB from one Piece to another, the type of Piece is displayed in the TEXT on the cursor itself [where possible].

### 3.8.1 What is Dual/Double-Decker Networking?

**Dual/Double-Decker Networking** is similar to Puzzle Pieces, essentially allowing Two Networks to run parallel one on top of the other along the same stretch of tile(s), simultaneously, allowing more than one form of Transport to use the same stretch of tile(s) at the same time for commuting purposes.

**Note:** When using this item in front of zones, it is best if an area is zoned first before laying this item down, otherwise the zones may not face the direction you want. If in doubt, please experiment.

### 3.8.2 Limitations

The limitations for **Dual/Double-Decker Network Pieces** is the same as per Puzzle Pieces above.

**Dual/Double-Decker Network Pieces come under the same scope as being Interchange-base Related Item(s).**

## 3.9 U-Drive-It

U-Drive-It (UDI) for Elevated Rail (EI Rail) has now been included with this mod. Currently, only "Free Drive Mode" is available for Elevated Rail Train/Station.

### 3.9.1 Where to find?

UDI for EI Rail is located under the "U Drive It" Panel, in the "Earned Land Vehicles" menu, half-way down the menu just before the Menu Icon for Monorail UDI.

### 3.9.2 How to use?

In order to use UDI EI Rail, you need to build an Elevated Rail Train Station. This will be the case regardless for a new city or an existing city. In other words; even in existing cities where there are already \*existing\* Elevated Rail Train Stations, you will still need to build an Elevated Rail Train station in order to be able to access UDI for EI Rail. If in doubt, please experiment.

Currently; UDI for EI Rail is not intended for use on "EI Rail-to-subway transitions". Unfortunately, the game may still try to start UDI for EI Rail from an "EI Rail-to-subway transitions". This side-affect is by design that this occurs.

### 3.9.3 UDI -cross platforms

With the advent of UDI for EI Rail, it should now be possible to take a UDI passenger train &/or UDI freight train, onto EI Rail via a custom made Transit Enabled Lot connecting ground rail to EI Rail. It should also now be possible to take a UDI EI Train onto ground rail via the same method. Just so long as the Custom Transit Enabled Lot has been made properly & with proper custom paths.

For more information regarding UDI EI Rail, please see the .

### 3.10 ANT [Additional Network Tool]

The Additional Network Tool (ANT) was based on a "dirt road" network that Maxis left unfinished in the game files. It was turned into a highway-like tool that allowed to adjust speeds and capacities independent from other networks, but due to various restrictions, it was not able to provide access to RCI zones. The ANT has been superseded by the **Real Highway Mod (RHW. formerly Rural Highway Mod)**, which is available as a separate download. The complete functionality of the ANT Plugin has been transferred to the RHW Mod, so the plugin file is not longer supported. Please delete this file, as described in the . For more information about the RHW Mod, please visit the respective threads at [Simtropolis](#) or [SC4Devotion](#) or read the RHW User's Manual.

### 3.11 Additional Overrides

Basically this introduces additional rules to the game that allows users to be more creative with the different network tools. For some examples of this, see the following webpage(s):

[Multi-Highway Guide](#)

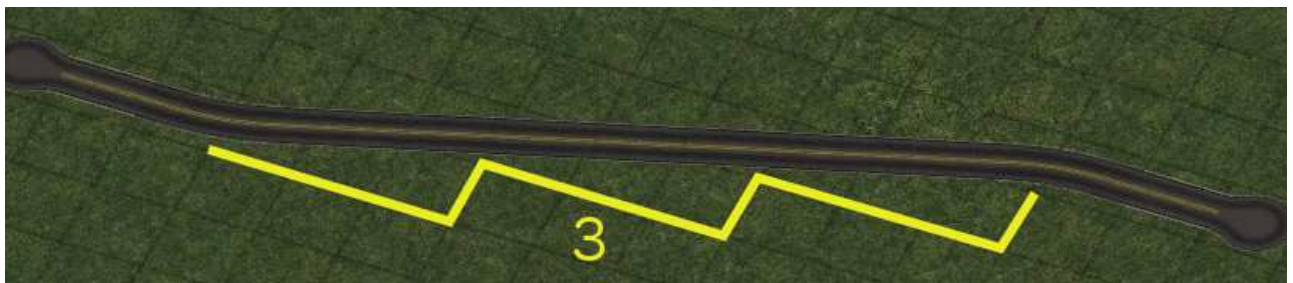
[Additional Overrides Thread](#)

### 3.12 Draggable FAR & wide-radius curves

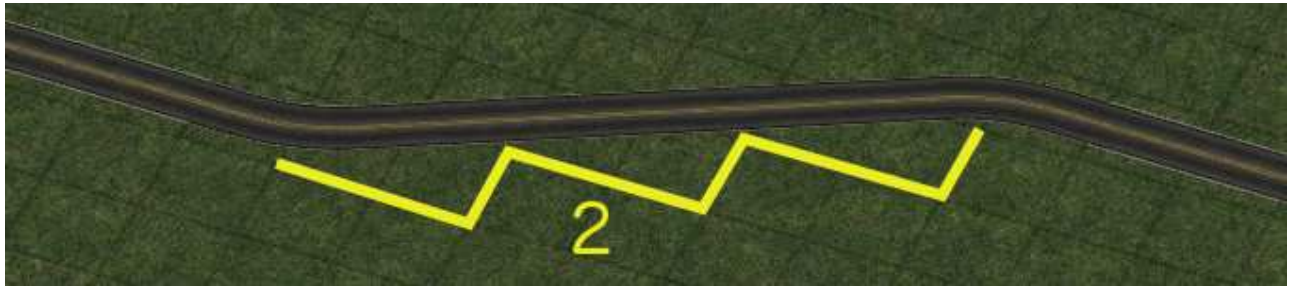
Since NAM 31 it is possible to build fractionally-angled roads (FAR) by draggable means. This is achieved by dragging a particular pattern, similar to what is done to build diagonal streets. Draggable FAR is slope-friendly, wealth-dependent, allows for custom sidewalk textures and is flexible in terms of intersections. Moreover, it does not suffer from any TE-Lot interaction. FAR-3 and FAR-2 are supported.

#### 3.12.1 How to use

##### 3.12.1.1 FAR-3



### 3.12.1.2 FAR-2





### 3.12.1.3 Wide-Radius Curves patterns

Before



After



#### 3.12.1.4 FAR-3 patterns

Before



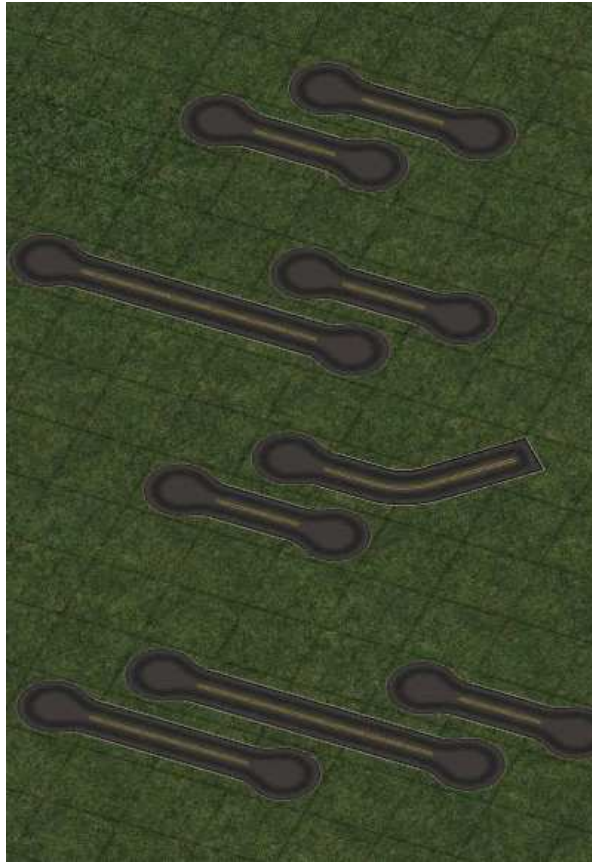
After



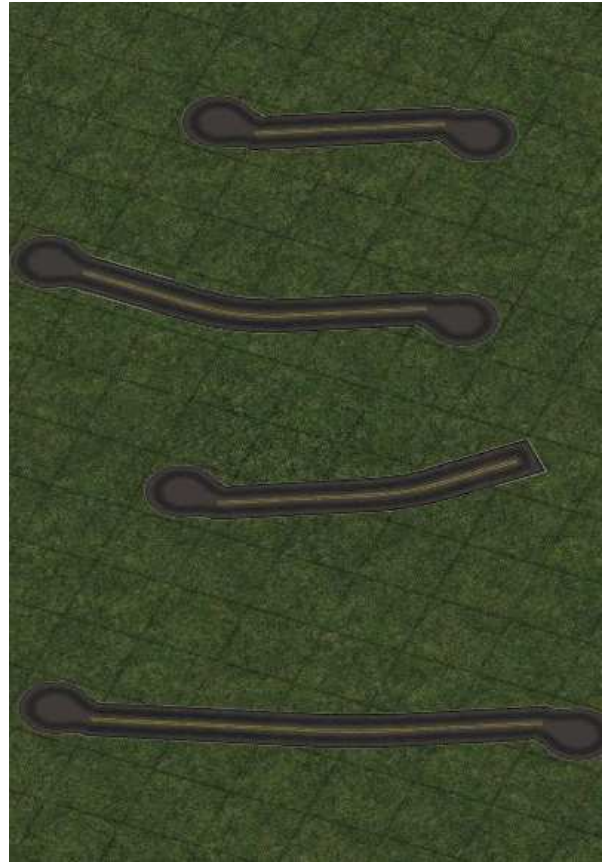


### 3.12.1.5 FAR-2 patterns

*Before*



*After*



### 3.12.2 Intersections

*Before*



*After*



**Note:** It is easiest to drag the stretch of FAR first, and connect other roads and streets afterwards.

**Not displayed:** FAR ending in orthogonal road (blended T-intersection).

### 3.13 Additional Intersections & Junctions

This section lists Intersections, Junctions, &/or Network possibility types that have been made possible &/or are included in this mod &/or have had adjustments/fixes applied to them. All of the intersections, junctions &/or network possibility types in this section are achieved in-game using the standard Network tools, where applicable. i.e. Highway Tools, Avenue Tool, Road Tool, & so on.

Note: This list is not all inclusive & should only be considered as a guideline. Due to the multitude of items for this section, some items may exist that are currently not listed here or are not known, & as such this list may change. If in doubt, please experiment. Some known/unknown drawing, pathing &/or UDI issues may also exist with some items listed in this section.

#### 3.13.1 Legend

Junction typically has the same meaning as Intersection, but may also encompass non-intersection type junctions.

- Orthogonal = Straight or follows the Grid.
- Diagonal = does not follow the grid.
- Curve = where the network changes from orthogonal to diagonal, visa versa or other similar variation.
- S-Curve = where the network changes from orthogonal to diagonal back to orthogonal in the shortest tile distance possible, visa versa or other similar variation.
- Corner = 90 degree turn or corner.
- +Junction = a four way intersection.
- T-Junction = a three way intersection.
- Offsplit = where a network comes off of the Curve of a network.

The lists below are broken into two main Groups & items are listed by Network Set(s) according to Network Hierarchy, from lowest to highest (approximately). Group One involves only one network that have had additional intersections/etc items added for them i.e. no other networks are involved. Group Two is where more than one network is involved.

#### 3.13.2 Group One

Items in this section only involve one network.

The items in this group are not in any particular or specific format.

##### 3.13.2.1 Street

Roundabouts. To trigger the initial Street roundabout, you must draw a Street Circle in a 2x2 tile area. There currently exists many variations with one, two, three &/or four orthogonal &/or

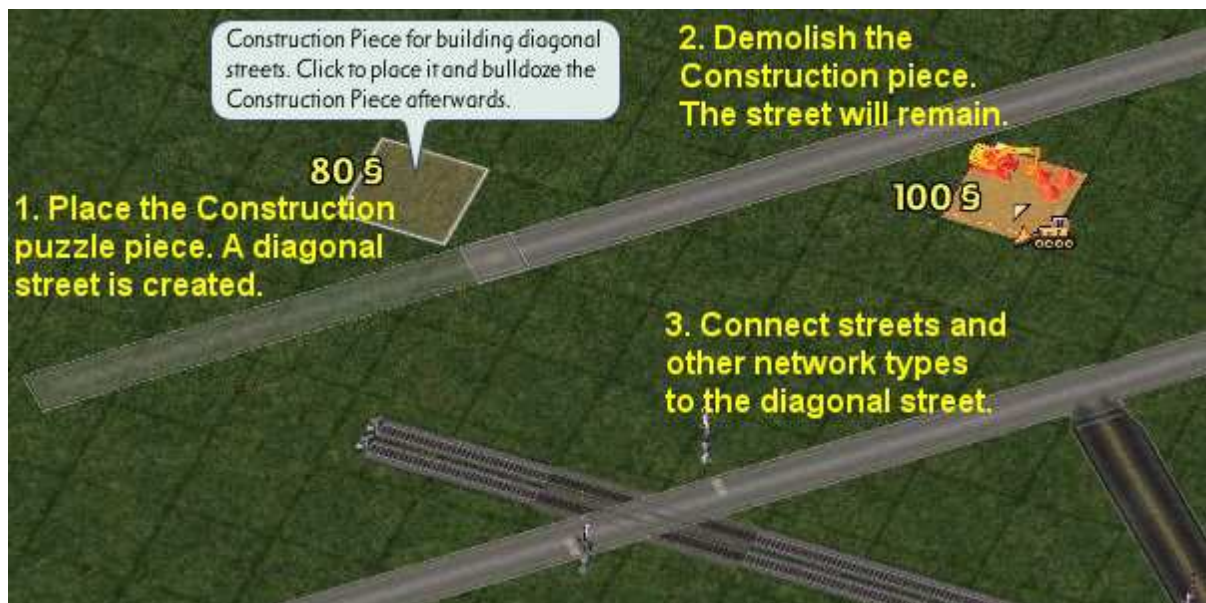


Diagonal Streets stemming from this initial 2x2 tile area. NOTE: Requires an additional Plugin. See for details.

Diagonals. This requires 5 or more tiles to be zig zagged, like a set of steps or stairs, before the diagonals are triggered. Note: Requires an additional Plugin. See for details.



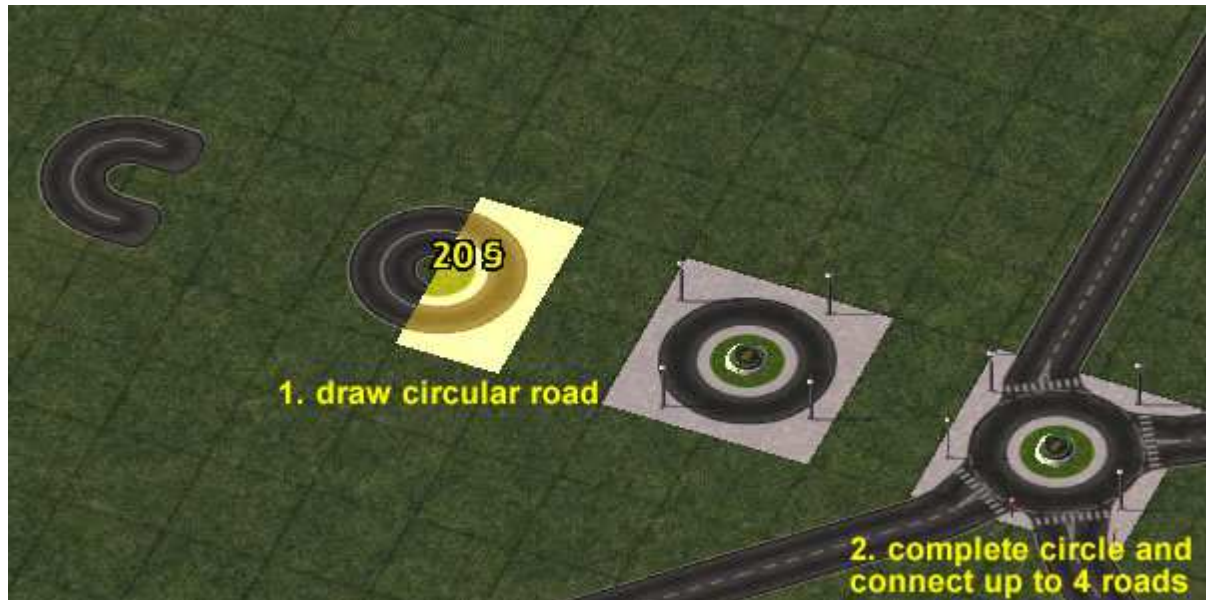
You can also build a diagonal street via Diagonal Street helper puzzle pieces which can be used to build diagonal streets on sloped terrains or intersections. There are two types of them: normal puzzle pieces and construction puzzle pieces.



### 3.13.2.2 Road

Road Turning Lanes. Note: Requires an additional Plugin. See for details.

Roundabouts. To trigger the initial Road roundabout, you must draw a Road Circle in a 2x2 tile area. There currently exists many variations with one, two, three &/or four orthogonal &/or Diagonal Roads stemming from this initial 2x2 tile area. Note: Requires an additional Plugin. See for details.



### 3.13.2.3 OneWayRoad

Double Diagonal

Roundabouts. To trigger the initial OneWay roundabout, you must draw a OneWayRoad Circle in a 3x3 tile area. There currently exists many variations with one, two, three &/or four orthogonal &/or Diagonal OneWayRoads stemming from this initial 3x3 tile area. Note: Requires an additional Plugin. See for details.



#### 3.13.2.4 Avenue

The Avenue Tool/Network has been significantly modified, is much more flexible & now contains well over an additional 35+ new intersections, junctions &/or set-up possibility types. Some that we may not even be aware of yet. The listings for this section is to primarily give users an idea of what kind of junctions are now possible, as there may exist various different kinds of set-ups for a given listing. So if in doubt, please experiment.

Note: Due to the complexity involved & the associated paths used for the many junctions added for the avenue network, it is strongly recommended that using any vehicles during UDI Mode not be “Snapped” to the network if attempting to travel through any of these new avenue junctions.

- Diagonal one tile sideward shift. *This overcomes the previous two tile restriction.*
- Short Curve
- 1 orthogonal x 2 diagonal
- 1 orthogonal x 3 diagonal
- 2 diagonal bend (off-set)
- 2 orthogonal x 1 diagonal
- 2 orthogonal x 2 diagonal
- 2 orthogonal x 3 diagonal
- 2 orthogonal x 4 diagonal
- 1 orthogonal (shorter T version)
- 1 orthogonal x 1 diagonal

- 3 orthogonal x 2 diagonal
- 3 orthogonal x 3 diagonal
- 3 orthogonal x 4 diagonal
- 1 orthogonal x 1 diagonal
- 1 orthogonal x 2 diagonal
- 4 orthogonal x 3 diagonal
- 4 orthogonal x 4 diagonal
- Avenue Turning Lanes. Note: Requires an additional Plugin. See for details.

#### **3.13.2.5 Rail**

- Double Diagonal to single diagonal merge
- Double Diagonal x Orthogonal
- Double Width\Tile Orthogonal S-Curve

#### **3.13.2.6 GroundHighway**

Orthogonal and Diagonal One Tile Sideward shift. *This overcomes the previous two tile restriction.*

#### **3.13.2.7 ElevatedHighway**

Orthogonal and Diagonal One Tile Sideward shift. *This overcomes the previous two tile restriction.*



### 3.13.3 Group Two

Items in this section involve more than one network. Items in this group follow a particular guideline format & are as follows:

- NetworkName1 <> NetworkName2 << heading. The arrows "<>" denotes the break between Network1 & Network2, & applies in the same manner to the line items that follows.
- Network1 Piece or Junction Type, Network2 Piece or Junction Type << a single line item for a given heading. The comma "," in the middle denotes the break between Network1 & Network2.
- Network1 direction or set-up x Network2 direction or set-up << a single line item for a given heading. The cross "x" in the middle denotes the connection or intersection between network1 & network2.

#### 3.13.3.1 Road <> Street

- Diagonal x +Junction
- Diagonal x Corner
- Double Diagonal x Corner

#### 3.13.3.2 OneWayRoad <> Street

- Diagonal x Corner
- Diagonal x Orthogonal transition

#### 3.13.3.3 OneWayRoad <> Road

- Orthogonal x Diagonal dead ending
- Orthogonal x Orthogonal transition
- Diagonal x Diagonal transition
- Double Diagonal x Orthogonal transition
- Diagonal x Corner
- Corner x Diagonal

#### 3.13.3.4 Avenue <> Street

- Diagonal x Orthogonal completely through
- Corner x Orthogonal into Corner
- Corner x +Junction into Corner
- Diagonal x Corner (street corner needs to exist first)

#### 3.13.3.5 Avenue <> Road

- Diagonal x Orthogonal one side (i. e. not completely through)



- Corner x Orthogonal into Corner
- Corner x +Junction into Corner
- Orthogonal dead ending x Diagonal
- Diagonal dead ending x Orthogonal
- Diagonal dead ending x Corner
- Diagonal x Diagonal transition
- Diagonal x Orthogonal transition

#### **3.13.3.6 Avenue <> OneWayRoad**

- Orthogonal x Orthogonal transition
- Diagonal x Orthogonal one side (i. e. not completely through)
- Corner x Orthogonal into Corner
- Corner x +Junction into Corner
- Orthogonal x Orthogonal transition
- Diagonal x Orthogonal single transition
- Diagonal x Diagonal transition
- Diagonal x Double Diagonal transition
- Diagonal x Orthogonal/Orthogonal Forked transition
- Diagonal x Orthogonal/Diagonal Forked transition
- Curve x Orthogonal Offsplit
- Curve x Diagonal Offsplit
- Curve x Orthogonal/Diagonal Offsplit

#### **3.13.3.7 Rail <> Street**

- Double Diagonal x Orthogonal

#### **3.13.3.8 Rail <> Road**

- Orthogonal x Double Diagonal
- Diagonal x Double Diagonal
- Double Diagonal x Diagonal
- Double Diagonal x Double Diagonal
- Double Diagonal x Orthogonal

#### **3.13.3.9 Rail <> OneWayRoad**

- Orthogonal x Double Diagonal
- Diagonal x Double Diagonal
- Double Diagonal x Diagonal
- Double Diagonal x Double Diagonal
- Double Diagonal x Orthogonal

#### **3.13.3.10**      *Rail <> Avenue*

- Double Diagonal x Diagonal
- Double Diagonal x Orthogonal

#### **3.13.3.11**      *GroundHighway <> OneWayRoad*

- Orthogonal x Orthogonal transition
- Diagonal x Diagonal transition

### 3.13.3.12 *ElevatedHighway <> Street*

- Curve x Orthogonal
- S-Curve x Orthogonal
- Diagonal, Orthogonal +Junction
- Diagonal, Orthogonal Dead End
- Diagonal, Orthogonal Corner
- Diagonal, Orthogonal T-Junction

### 3.13.3.13 *ElevatedHighway <> Road*

- Orthogonal x Double Diagonal
- Diagonal x Double Diagonal
- Curve x Orthogonal
- Curve x Diagonal
- S-Curve x Orthogonal
- Diagonal, Orthogonal +Junction
- Diagonal, Orthogonal Dead End
- Diagonal, Orthogonal Corner
- Diagonal, Orthogonal T-Junction

### 3.13.3.14 *ElevatedHighway <> OneWayRoad*

- Orthogonal x Orthogonal transition. *In order to join, the OneWayRoad section of network must be two tiles width.*
- Diagonal x Diagonal transition. *In order to join, the OneWayRoad section of network must be two tiles width.*
- Curve x Orthogonal
- Curve x Diagonal
- S-Curve x Orthogonal
- Diagonal, Orthogonal +Junction
- Diagonal, Orthogonal Dead End
- Diagonal, Orthogonal Corner
- Diagonal, Orthogonal T-Junction

#### **3.13.3.15**     *Elevated Highway <> Avenue*

- Orthogonal x Curve
- Orthogonal x S-Curve
- Diagonal x Curve
- Curve x Orthogonal
- Curve x Diagonal
- S-Curve x Orthogonal
- S-Curve x Diagonal

#### **3.13.3.16      *ElevatedHighway <> Rail***

- Orthogonal x Double Diagonal
- Diagonal x Double Diagonal
- Curve x Orthogonal
- Curve x Diagonal
- S-Curve x Orthogonal
- Diagonal, Orthogonal +Junction
- Diagonal, Orthogonal Dead End

#### **3.13.3.17      *ElevatedHighway <> GroundHighway***

- Curve x Orthogonal
- Curve x Diagonal
- S-Curve x Orthogonal
- S-Curve x Diagonal
- Orthogonal x Curve
- Diagonal x Curve
- Orthogonal x S-Curve
- Diagonal x S-Curve
- S-Curve x S-Curve

#### **3.13.3.18      *ElevatedRail <> Street***

- Diagonal, Orthogonal +Junction
- Diagonal, Orthogonal Dead End
- Diagonal, Orthogonal Corner
- Diagonal, Orthogonal T-Junction

#### **3.13.3.19      *ElevatedRail <> Road***

- Orthogonal x Double Diagonal
- Diagonal x Double Diagonal
- Diagonal, Orthogonal +Junction
- Diagonal, Orthogonal Dead End
- Diagonal, Orthogonal Corner

- Diagonal, Orthogonal T-Junction
- Diagonal, Diagonal x Orthogonal Junction
- Orthogonal, Diagonal x Orthogonal Junction
- Orthogonal, Diagonal x Diagonal Junction
- Orthogonal +Junction, Diagonal
- Orthogonal +Junction, Double Diagonal

#### **3.13.3.20      *ElevatedRail <> OneWayRoad***

- Orthogonal x Double Diagonal
- Diagonal x Double Diagonal
- Diagonal, Orthogonal +Junction
- Diagonal, Orthogonal Dead End
- Diagonal, Orthogonal Corner
- Diagonal, Orthogonal T-Junction
- Diagonal, Diagonal x Orthogonal Junction
- Orthogonal, Diagonal x Orthogonal Junction
- Orthogonal, Diagonal x Diagonal Junction
- Orthogonal +Junction, Diagonal
- Orthogonal +Junction, Double Diagonal

#### **3.13.3.21      *ElevatedRail <> Avenue***

- Orthogonal x Curve
- Diagonal x Curve
- Orthogonal x S-Curve
- Orthogonal +Junction, Diagonal
- Diagonal, Orthogonal Corner
- Diagonal, Orthogonal T Intersection (not all possibilities are covered)
- Diagonal, Orthogonal + Intersection

#### **3.13.3.22      *ElevatedRail <> Rail***

- Orthogonal x Double Diagonal
- Diagonal x Double Diagonal
- Diagonal, Orthogonal +Junction
- Diagonal, Orthogonal Dead End
- Orthogonal +Junction, Diagonal
- Orthogonal +Junction, Double Diagonal

#### **3.13.3.23      *ElevatedRail <> GroundHighway***

- Orthogonal x Curve



- Diagonal x Curve
- Orthogonal x S-Curve
- Orthogonal +Junction, Diagonal

#### **3.13.3.24**     ***MonoRail <> Street***

- Diagonal, Orthogonal +Junction
- Diagonal, Orthogonal Dead End
- Diagonal, Orthogonal Corner
- Diagonal, Orthogonal T-Junction

#### **3.13.3.25**      ***MonoRail <> Road***

- Orthogonal x Double Diagonal
- Diagonal x Double Diagonal
- Diagonal, Orthogonal +Junction
- Diagonal, Orthogonal Dead End
- Diagonal, Orthogonal Corner
- Diagonal, Orthogonal T-Junction
- Diagonal, Diagonal x Orthogonal Junction
- Orthogonal, Diagonal x Orthogonal Junction
- Orthogonal, Diagonal x Diagonal Junction
- Orthogonal +Junction, Diagonal
- Orthogonal +Junction, Double Diagonal

#### **3.13.3.26**      ***MonoRail <> OneWayRoad***

- Orthogonal x Double Diagonal
- Diagonal x Double Diagonal
- Diagonal, Orthogonal +Junction
- Diagonal, Orthogonal Dead End
- Diagonal, Orthogonal Corner
- Diagonal, Orthogonal T-Junction
- Diagonal, Diagonal x Orthogonal Junction
- Orthogonal, Diagonal x Orthogonal Junction
- Orthogonal, Diagonal x Diagonal Junction
- Orthogonal +Junction, Diagonal
- Orthogonal +Junction, Double Diagonal

#### **3.13.3.27**      ***MonoRail <> Avenue***

- Orthogonal x Curve
- Diagonal x Curve
- Orthogonal x S-Curve

- Orthogonal +Junction, Diagonal
- Diagonal, Orthogonal Corner

#### **3.13.3.28**      ***MonoRail <> Rail***

- Orthogonal x Double Diagonal
- Diagonal x Double Diagonal
- Diagonal, Orthogonal +Junction
- Diagonal, Orthogonal Dead End
- Orthogonal +Junction, Diagonal
- Orthogonal +Junction, Double Diagonal

### **3.13.3.29**      ***MonoRail <> GroundHighway***

- Orthogonal x Curve
- Diagonal x Curve
- Orthogonal x S-Curve
- Orthogonal +Junction, Diagonal

### **3.13.3.30**      ***Diagonal Streets***

Various new intersections between diagonal streets and other network types have been added.

Note: for any junction or intersection involving onewayroad: the onewayroad tool must be drawn properly in the correct direction in relation to any adjoining networks. If in doubt, please experiment.

## **3.14 Transit Bugfixes/Additions**

This mod contains any & all known Transit Bugfixes made to date where possible, practical &/or applicable.

## **3.15 Known (Game) Issue(s) and/or Bugs**

This explains currently known game issues with SimCity 4's Traffic/Network system that may be relevant to this mod. Please see the for specific information regarding this section

## 4 The NAM Unified Traffic Simulator

The NAM Unified Traffic Simulator (or the NAM Simulator, for short) is a traffic simulator that is derived from the original Maxis traffic simulator, but is also built upon the knowledge gained from all previous NAM traffic simulators, including work by the7trumpets, Tropod, jplumbley, mott, and z. It uses the Simulator Z core; what makes it a unified simulator is that it makes available to the player all the main features found in all previous traffic simulators. What makes this possible is the Traffic Simulator Configuration Tool (TSCT), which can be used to customize the NAM Simulator in any of these ways, and it also allows the ordinary player to safely customize the traffic simulator in ways that were not possible previously. The TSCT is available as an option in the NAM installer when the option "I want to build a custom simulator" is chosen; it is also available as part of the [NAM Traffic Subsystem](#).

Since the NAM Simulator evolved from Simulator Z, many of the features listed here for the NAM Simulator were also present in various versions of Simulator Z. However, many of these versions were never released together with the NAM, and so most people will be seeing the features they contained for the first time here.

One of the main areas of the work on the NAM Simulator involved increasing the efficiency of the pathfinder to close to its theoretical maximum. One of the main ways this was accomplished was by using a much more accurate version of the "perfect pathfinding" heuristic than had been available in previous traffic simulators. Also, the Sims' maximum commute time was increased to be closer to real-world conditions. These changes allow a smoother distribution of traffic throughout the city, with typically less congestion. At the same time, the congestion that does exist no longer leads to abandonment due to commute time; Sims know that they occasionally have to sit through traffic jams, and are a bit more patient. Better pathfinding also means that Sims act much smarter about finding jobs and routes to them; this also results in less abandonment due to commute time. As in the real world, zones can be farther apart without causing problems; this is especially helpful when building existing cities to scale. Finally, running the pathfinder with near-optimum settings allows the simulator to run up to several times as fast as previous traffic simulators.

The second major area of work on the NAM Simulator involved a more flexible distribution of traffic among the various travel types. In combination with the pathfinder upgrading, this allows buses to be counted toward traffic and congestion, just like all other vehicles. This is a significant change from all previous simulators, and it's an important point to remember when planning your transportation infrastructure. More flexible distribution of traffic also means that the NAM Simulator is much more dynamic about allowing Sims to choose their transportation. In cities with excellent highways and road capacity, car usage has been measured at over six times that of previous simulators. Yet for cities with less extensive road networks and reasonable mass transit, car usage is actually less than in previous traffic simulators.

For those who wish to have a deeper understanding of the principles behind the traffic simulator, [A Guide to the Operation of the Traffic Simulator](#) is recommended.

**Other changes in the NAM Simulator from previous traffic simulators include the following:**

- More realistic subway costs. Subways in Sim City are tremendously underpriced compared to the real world. The improvements to the pathfinder have made huge networks of subways less necessary, so the monthly cost for subway tiles has been multiplied by six to add a little more realism.
- More realistic air pollution due to traffic. Until now, the amount of air pollution emitted by traffic has been unchanged from the original game, where it was based on cities that had far less traffic capacity than that used by any of the recent traffic simulators. To keep the amount of air pollution emitted by traffic to a more realistic amount, the proportion of traffic air pollution to actual traffic has been lowered in the NAM Simulator. This lower proportion is linked to the Clean Air Act, so it is in effect only when the Clean Air Act is enabled.
- More accurate numbers for the Commute Time Graph. Due to a bug in the game, it is impossible to get accurate Commute Time Graph numbers for all situations. However, the NAM Simulator has adjusted the scaling of this graph to provide reasonably accurate numbers for most situations.
- Improved intersection effects. Despite the appearance of stoplights at intersections, Sims don't actually stop; they don't even slow down unless congestion is present around the intersection. The NAM Simulator provides much more congestion around heavily-traveled intersections, thereby doing a better job of simulating stop lights and stop signs.
- Greater monorail and high speed rail usage. Due to a bug in the game, monorail and HSR usage is generally less than it should be, sometimes by quite a bit. The NAM Simulator compensates for this bug by raising monorail and HSR usage to appropriate levels.
- Monorails and High Speed Rail have been fixed to contribute to and be affected by traffic congestion, just like all other vehicles.

The following features are new as of NAM 28 (May 2010):

- Greater highway usage. The traffic simulator has been tuned so that Sims use highways much more than ever before. This usage still tends to fall short of real world usage, though, due to the structure of the game. The amount of rapid transit available in a city will also have a big effect on highway usage.
- All mass transit speeds have been recalibrated to provide a more realistic simulation.
- Improved customer levels for businesses.
- Capacities and speeds of one-way roads have been raised to duplicate the real-world advantage of these roads.
- Street capacities have been raised so that they reflect the capacities implied by their speed limits.

There are Park and Ride versions of the NAM Simulator; these can be enabled with the Traffic Simulator Configuration Tool, mentioned above. Park and Ride changes the game slightly so that cars cannot reach their destination directly. Instead, those Sims who prefer to drive must park near some sort of mass transit station, and then take mass transit to the stop closest to their workplace. From here, they must walk the rest of the way. For this to work well, you need to have an extensive mass transit system. You also need to build parking lots and/or parking garages near key mass transit stops; generally the best places are at the edges of your residential areas that are closest to your jobs. Or you could just build parking facilities near the Sims' jobs (the ones that come with buildings generally don't count), but this really defeats the main purpose of Park and Ride.

### **What are the different versions of the NAM Simulator, and how are they used?**

The NAM Simulator comes in five capacity versions - Classic, Low, Medium, High, and Ultra. The name of the version refers to the network capacities in the simulator. The name "Classic" refers to the fact that the capacities are essentially the same as in the original Maxis traffic simulator. The following is a list of the network capacities for each version of the simulator; all capacities are per tile:

<b>Network</b>	<b>Classic</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>	<b>Ultra</b>
Street:	1 000	1 500	2 400	3 600	7 200
Road:	1 200	2 400	4 000	6 000	12 000
Avenue:	1 400	2 400	4 000	6 000	12 000
One-Way Road:	1 800	3 600	6 000	9 000	18 000
Highway / EI-Highway:	4 000	9 000	15 000	22 500	45 000
Rural Highway:	2 700	6 000	10 000	15 000	30 000
Subway / EI-Rail / GLR:	3 000	10 000	16 000	30 000	65 200
Monorail / HSR:	3 000	10 000	16 000	30 000	65 200
Rail:	3 000	10 000	16 000	30 000	65 200

Which simulator version is appropriate for a particular city depends primarily on two things: the population of the city, and the amount of rapid transit (rails) available. Less capacity is needed for lower population cities, but less capacity is also required for cities with a lot of rapid transit. For example, a city of two million Sims has been run quite successfully using the Low capacity version of the NAM Simulator, but it had an extremely extensive subway system. So pick a simulator version based on these two factors; if it doesn't seem the right capacity, you can always switch it out for a different capacity version. Experience has shown that in large cities, the effects of such a switch may take up to five years to fully manifest. You can tell when things have stabilized by looking at the Traffic Volume Graph in the following way: First, let the game run until there is a sudden shift in traffic patterns. Sometimes, this may take over a year. Then run the game until you go at least a full year without any sudden change in traffic patterns. At that point, the transition to the new capacity simulator is complete. All this can be done without any harmful effects to your city.

### **What settings should be used to emulate older traffic simulators?**

Please see the User's Guide in the Traffic Simulator Configuration Tool, which was mentioned at the top of this page. Specifically, the section entitled **Using the Traffic**

**Simulator Configuration Tool to Emulate Older NAM Simulators** addresses this question in detail.

For further questions about using the NAM Simulator, please see the [NAM Unified Traffic Simulator and Data View Help](#) thread.



## 5 Automata Plugin Files

**Note:** The Automata Plugins are also referred as Automata Controllers, like other NAM files where only one file can be installed at a time.

The information below explains which “...\_Automata\_Plugin...” files contain what changes. See the notes at the end before using any file.

The “...\_Automata\_Plugin...” files have a naming scheme according to the following below:

**[IT IS IMPORTANT THAT YOU ONLY USE ONE OF THE “...\_Automata\_Plugin...” FILES, & ONE ONLY].**

“...\_Standard” = Default Maxis values, except: It has been slightly modified to take into account the ANT network’s speed. It has been changed to give more of an accurate representation of the speed the vehicles are travelling at on the ANT network, compared to the other networks. Nothing else in this file is changed.

“...\_Automata24...” = Automata, of most kinds, is displayed for most of the 24 Hour Sim day.

“...\_Radical...” = The following changes [[increases](#)/[decreases](#)]:

- Vehicle Lifespan Range: Min: [50](#), Max: [380](#)
- Ped Lifespan Range: Min: [128](#), Max: [255](#)
- Sim Prop Anim range: Min: [25](#), Max: [150](#)
- Max Peds per second [per tile]: [100](#)
- Max Vehicles per second [per tile]: [250](#)
- Max Peds [at any one time]: [2500](#)
- Max Vehicles [at any one time]: [5000](#)
- Max Aircraft [at any one time]: [35](#)
- Max Watercraft [at any one time]: [100](#)
- Sims per Train Car: [100](#)
- Sims per Bus: [80](#)
- Commute Train Length: Min: [5](#), Max: [15](#)
- Freight Train Length: Min: [9](#), Max: [25](#)
- Maximum level of Freight Trucks Cut-off [Industrial City Jobs]: [500,000](#)
- Curve speed multiplier: [0.7](#) [of normal speed]
- Population Occupant Trip Radius [in tiles]: [10](#)

- Moving Van Frequency [new residence]: [2](#)
- Hill/Slope speed multiplier [% of normal speed when going up/down a hill]: 0.20
- Simulation Speed multiplier-For Cheetah Speed only [this only applies if you use "Variable Speed Automata" in the Games Options]: [8](#)

Spawn/Recall for:

- Streets: 40%/30%, 10%/40%
- Roads: 50%/30%, 10%/40%
- Avenues: 60%/30%, 10%/40%
- Highways: 85%/60%, 10%/30%

**Note:** Spawn/Recall is the percent chance/capacity at which more automata are added/removed for/from a tile. First set of numbers represents the percent chance at the specified capacity at which automata will be added; the second set is the percent chance at the specified capacity at which automata will be removed.

### Notes

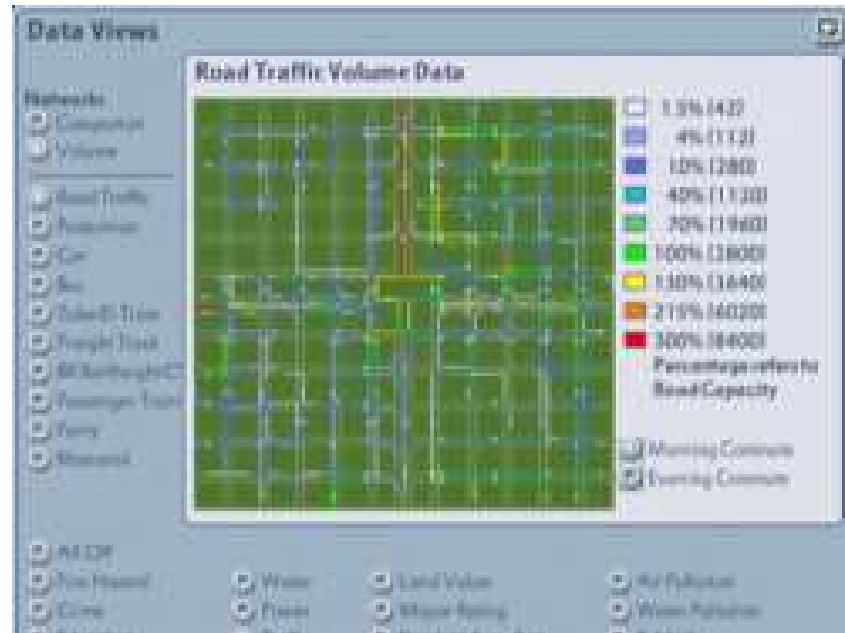
The file names explain what files contain what changes & are all based on the "...\_Standard" file above. If a file name contains two [or more] of the above names, then that means it contains those changes as detailed above.

You do not actually need/have to use any of the "...\_Automata\_Plugin..." file if you do not want to. It is not really imperative to the Network Addon Mod that a "...\_Automata\_Plugin..." file is used. If you choose not to use one of the "...\_Automata\_Plugin..." files though, then the Automata on the ANT network will not be represented fairly/accurately as intended.

**Automata:** Automata are basically animations; a "visual" representation. So while they represent the underlying Traffic happening [to some degree only really], they are only animations, and as such any of the changes made above do not actually change any functional aspects of networks capacities/speeds/commutes.

## 6 NAM Data Views

These views contain an improved version of the Traffic Volume View that comes with the game and that can be found under Data Views. They also contains improved versions of the Subway View, Subway Building View, and Zones View.



This Traffic Volume View offers a number of improvements to the one included with the game. Rather than the seven shades of blue in the original, this version uses the full spectrum of color, including approximately 48 distinct color shades. The maximum volume shown for each travel type has been increased from a flat 1200 for all types in the original Traffic Volume View to a value which is 300% of the capacity of the underlying network for the selected travel type. (Since only one commute period is shown at a time, this is one half of the standard network capacity, which is calculated for a full day.) The legend has been increased from five to nine entries, and each color in the legend is followed by the percentage of the underlying network capacity that that color represents, as well as the actual number of Sims represented by that percentage. When a travel type may have more than one underlying network (e.g., cars may travel on streets, roads, or highways), a subtext below the legend indicates which network is being referenced in the display.

The colors in the display have been arranged so that they are more concentrated at lower levels, in order to give finer granularity at lower volumes. Between volumes of 0% and 10%, colors change about every 1.5%. Between 10% and 130%, colors change about every 5%. And between 130% and 300%, colors change about every 10%. Please note that while every attempt has been made to attain the greatest accuracy possible, all numbers are somewhat approximate. The numbers following each color in the legend refer to the approximate beginning of the range of that particular color.

You may notice that starting at 100%, the colors follow those in the Traffic Congestion View. However, it is important to keep in mind the difference between the Traffic Congestion View and the Traffic Volume View. The Congestion View is compiled from an entire day's travel

statistics, while the Volume View refers to only a single commute period. Therefore, yellow in a single volume view does not necessarily indicate congestion, and blue or green in a single volume view does not necessarily indicate lack of congestion. Furthermore, some of the volume views include non-congestion producing travel types, which are pedestrians, buses, and ferries. An experienced player may be able to look at both commute periods of certain volume views and get a good idea of congestion, but it is necessary to be careful here.

The Traffic Volume View also includes a new Subway View. The new Subway View acts in most ways like the normal underground Subway View, which is entered by selecting the Subway Tool when you want to build or demolish subways. However, it has included in it the volume display feature of the Traffic Volume View, which allows you to see the usage of your subways as you are building (or demolishing) them. Like the rest of the Traffic Volume View, this view shows the volume of traffic in each subway line visible in the main map, as well as in all subway lines in the minimap.

The last feature included in the Traffic Volume View is a new Subway Building View, which is entered whenever you select a subway station to build. It differs from the standard Subway Building View in that no buildings other than subway stations are displayed; zones are displayed wherever possible; and like the Subway View, the volume of traffic in each subway line visible in the main map, as well as in all subway lines in the minimap. In addition, zones and transit station locations are shown in the minimap.

Finally, most transit station types light up in all volume views. This does not indicate anything about usage; it is simply so you can identify them easily. Certain types of transit stations do not light up because of the way they were designed.

A new Zones view is also included with the Traffic Volume View. The new Zones view is identical to the Subway Building View, except that subway volume levels are not displayed.

It is strongly recommended that you use the [DatPacker](#) if you have a substantial number of plugins. This will not only speed up the loading of your game, but it will also great speed up switching back to the normal view from both the Subway Building View and the Zones View.

## 7 Technical notes

It is strongly recommended that you read the information contained in this file. While it is mainly intended for persons with the skills to open the NetworkAddonMod.dat & associated file(s), it contains important information about the game. Therefore the following information aims at the more technical side of things and should only be considered as an additional source of information about the mods' files &/or game. To install the mod, please refer to the

- Known (Game) Issue(s) &/or Bugs
- Files used
- Path(s) (files)
- Network Hierarchy
- Lots
- NAM ID Conventions
- Left Hand Version Rail Networks Fix
- End Notes

### 7.1 Known (Game) Issue(s) &/or Bugs

This section explains currently known game issues with SimCity 4's Traffic/Network system that may be relevant to this mod. This is not all inclusive, & as such other issues may currently exist that are not covered here.

#### 7.1.1 General

Because we do not have the same level of tools &/or degree of control over the game that Maxis does, some custom-based items may currently have Pathing, Graphical &/or other unknown/known issues with them, & exhibit behaviour that may not &/or should not occur normally. Unfortunately, some issues are beyond our control & as such may not be fixable at all. The following sections explain some of these issues in more detail

#### 7.1.2 Networks

SimCity 4's Networks, in general, exhibit a proximity behaviour when actively using the bulldozing tool &/or the different Networking Tools (Street, Road, Avenue, Rail, etc). When actively using these tools to bulldoze &/or draw a section of network, intersection tile &/or otherwise, this proximity behaviour can sometimes invoke issues, drawing bugs &/or otherwise in certain circumstances that may not otherwise occur normally. Such issues may also prevent the drawing of an intersection &/or section of network that might otherwise be possible to draw. This proximity behaviour is generally 3 to 4 tiles, but may be higher or lower in some cases.

Solution:

While this proximity behaviour may be overcome in some cases by implementing the necessary rules for the game for such issues, the time it would take outweighs the benefits of

implementing such rules in most cases (though some rules have been implemented for some of these). Often times, some issues may be rectified by bulldozing &/or re-drawing a section of network, intersection tile &/or otherwise, making sure the same action, series of actions, or set-up, that invoked the issue in the first place is not repeated.

### 7.1.3 Paths

SimCity 4's Pathing system, in general, is controlled by a set of rules. For each tile of network that exists in the game, there is a Path file, & Paths (or Plotting Points) within that file, for the in-game tile. Unfortunately, some aspects of SimCity 4's Pathing system are controlled by the games engine (or EXE). Because of this, some custom-based items may currently have UDI/Pathing issues with them, & exhibit commuter &/or UDI behaviour that may not &/or should not occur normally. Some Custom-Based Interchanges & Rail-Based networks, at least, are known to be affected by this to some degree.

### 7.1.4 Interchange-Base Related Items - Placement

There are two known critical bugs that exist with the game that are related to **Interchange-Base Related** Items, & the placement of these items. The following section explains these two bugs.

#### 7.1.4.1 Placement & Zones

A bug exists that can potentially prevent the removal of a zones' Building/Lot. This same bug also has the potential to cause the game to crash. The exact precise cause of the issue is not known. The following outlines the general-case scenario in which these issues may arise & possible solution:

Items related to known issue:

- Zones of any type (excluding Landfill) & the associated Buildings/Lots that spur from &/or sit on these zones. This can include residential, commercial, industrial zones, of all density levels, & their related Buildings &/or Lots. These related Buildings/Lots can include both Maxis originals & any custom made Buildings/Lots related to zones.
- Interchange Related Item(s) (IRI); this can include both Maxis originals & any custom made items that are **interchange-base related**, such as; Highway Overpasses; Ramps; Cloverleaves; PuzzlePieces; & other similar item(s).
- Route Query Tool &/or Normal Query Tool (in the case of the game crashing).

Point of Issue Arising &/or Crashing:

If an IRI is built on already existing zones' Buildings/Lots, the removal of these buildings where the IRI is &/or was built may potentially no longer be possible to properly remove. Using either the Route Query Tool &/or Normal Query Tool on these affected Buildings/Lots, including even just hovering the Query Tool over any affected Lots, may also potentially cause the game to instantly crash to the desktop.

Solution:

In order for this bug not to be triggered in the first place, it is highly advisable that when placing an IRI that the terrain below the item be clear, & not contain any zones, &/or related buildings.

If by some reason the bug has been triggered, i.e. an IRI has been built on some zones, then be sure not to use either Query Tools on &/or over any of the zones' Buildings/Lots otherwise the game may instantly crash. In order to remove any buildings (that have been affected) that can not immediately be bulldozed/removed properly; re-zone the affected area, making sure there is still normal road access. Wait for a period of several (game) months, & then attempt to remove the affected Buildings/Lots. This may potentially enable the affected buildings/lots to be properly removed.

#### **7.1.4.2 Placement & Transit Enabled Lots**

An issue with the game which may cause the game to crash has been identified. At this time the exact precise cause of the issue is yet to be determined. The following outlines the general-case scenario in which the issue may cause the game to crash:

Items related to known issue:

- Transit Enabled Lot(s) (TEL); this can include both Maxis originals & any custom made TEL.
- Interchange Related Item(s) (IRI); this can include both Maxis originals & any custom made items that are **interchange-base related**, such as; Highway Overpasses; Ramps; Cloverleaves; PuzzlePieces; & other similar item(s).
- Cursor of Interchange-base Related Item(s).

Point of Crashing:

If the Cursor contains an IRI on it & then this Cursor is hovered over &/or clicked on (&/or repeated) a TEL, it can in some circumstantial cases cause the game to instantly crash to the desktop. Currently this is only known to occur if the IRIs' network on the Cursor is the same network with which the TEL is compatible with.

Solution:

Though it was once thought impossible to solve this notorious crash, simmaster07 released SC4Fix, a DLL-based plugin that solves the TE Lot/IRI conflict. It is available on the [Simtropolis Exchange \(STEX\)](#).

For more information on the above issue, see the following thread: [Cursor + Transit Enabled Lot = Crashing](#).

The issue described above has been looked into, & currently at this time evidence seems to point to the problem existing within the games' executable itself, therefore there is nothing that can (currently) be done about this to completely & properly rid of the bug (unless Maxis decides to address the issue). The reason the issue has been mentioned here is because it has a probable significant impact on the use of this mod & those that use it.



## 7.2 Files used

### 7.2.1 Existing files used indirectly in association with the Network Addon Mod

The Network Addon Mod currently relies on a number of the games existing files that you will already have.

These files include, but are not limited to, the following:

- Various FSH files. Also known as Texture files.
- Various Exemplar files.
- Various S3D files. Also known as 3D files or Models.
- Various SC4Path files.
- Various Text based files.
- UI or User-Interface Files
- LUA Files. Also known as script files.

Quite a number of the above files are also included in the Network Addon Mod and form part of Transit related Bugfixes &/or other Additional features.

If you've changed the look and/or contents of any of these above files, &/or used a mod or Bat/Lot file that has, there is a big chance that any/all of the features of this Mod will be affected. The extent of this is not something that can be told, it all really depends on what, if anything, may have been done to any of the above file types that are connected with the look &/or functionality of the contents of the Network Addon Mod.

### 7.2.2 Unique files used directly within the Network Addon Mod

The Network Addon Mod includes, depends on, and uses a number of files that are unique to games' engine. Because of this, certain files can not be replicated, changed, removed, &/or modified without any change, consequences &/or adverse affects on the game. These files include, but are not limited to, the following specific files [with Instance IDs]:

#### **Cohort File(s)**

- EITrain Cohort - 0x8BBF6D45

#### **Exemplar File(s)**

- Traffic Simulator - 0xC9133286
- Automata Tuning - 0x00000001
- DirtRoad - 0x0000001A
- Dirt Road Placement Tuning Parameters - 0xEBE08CDA
- Traffic Commute Graph - 0x0000000B [This file is included with "...\_10xCommute" files]

**RUL File(s)**

- Highway - 0x00000001
- Highway - 0x00000002
- Rail - 0x00000005
- Rail - 0x00000006
- Road - 0x00000007
- Road - 0x00000008
- Street - 0x00000009
- Street - 0x0000000A
- Avenue - 0x0000000D
- Avenue - 0x0000000E
- OneWayRoad - 0x00000011
- OneWayRoad - 0x00000012
- DirtRoad - 0x00000013
- DirtRoad - 0x00000014
- Ground Highway Rules - 0x00000017
- Ground Highway Rules - 0x00000018
- OneWayRoad Bridge Specializations - 0x0000100A
- Intersection Ordering - 0x10000000
- Intersection Solutions - 0x10000001
- Rule Overrides - 0x10000002

**INI File(s)**

- Network Parameters - 0x8A5993B9

## 7.3 Path(s) (files)

### 7.3.1 3.1 Puzzle Pieces & Overpasses

Because the game has Left-hand & Right-hand driving versions, covering all the different Pathing possibilities involved in relation to OneWayRoad Puzzle Pieces, in an efficient & effective manner, sometimes makes them somewhat problematic to code/path for. For this reason some OneWayRoad Puzzle Pieces, namely Intersection-Based related Puzzle Pieces, contain Bi-Directional Pathing for both forward and reverse Pathing files, or Right-hand & Left-hand drive. The same also applies to some Road & Avenue Intersection-Based Puzzle Pieces. This was done as a preventative measure to overcome any complication issues that may have arisen with players using the items of this mod that are associated with, namely OneWayRoad, Puzzle Pieces, with having any functional &/or just general problems with them. As a result players may notice some pathing &/or automata oddities &/or issues with/when using these particular items of the mod.

The above paragraph typically does not apply to Puzzle Pieces or Overpasses that contain Directional Arrows. Puzzle Pieces & Overpasses that contain Directional Arrows should function properly as they should, typically without any Pathing/Automata oddities, as long as they are placed & linked up properly according to their Directional Arrows.

### 7.3.2 3.2 U-Drive-It &/for EI Rail

There exists some game limitations with which we had to work with in order to make UDI for EI Rail possible. Unfortunately, for certain aspects of UDI for a Rail-based network, the game will only recognise certain paths for the track switches (Track switches are what make it possible to go in different directions at junctions during UDI). Because of this, UDI EI Rail &/or EI Rail Path files contains a replicated set of paths; one set of paths for its own original intended network; & one set for the UDI EI Rail mode. The set of paths for UDI EI Rail mode are technically ground-rail-based pathing. Because of this, it should be possible to take a UDI passenger train &/or UDI freight train from ground rail to EI Rail using a Transit Enabled Lot (& visa-versa for EI Rail Train to ground rail). The Transit Enabled Lot would have to contain special custom path files though, in order to achieve this. This however, is currently outside the scope of this mod.

## 7.4 Network Hierarchy

There exists a hierarchy in the game with the different Networks. The following is a guideline on the hierarchy of the different above ground Network types:

[In order of Top of the hierarchy to the bottom of the hierarchy]

- Monorail Network
- Elevated Rail Network
- Highway Network
- Rail Network
- GroundHighway Network
- Avenue Network
- OneWayRoad Network
- Road Network
- Street Network
- ANT Network (RHW Network)

The higher up the hierarchy a network is, a higher priority is given to the network when drawing one network over another (in a parallel overlapping fashion). For this reason it is not possible to drag a network at the lower end of the hierarchy over a network that is higher up the hierarchy, & for the network to be converted to that of the lower hierarchical network. This is something defined in the games engine and it is highly doubtful that it can be changed. Apart from this though, generally this hierarchy should not cause any problems, unless you are a modder trying to mod Networks(s) &/or associated files.

## 7.5 ANT Item

The ANT item that Maxis left incomplete/inactive in the game, with the technical name of "DirtRoad", was an optional plugin that has been superseded by the **RealHighway Mod** (RHW). The complete functionality of the ANT Plugin has been transferred to the RHW and is not longer supported by the NAM. For more information about the RHW, please refer to the RHW User Guide.

## 7.6 NAM ID Conventions

The NAM ID (IID) conventions are currently assigned based on the type of project. Most NAM Instance IDs (IIDs) begin with "0x5", which is a range that was reserved by the NAM Team for most file types applicable to the team's work, including (but not limited to) FSH textures, S3D models, SC4Paths, Exemplars, and Effects Directories.

This section briefly covers the file conventions that the NAM typically follows for its custom content (where applicable). These conventions are guidelines only & as such some pre-

existing items pre-date when these guidelines were established & may not follow the conventions. Also; some limited exceptions &/or variations may apply or (need to) exist due to functional, technical &/or internal housekeeping purposes.

Most conventions are governed by or have been influenced by Maxis conventions. These conventions mostly apply to Network related files, & while it is not completely comprehensive, it does cover InstanceID conventions, Network conventions, &/or any other conventions that may be applicable or appropriate for this section at this time. These conventions encompass S3D Model files, SC4Path files, Network-Based Exemplar files, Network-Based FSH files, Network-Based EffectDir files, Network-Based Prop related files, & possibly others.

- GroupID designations: GroupIDs of the various items &/or areas of the game are typically used as flags for functional purposes & are usually governed by Maxis file formats.
- InstanceID designations for Interchange base items: 0x5NDDD##Z
- InstanceID designations for Non-Interchange base items (not aligned with another project). 0x5FNDDDWZ
- InstanceID designations for Bridges & Network Props (like custom Traffic Lights): 0x5NDDDZR0
- N = Network designation. See table below for these.
- DDD = This had originally indicated MonthMonthDayDay in full extended decimal form (with all leading zeros) converted into hex. Where 2004 is the baseyear & each subsequent year 12+ Month per year should be added to MonthMonth before converting to hex. For multiple items on a set date, increase/decrease accordingly based on the initial date. However, the IID scheme reached a “rollover” point in 2008, and modern usage simply avoids conflicting IIDs.
- # = remaining portion of hex making up the whole InstanceID. This portion of the InstanceID typically based on the base InstanceID of the item.
- W= Wealth. This typically only applies to referenced S3D files & FSH files (where applicable).
- Z = Zoom level. This typically only applies to referenced S3D files & FSH files (where applicable).
- R = Rotation. This typically only applies to referenced S3D files & FSH files (where applicable).

Network Designations are as follows:

Road	0	Street	5	GroundHighway	A
Highway	2	Subway	6	Monorail	D
Rail	3	ElevatedRail	8	ANT	E
Avenue	4	OneWayRoad	9		

Some modern-day projects use different Network Designation codes:

- Network Widening Mod: begins with 0x51 (both draggable and puzzle)
- RealHighway: begins with 0x57 (for draggable and puzzle items after 2011)
- Turn Lane Extension (TuLEPs) and FLEX Turn Lanes (FTLs): begins with 0x5B
- Draggable Elevated Road/OneWayRoad/Avenue Viaducts: begins with 0x5C
- Street Addon Mod: uses 0x5E5 out of the legacy RHW range.

## 7.7 Left Hand Version Rail Networks Fix

This section is an extension from the above section that deals with NAM ID Conventions. The conventions in this section however only apply to SC4Path files.

This section deals with the 'Left-Hand Version Rail Networks fix' included in the Network Addon Mod.

Right-Hand Drive Version versus Left-Hand Drive Version; SimCity 4 path files were written with Right-Hand Drive players in mind. Nearly all Path files were written with Right-Hand drive as the default. This applies to road-based networks such as street, road, avenue, & rail-based networks such as rail, monorail & elevated rail. For Left-Hand Drive versions, the game automatically reverses all road based pathing (or “Car” pathing), with the exception of onewayroads. The game does not however, apply this same automatic reversal for rail-based networks; and this is why this fix has, in part, been created.

This fix makes use of the games INI Network file that enables manual reversing of path files specifically for Left Hand Versions through the use of special InstanceID masking & path file replacement, upon which the exe automatically scans at runtime. Unfortunately, current tests show that the Subway network is an exception to this. For this reason these paths have been included in an additional Plugin for Left-Hand versions. This extra additional Plugin also contains other files for Left-Hand versions. This extra dat Plugin should only be used for Left Hand drive versions. See the regarding the installation of this extra Plugin file.

This particular fix will impact on Left-Hand Drive Versions. Because of the necessary adjustments that have been made, this fix will subsequently impact on Transit Enabled Lots, for Left Hand Versions. The following explains this impact in more detail.

### 7.7.1 Transit Enabled Lots

Transit Enabled Lots that do not specify an actual Path file &/or just use simple RUL Flags in its LotConFig property, then it should not be affected & no change should need to be made. However, Transit Enabled Lots that actually specify path file(s) in any of their LotConFig Properties will most likely be affected & may need modifying. Transit Enabled Lots of this type will typically have 0x00000007 type LotConFig properties (or in other words; 0x00000007 as the first value), & have 16+ values for the LotConFig property, specifying actual path files (i.e. InstanceID) in the 16th+ value. To overcome any adverse affects this fix may cause, for Transit Enabled Lots for Left Hand Versions, please read the following very carefully;

Transit Enabled Lots specifying Path files will already have the necessary path file(s) for Right Hand versions. For Left Hand Versions though, the path file(s) may need to be replicated, IIDs changed, & the Rail-Related Pathing reversed for Left Hand versions (& only rail-related pathing. Car-based pathing should not be reversed. There may exist some very limited exceptions to this). So in essence there will be two sets of Path files; one for Right Hand versions & one for Left Hand versions. Both the Right-Hand Version Path file(s) InstanceID & Left Hand Version Path file(s) InstanceID then need to be in a particular InstanceID range(s), in order to work properly for both Right Hand & Left Hand players. The following ranges are valid Path File Instance ID conversion ranges in which the game will automatically use the replacement Path files in the case of Left Hand Drive Versions;

(Other IID reversal ranges exist, but the following ones are the main ones. Please see the INI file itself for a raw & thorough breakdown).

#### Short abbreviated version

- 0x0N##### >>> 0x4N#####
- 0x5N##### >>> 0x7N#####
- 0x5FN##### >>> 0x7FN#####

Where ‘N’ = Network designation.

#### Long version (actual specific IID ranges)

- Default Path File(s) >>> Replacement Path File(s)
- Right-Hand Version >>> Left-Hand Version
- 0x03##### >>> 0x43#####

- 0x53##### >>> 0x73#####
- 0x5F3##### >>> 0x7F3#####
- 0x08##### >>> 0x48#####
- 0x58##### >>> 0x78#####
- 0x5F8##### >>> 0x7F8#####
- 0x0D##### >>> 0x4D#####
- 0x5D##### >>> 0x7D#####
- 0x5FD##### >>> 0x7FD#####
- 0xEA##### >>> 0x4A#####

# = remaining hex of the InstanceID of the Path file(s). This portion of the Instance ID should be exactly the same for both Right-Hand & Left-Hand versions. As some examples:

- 0x**0**3031500 >>> 0x**4**3031500 ~ *these are actual path files found in the NAM &/or the games own files*
- 0x**5F8**32900 >>> 0x**7F8**32900 ~ *these are actual path files found in the NAM*
- 0x**5D**123900 >>> 0x**7D**123900 ~ *in the case of a Rail-based Bridge*

All Rail-Related IID Ranges are covered & reversed for Left Hand Drive versions. Any Path file(s) that fall within the ranges listed above, regardless of the type of Paths it contains, will be scanned by the exe, replacement Path File(s) used & then reversed (NOTE: If a replacement Path file does not exist, the tile in question may not function). Since the exe does not actually reverse rail-based networks, it will simply use the Replacement Path file(s) as is for Left Hand Versions. If there exists car pathing in the replacement file(s) though, then the exe will only reverse the car pathing portion of the path file for Left Hand Drive versions.

## 7.8 End Notes

- Commute Graph Exemplar: This has only been included in files with the "...\_10xCommute" in its name. The only reason for this is to try and off-set the Commute Graph display so as to give a more representable idea of the commute time being experienced [against/compared to what people might usually consider/expect]. It's highly advisable that any time you change which Traffic Plugin file is used, that you give the game ample time to update everything/anything related &/or connected to the Paths/Commutes. Twelve months game time, at least, should be given. This time will vary though depending on city size, game options, &/or computer system.
- Please note that some files have been replicated, used, &/or referenced multiply times by different items &/or areas of the files, including referencing the games own original files. One such example of this is some of the Puzzle Pieces; which basically makes use of the overpasses files [not necessarily all of them though].
- It is highly advisable that you do not change the contents of these files, nor change any of the files TGI, not unless you know very well what you're doing. Since modifying any of these files may cause the file(s) &/or fixes/features of the Network Addon Mod &/or other items not to function properly, not at all, &/or not as intended.



## 8 History

This file contains a history of all the Transit related items that have been fixed, addressed and/or added to by the NAM Team &/or others since SimCity 4 has been released. To install the mod, please refer to the .

This Network Addon Mod includes, but is not limited to, all of the following items listed below.

- Monolithic NAM release (since March 2013)
- Modular NAM release (June 2007 to September 2011)
- Post-NAM formation (April 2004 to December 2006)
- Pre-NAM release (before April 2004)

**Please be sure to remove any/all older file(s) related to the Network Addon Mod before use, otherwise conflicts may occur & some items may not work as intended.**

### 8.1 Monolithic NAM release (since March 2013)

#### 16.04.11 (NAM 35)

- New RealRailway (RRW) FlexTrack functionality, including draggable Fractional Angle Railroads (FARR) at three angles (FA-2, FA-3, and FA-1.33/1.5) and improved Single-Track Rail (STR) support.
- Vastly improved adjacency stability for ramp-style RealHighway (RHW) FLEX Height Transitions, including many adjacencies with FLEXRamps and Draggable Ramp Interfaces (DRIs).
- Several new draggable NWM transitions: NRD-4-to-ARD-3, NRD-4-to-Avenue, NRD-4-to-TLA-5, NRD-4-to-RD-4, Road-to-RD-4, TLA-3-to-Avenue, TLA-3-to-TLA-5, AVE-2-to-TLA-5, AVE-2-to-Avenue, TLA-7/AVE-6-to-Dual-OWR-3, OWR-4-to-RHW-8S, OWR-5-to-RHW-10S, and OWR-1-to-MIS. These transitions can either be built through the stub method, or (in case of different base networks), direct connection.
- At-grade intersection support for the Road, OWR, and Avenue Viaducts, plus other stability and cosmetic improvements.
- Multi-Radius Curve (MRC) functionality added to the L1 and L2 RHW-2.
- A number of path fixes involving elevated RHW networks.
- Support for at-grade RHW-4 x Avenue, RHW-3 x Avenue and MIS x Street intersections (OxO only), as well as improvements and additions to RHW-2 and MIS diagonal intersections with Maxis surface networks.
- Proper P57-era RHW support for Moonlight's Alternate EI-Rail and Bullet Train (Shinkansen) mods.
- Various fixes to the Maxis Highway Override (MHO), including improved RealRailway (RRW) support, support for moonlight's Alternate EI-Rail and Bullet Train, and Level Bridges for both L0 and L2 MHO networks.
- Re-implementation of some multi-tile RHW and NWM starter pieces, to improve stability in preparation for future additions. Legacy code has been added to provide stability to older, unconverted starters.

### 15.25.12 (NAM 34)

- The Tram-in-Avenue (TiA), Tram-in-Road (TiR), Tram-on-Road (ToR), and Tram-on-Street (ToS) dual networks are now partially draggable. To activate the dual networks, click the Elevated Rail tool over Avenue for TiA, the Elevated Rail tool over Road for TiR, the Rail tool for ToR, and the Elevated Rail tool on Street for ToS.
- Elevated RealHighway (RHW) networks and draggable Elevated Road, One-Way Road, and Avenue Viaducts can now form overpasses over Tram-in-Avenue, Tram-in-Road, Tram-on-Road, and Tram-on-Street dual networks. Simply drag the crossing network up to the edge of the Tram Dual-Network to form a stub, and begin dragging from stub on the other side of the Tram Dual-Network to continue the network. Some support for networks besides RHWs and the Road Viaducts has also been added, using similar means.
- RealHighway crossings over Network Widening Mod networks are now vastly more stable.
- Multi-Radius Curves (MRCs) for the Road network have been added in draggable form, in four different radii (R1-R4).
- Signalized intersections for One-Way Roads are now possible in the initial phase of the OWR Signalization and Turn Arrow Project (SITAP), complete with turn arrows before the intersection (NOTE: LHD functionality for this feature may still be limited). These signals cannot automatically appear, due to the game's handling of One-Way Road mechanics, but can be activated by transitioning from One-Way Road to Road just before the intersection. For intersections between two One-Way Roads, it is necessary to click over the resultant 90-degree Road bend with the One-Way Road tool. +-intersections and T-intersections between One-Way Roads and Roads, One-Way Roads, Avenues, and +-intersections (no T-intersections) with single-tile Road-based NWM networks (TLA-3, AVE-2, ARD-3, NRD-4) are available.
- 7 new bridges by eggman121 have been added, including the first-ever NWM bridges for the RD-4 and RD-6 networks, plus a new RHW-4 bridge, and four RealRailway (RRW) bridges.
- FLEX On-Slope Transitions for the Elevated Road, One-Way Road, and Avenue Viaducts have been improved to support tighter situations, where a network is directly below the elevated end of the transition.
- Many Elevated RHW base network features now show preview textures.
- An issue with High Speed Rail crossings over wider ground-level RHW networks has been addressed.
- An issue preventing the proper override of the ramp interfaces on L1 RHW QuickChanges has been fixed. Some clickaround may still be necessary to force the overrides to continue.

### 15.26.11 (NAM 33)

- Massive update to the Draggable Ramp Interface (DRI) and FLEXRamp systems in the RealHighway (RHW) Mod. 90% of all previous static puzzle piece ramps have been given easier-to-use FLEX and/or draggable counterparts, and a plethora of new ramp interfaces for elevated RHW networks are now available, Wealth textures are included for ground level versions.
- The RHW FLEXFly system has been completely overhauled, and now includes 90-degree and 45-degree versions, in single and dual-lane configurations, at Ground Level (L0), 7.5m (L1), and 15m (L2) heights.
- The double-decker RHW-4 (DDRHW-4) has been lowered one level (from L2/L3 to L1/L2), increasing ease of use.
- Disconnecter added, to simplify demolition of FLEX-based RHW pieces.

- Multi-Radius Curves (MRCs), in both draggable and FLEX form, have been added to the RealHighway Mod, in three different radii, for the RHW-2, MIS, RHW-4, and RHW-6S.
- Stability improvements to the FLEX Height Transitions.
- Major improvements to the RealRailway (RRW) plugin, which now supports most crossings.
- Transit station functionality and compatibility has been further improved.
- Minor fixes to other NAM components.
- The RealRailway (RRW) FlexTrack system makes an earlier-than-expected debut. See the FlexTrack User's Guide in the Documentation folder for more details.
- PedMall functionality greatly enhanced with the addition of access paths to most non-Highway-type road networks, including NWM networks and Tram/El-Rail Dual-Networking items. Pedestrians may now directly access the PedMalls from these other networks without the need of a station or other transit-enabled lot/switch.
- Many custom bridges that previously blocked all ferry traffic have now been corrected.
- MandelSoft's previous RHW texture sets, including Euro, Ontario, and Irish/South African textures, have been discontinued. A new standard Euro RHW set, based on the default US set, has been added as a replacement, and adds compatibility for all current RHW features.
- An issue with the NAM 33 Pre-Release in which the Controller Compiler would fail due to an XML read error has been fixed.
- Several overhanging texture issues with the new RHW ramp interfaces have been corrected.
- The R3 FLEX-Multi Radius Curve now rotates fully as intended.
- A number of Left-Hand Drive transit path file issues across the entire mod have been added or corrected for proper functionality.

#### **14.14.01 (NAM 32)**

- The NAM Elevated Viaducts for Roads, One-Way Roads, and Avenues are now available in a draggable form, at both Level 1 (7.5 meter) and Level 2 (15 meter) heights, complete with FLEX Height and On-Slope transitions. Overpass situations involving one or more diagonal networks are not yet supported.
- Elevated Rail-over-Avenue and Elevated Rail-over-NWM Road-4 dual-networking support has been added, complete with a new station supporting both networks.
- The initial phases of the RealRailway (RRW) system have been added. This feature must be selected as part of a custom install.
- The RealHighway (RHW) system has been expanded to include the QuickChange interchange system, which blends the RHW's modularity with the ease of Maxis Highway construction techniques for certain situations, which will be expanded in future NAM releases. Additionally, several new types of FLEXRamps are available--please read the instructions in the description text. FLEX Transitions have also been given stability improvements for certain situations.
- Coupled with the RHW system, the NAM now offers Bus Rapid Transit (BRT) functionality, including stations.
- Transit station functionality has been further improved, including the beginning of the implementation of the SLURP, which will gradually raise all transit stations to NAM standards.
- The NAM Controller Compiler has been included with the installer, with which it now communicates, ensuring that only the installed features are incorporated into the NAM Controller, reducing file size and load times. (The e-series and s-series controllers have been discontinued.)
- About 50 bugs reported since the start of the NAM 32 Pre-Release have also been squished, including some that had been present since earlier versions of the NAM. It is highly recommended that users update to the latest NAM in order to enjoy a more stable experience.

#### 13.06.04 (NAM 31.2)

- Integration of 4GB Patch into installer, further preventing risk of CTDs on newer systems.
- Maxis Highway Custom Interchanges button re-enabled, after fixing HID re-index issue in RUL0 file.
- "Sinkhole-to-China" bugs fixed on several RealHighway (RHW) pieces.
- L2 RHW x RHW OxD Stability improved.
- Maxis Highway Override/"Project Symphony" Type A ramp is now able to be fully rotated.
- RHW-10S bridge no longer has issues with missing tiles.
- DDRHW-4 paths now at proper heights.
- Maxis Highway Override/"Project Symphony" no longer causes CTDs when dragged under High Speed Rail.
- Further improvements to RealHighway filler pieces.
- Maxis Highway Override/"Project Symphony" OxD crossing with Rail Viaducts now facing the correct direction on all tiles.
- Multiple "rainbow tile" issues fixed.
- Some files moved from Rail Viaducts to Base Contents, to address issue with "missing tiles" reported by users who did not install the viaducts.
- Several LHD path fixes for bridges.
- Under/overpass on starter situations improved for RHW starters.
- While the expanded RealHighway functionality available in the 31.x-series releases is much more stable in Version 31.2, issues still exist with the L1 and L2 Diagonal RHW-6C, 8C, 8S, and 10S, when crossing over other RealHighways. The overpass may behave as if it is prevented, or produce inexplicable results. Due to the complexity of the coding for any sort of crosslinking between two override networks (especially when one is multi-tile and diagonal), solving this issue is a veritable "needle in the haystack" situation, and will take substantial time to correct. \*Support will not be provided for issues involving these overpasses.\*
- Two multi-purpose transit stations by E-N of BriPizza have been added, serving the orthogonal intersections of almost all single-width networks that differ in height by 15m.
- The NAM Ideal Transit Switches (NITS) have been introduced. The NITS provide greatly increased efficiency for all combo NAM transit stations (e.g., all stations with subway access and at least one other major network), which results in greater network usage.
- Controller updated to version r184.
- Please note that the installer will "seek and destroy" old NAM installations in your Plugins, so there is no need to worry about uninstalling/deleting your old NAM.

#### 13.04.06 (NAM 31.1)

- Controller divided into two different packages to improve stability--the smaller "standard" (or "s-series") package, and the larger "extreme" (or "e-series"), to improve stability issues present with NAM 31.
- Road Turning Lanes "semi-automatic" functionality has changed implementation, from Rail overclick to One-Way Road overclick.
- A number of transit stations have had bugs fixed or performance otherwise enhanced, and several optional new stations have been added. For PC users, any stations plopped in your cities from NAM 31 will automatically be upgraded when you install NAM 31.1. For Mac users, the replacement set of basic Maxis stations had to be modified, along with the Modern EI Train Station by Brenda Xne. These fixes were necessary due to a bug in the Mac version of SC4. If you're a Mac user and you plopped any of these stations from the NAM using version 31, you will have to bulldoze them and replop them once you have installed NAM 31.1.

- New Street network functionality: Some new draggable wide-radius curves, and intersections along wide-radius curves, are now possible with the Street network. Credit for this new feature goes to Swordmaster from the NAM Team.
- RealHighway Filler Pieces have been restored and expanded after previous issues.
- Installing over previous versions: NAM 31.1 may be installed directly over top of any previous NAM releases. It is a full release, not a patch or a hotfix. All future updates are planned to be in full package form, and there are no plans to issue patches or hotfixes in the future. Please also note that the NAM Team only provides technical support for the most recent version, which, as of this document, is NAM 31.1. *We cannot assist users of the original NAM 31 release, or NAM 30 (or earlier).*
- Special Thanks: The NAM Team would like to thank the following members of the community, who have tested the penultimate build of the NAM 31.1 controller and given their feedback on its stability, and/or assisted with other controller-related tests after the NAM 31 release, in an effort to nail down the game stability issues: A Nonny Moose, dyoungyn, Joe 90, mgarcia, mneonnew, shanghai kid, spot, and txrailcat74.

### 13.02.03 (NAM 31)

- The NAM has changed to a “monolithic” package. With the exception of the Diagonal Bridge Enabler (DBE), all other separate-download NAM plugins have been merged into the main package, including the RealHighway Mod (RHW), the Railway Addon Mod (RAM), the Network Widening Mod (NWM), the High Speed Rail Project (HSRP), the Street Addon Mod (SAM), and the Rural Roads Plugin (RuRP). All NAM-issued bridges have also been incorporated into the package. These plugins may all be selected as options in the new and improved NAM installer.
- Substantial expansion of the RealHighway (RHW) Mod network options, including the addition of the full Multi-Height System, which allows four elevated heights—L1 (7.5m), L2 (15m), L3 (22.5m), and L4 (30m). All widths of the RHW also now have L1 and L2 elevated counterparts, and the RHW-4, RHW-6S, and MIS Ramps have L3 and L4 available.
- The RHW also now includes FLEX Height Transitions (FLEX-HT), FLEX On-Slope Transitions (FLEX-OST), FLEX Ramp Interfaces (FLEXRamps), accommodating many of the new networks without adding massive numbers of new puzzle pieces.
- Draggable Fractional Angle Roads have been added at two different angles—FA3 (18.4°/71.6°) and a new angle, FA2 (26.6°/63.4°).
- For the first time ever, the NAM now includes Lots, adding a basic variety of stations for NAM override networks that require them, including Ground Light Rail, the Tram/EI-Rail Dual Networks, and High Speed Rail.
- Starter Pieces have now been converted to include a self-destructing construction lot, simplifying construction.
- Hole Diggers and Raisers have also been added in two forms: the conventional Lot-based approach, and a new self-destructing variant.
- Maxis Highway Override, AKA Project Symphony, has been added. This plugin converts the Maxis Highways from 6 undersized lanes, to 4 RHW-scaled lanes, and better allows the network to interface with RHW functionality.
- Wide Radius Curves added to the Monorail network.
- Moonlight's popular Alternate EI-Rail Mod and Bullet Train (Shinkansen) Mod have been added as optional skins for the EI-Rail and Monorail networks, respectively.
- Two new SAM sets have been added: the Klinker Streets by squidi, and moonlight's Japanese Streets.

## 8.2 Modular NAM release (since June 2007)

### 11.14.09 (NAM 30)

- Elevated Road, One-Way Road and Avenue viaduct models have been revamped, with new orthogonal-to-diagonal curves added to One-Way Road and Avenue Viaduct sets.
- Numerous new Tram-in-Avenue, Tram-in-Road and Tram-on-Road puzzle pieces, many of which dramatically improve diagonal functionality.
- New Elevated Maxis Highway Interchanges for Tram-in-Avenue, and improvements to existing Diagonal Avenue Elevated Maxis Highway interchanges.
- New Underground Rail puzzle pieces have been added.
- NAM Controller and Bridge Controller files have been updated.
- New Turn Lane Extension Pieces (TuLEPs) have been added, including TuLEP Rail Crossings.
- Avenue Roundabouts Plugin updated, adding new BSC Ripptide filler, and support for Flexible Underpass (FLUPs) functionality.
- Two new styles of Draggable Ground Light Rail/Tram with easily-customizable base textures have been added with the Draggable GLR/Tram Extension Plugin. (**Please note** that due to the model-based nature of this functionality, the natively-built pillars on the Elevated Rail network had to be removed. You may need to reconstruct sections of your Elevated Rail network to re-add the pillars with this plugin installed.)
- RUL updates for the RealHighway Mod (RHW), Network Widening Mod (NWM), Street Addon Mod (SAM) and Diagonal Bridge Enabler (DBE), all downloaded separately.
- Traffic Simulator Configuration Tool (TSCT) updated to Version 1.2.6, reflecting proper One-Way Road capacities.

### 10.14.08 (NAM 29)

- New Underground Rail puzzle pieces have been added.
- Numerous RUL, texture and pathing errors have been fixed, including the Car Ferry issue.
- NAM Controller and Bridge Controller files have been updated.
- Updates to the Traffic Simulator Configuration tool to support capacity improvements to TuLEPs, the RHW and the NWM.
- Nightlighting fixed on Elevated Rail/Tram vehicles.

### 10.09.05 (NAM 28)

- New modular Turning Lane Plugin has been added.
- New GLR-in-Avenue puzzle pieces have been added.
- New GLR-in-Road puzzle pieces have been added.
- New GLR-in-Street puzzle pieces plugin have been updated.
- New FLUP pieces have been added.

- New Underground Rail puzzle pieces have been added.
- Rail Viaduct Wide Radius Curve has been added.
- Traffic Simulators and Data View Plugins have been updated once again and reduced to five basic settings.
- Custom Traffic Simulators and Data View Plugins can be created with the "Traffic Simulator Configuration Tool".
- Numerous RUL, texture and pathing errors have been fixed.
- NAM Controller and Bridge Controller files have been updated to support the latest NAM features, several new bridges and the upcoming RHW 4.0 and NWM 1.0 releases.
- NAM Installer has been improved for easier handling and additional help for installing new Traffic Simulators.

#### **09.21.06 (NAM 26)**

- Canal Addon Mod (CAN-AM) plugin has been added.
- GLR-in-Street puzzle pieces plugin has been added.
- Wide Radius Curve plugin for streets has been added.
- New FAR intersections have been added.
- New GLR-in-Avenue puzzle pieces have been added.
- New GLR-in-Road puzzle pieces have been added, including modular GLR-in-Road roundabout.
- New FLUP pieces have been added, such as Avenue and OneWayRoad ramps and underground intersections.
- All GLR puzzle pieces have been modified to minimize the "crash to desktop" bug.
- Two new Underground Rail puzzle pieces have been added.
- New Ground Highway Y Interchange has been added.
- New Data View plugins have been included.
- Traffic Plugins have been updated.
- There are now separate NAM Controller files for RHD and LHD versions of the game.
- Some RUL, texture and pathing errors have been fixed.
- NAM Controller, Bridge Controller and NAM UI files have been updated.

#### **09.08.03 (NAM 25)**

- Added two sets of Rail textures that fix the color shift between Maxis and custom Rail textures for zoom levels 1 to 4.
- A variety of RUL, texture and pathing errors have been fixed.
- NAM Controller contains RULs for RHW (Rural Highway Mod), SAM (Street Addon Mod), HSR (High Speed Rail) and the new RAM (Rail Addon Mod)/STR (Single Track Rail) and Rural Roads plugins (released separately).

#### **09.14.01 (NAM 24)**

- Wide Radius Curves (WRC) have been moved to a separate plugin, new curves and Fractional Angled Roads (FAR) and Railways (FARR) have been added, old wide radius curve preview models and textures have been improved.
- Flexible Underpass (FLUP) puzzle pieces plugin for roads has been added, featuring modular road underpasses.
- Tram-in-Road (T-RAM) puzzle pieces plugin has been added, featuring a wide variety of Tram-in-Road puzzle pieces.
- New GLR-in-Avenue puzzle pieces have been added, i. e. GLR-in-Avenue with grass textures.
- New GLR-in-Avenue roundabouts (GLR curve, T intersection, + intersection) have been added.
- New Rail Viaduct puzzle pieces have been added, i. e. new diagonal pieces, diagonal on-slope pieces, and Rail Viaduct on PedMall puzzle pieces.
- New straight Ground Highway exits have been added.
- Two new Ground Highway Interchanges (trumpet and partial Y) have been included.
- A new set of Traffic Plugins has been included.
- A variety of RUL, texture and pathing errors have been fixed.
- NAM Controller contains RULs for updated RHW (Rural Highway Mod), SAM (Street Addon Mod), HSR (High Speed Rail) and the new RAM (Rail Addon Mod)/STR (Single Track Rail) plugins (released separately).

#### **08.24.04 (NAM 23)**

- The NAM celebrates its 4th birthday!
- Double-height Elevated Rail and Monorail puzzle pieces have been added.
- GLR bridge has been added.
- New GLR-in-Avenue puzzle pieces have been added, including Avenue Roundabout with GLR crossing.
- New Rail Viaduct puzzle pieces have been added.
- Diagonal Highway on-slope puzzle pieces have been added, existing on-slope puzzle pieces have been revamped to eliminate shadow bug.
- All overpasses have been modified to eliminate the color shift of the network that crosses under another (both Maxis and custom overpasses).
- Elevated Rail to GLR transition has been improved visually.
- Double-decker puzzle pieces have been improved visually.
- Elevated Rail and Monorail over Elevated Highway overpasses have been improved visually.
- Various other overpasses and puzzle pieces have been improved visually.
- Diagonal Highway shift by one tile is now possible.
- Oneway-Road arrow removal plugin has been updated.
- Custom Menu plugins have been added to reorder icons in Rail and Misc Transportation menu.
- A new set of Traffic Simulator (Traffic Plugin) files have been added, outdated Traffic Plugin files have been removed.
- A variety of RUL, texture and pathing errors have been fixed.



- NAM Controller contains RULs for updated RHW (Rural Highway mod), updated SAM (Street Addon Mod) and new HSR (High Speed Rail) plugins (released separately).

#### 08.01.01 (NAM 22)

- Elevated (heavy) Rail puzzle pieces completely revamped, three different texture styles available, some new pieces added.
- Underground Rail puzzle pieces with Ped Malls have been added.
- Increased connectivity for Avenue Roundabout and Avenue Roundabout with Elevated Highway overpass puzzle piece have been added.
- Smooth Avenue Curve puzzle pieces have been added.
- Reworked textures for smooth Road Curves.
- Raised Avenue Bridge has been added.
- RHW (Rural Highway mod, released as individual plugin) is now independent of ANT tool.
- NAM Controller contains RULs for updated RHW (Rural Highway mod) and SAM (Street Addon Mod) plugins (released separately).

#### 07.06.01 (NAM 21)

- The main NAM file has been divided into five resource files that can be updated individually. The RUL and INI files have been separated as "NAM Controller" for easier updates as well. GLR and dual-networking puzzle pieces have been made optional. **Please note:** If you are using the GLR or dual-networking puzzle pieces, make sure to select them in the optional components dialogue of the NAM installer. The same counts for other optional plugins, such as the roundabouts or turning lanes.
- Additional plugins, such as bridges or the RHW mod, are released as individual plugins. **Please note:** If you are using additional bridges that use custom bridge models in your cities, you will have to install them separately. They are no longer contained in the main NAM download.
- The LTEXT labels have been separated from the NAM DATs in order to make translations easier.
- In addition to the GLR puzzle pieces, draggable GLR is now available, using dedicated starter puzzle pieces (both urban and rural versions).
- GLR-in-Avenue puzzle pieces have been added, as well as GLR-on-slope puzzle pieces.
- The appearance of the GLR tracks has been changed to a more urban look. The old textures for the puzzle pieces are still available as an optional plugin. Similar textures for the draggable GLR might be released in the future.
- Avenue Roundabouts have been added, available under a new menu button that also contains the other avenue intersections, such as the Avenue Y-Stack.
- Highway-on-slope puzzle pieces has been added.
- Elevated (heavy) Rail and Underground Rail puzzle pieces now have more options, such as 45° turns and diagonals.
- Smooth Road Curve and S-Curve puzzle pieces have been added.
- A plugin that removes most of the OneWayRoad arrows has been added.
- Some menu icons have been graphically improved.

- The number of files contained in all NAM DATs reaches 19,000.
- The NAM core files are not longer considered as a "beta" version. However, certain plugins might still be in beta status.
- A BSC Cleanitol file has been created that helps removing outdated NAM files and related transit mods.

## 8.3 Post-NAM formation (since April 2004)

### 06.12.24 (NAM 20)

- Diagonal Streets plugin has been enhanced. There are now some additional puzzle pieces to be used on sloped terrains to avoid flattening. Furthermore, there are a few helper pieces which allow you to drag other networks over it to build intersections.
- All the game effects on the ped mall puzzle pieces have been removed again because ped malls had acted like a cheat. The generation of crowds has also been removed because it forced older computers to be very slow.
- Many cosmetic issues have been done. Some raised puzzle pieces have been remodelled, and the one-way bridges come with one-way textures now.
- A set of puzzle pieces to build commute rail tunnels has been added. You may use the default Maxis railway station to handle the traffic switching or (may be) any upcoming underground commute rail station.
- Long Turn Rail puzzle piece has been added.
- European-style lateral highway exits and another one for raised roads have been added.
- The custom bridges MOD became part of the NAM. You may choose different new styles of bridges for the common networks.
- NAM readme updated to a more convenient layout. Some screenshots illustrate the usage of puzzle pieces and roundabouts.
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### 05.09.30 (NAM 19)

- NAM now has an Installer which can guide users through the installation.
- Format of NAM versions changed from MMDDYY to YYMMDD.
- The Structure of the NAM Folders & Documentation has been modified. This has been done due to an Installer now being available.
- Missing Rail Y-Stack added. Yes, it is actually added this time (those of you with the temporary fix for this, be sure to remove it).
- Diagonal Start/End Road & OneWayRoad PuzzlePiece items adjusted to reduce possible terrain indentation when being placed.
- Graphical improvements made to GLR on PedMallTile items.
- Various ElevatedRail on Street Dual-Networking PuzzlePieces added. See the [Contents](#) for more details.
- GLR Loop PuzzlePiece item added.
- Rail double Width\Tile Orthogonal S-Curve added.
- Rail (Double) Diagonal x Orthogonal Unlimited. This supersedes the previous Double Diagonal x (single) Orthogonal Rail junction.
- Avenue Intersections\Junctions: several new avenue intersections &/or junction types have now been added &/or are now possible. See the [Contents](#) for more details.
- OneWayRoad Roundabouts have now been added & currently exist as an additional optional plugin. The existing OneWayRoad network tool is used for this.
- Street Roundabouts have now been added & currently exists as an additional optional plugin. The existing Street network tool is used for this.

- Adjustments implemented for Avenue curve x Road/Street/OneWayRoad to address graphical issues.
- Adjustments made to several PedMallTile items due to graphical conflicts.
- Shadows fixed on ElevatedHighway Curve & several ElevatedHighway Curve x Street/Road/Rail/OneWayRoad/Avenue junctions.
- A list of Additional Intersections & Junctions (for normal networks) has now been included & can be found in the [Contents](#).
- YIMBY Effects on Ped Mall Tiles & Footbridges adjusted to more balanced levels & are as follows:
  - Type of Effect (Magnitude, Radius)
  - Landmark Effect (70,7)
  - Park Effect (35,7)
  - Mayor Rating Effect (5,8)
  - Air Pollution Reduction (-5,3)
  - Water Pollution Reduction (0,0)
  - Garbage Reduction (1,0)

#### **05.07.25 (NAM 18)**

- Due to a recent file format discovery a number of intersections' files have been adjusted to address current & possible future issues. Due to these adjustments, any existing items that made use of these adjusted items will be affected & may show as an invisible tile in-game. If this occurs, please bulldoze & rebuild the given intersection &/or section of network to correct the problem.
- The Structure of the NAM Folders & Installation Files has been modified. This has been done to better handle some of the additional plugins that this mod contains. Please see the [regarding installation](#).
- Diagonal Streets have now been added & currently exist as an additional optional plugin. The existing Street Network tool is used for this. Please note: This does not change the inherent functionality of the Street Tool. To trigger diagonal streets, simply zig-zag the street tool & the tiles will automatically change & update. Please note: As at the time of writing this particular item was currently in Beta still.
- Roundabouts have now been added & currently exist as an additional optional plugin. The existing Network Tools, where applicable, are used for this. To trigger roundabouts, simply join road in a four tile area like a circle. Many variations exist with the Road, OneWayRoad & Street networks. If in doubt, please experiment. Please note: As at the time of writing this particular item was currently in Beta still.
- Rail Y-Stack added. This is currently located in the Rail PuzzlePieces menu button. This is similar to the AvenueY-stack.
- Avenue & OneWayRoad Onslope PuzzlePieces added & can be found in their appropriate PuzzlePiece menu button.
- Over 50+ new intersections, junction &/or network possibility types added. These are many & varied but encompass most of the above ground networks. If in doubt, please experiment.
- Several new path, drawing &/or graphical bug fixes added. These fixes relate to original Maxis items & also custom content items. Please note: It may require rebuilding some sections of network &/or also the game given several game months,

if not a lot longer (i.e. 2 years depending on city size, pc specs etc), in order for some of these fixes to take affect.

- Most internal files have now been compressed to help reduce the overall file size of the NAM. This should not affect functionality.
- Main NAM.dat surpasses 10,000 files mark.

#### **05.06.17 (NAM 17)**

- Main mod file by default, no longer contains Avenue Tuning Lanes (ATL). This portion of the mod exists as an optional component by way of an additional Plugin file. Please see the [Contents](#) regarding this optional plugin file.
- Numerous visual improvements made to various existing items.
- 70 plus new junctions &/or intersection types added. These new junctions typically involve "Network1 Piece or JunctionType, Network2 Overhead (or underneath ~ relative to Network1)". As some examples; Orthogonal Street + Junction, Diagonal ElevatedRail. Also; Orthogonal Rail + Junction, Diagonal ElevatedHighway. And; Orthogonal ElevatedRail + Junction, Diagonal Avenue. And many others similar to these involving all the different (above ground) networks. If in doubt, please experiment.

#### **05.06.08 (NAM 16)**

- Ground Light Rail (GLR) Mod (Alpha 3) has been merged & included with the NAM. Currently at this time this inclusion only extends to Puzzle Piece related items. Please see the [Contents](#) for more details.
- Avenue Turning Lane (ATL) Mod (beta\_04) has been merged & included with the NAM. Left-Hand Version players please see for additional Plugin(s) required.
- Left Hand Version Rail-Networks Fix: A fix has been made, for players who actively use Left Hand Version of the game, for all of the Rail-Based networks. This fix encompasses Rail, ElevatedRail, MonoRail, & Subway networks & any intersections involving these networks. This fix makes adjustments so that the Trains on these networks operate & run on their proper side for Left-Hand Version players, just like cars do on road based networks. This fix is also UDI compliant (where applicable). This fix is only applicable & only intended for active Left-Hand Version players. This fix subsequently has a bearing on Transit Enabled Lots. Left-Hand Version players please see the [Contents](#) for additional Plugin(s) required. For more details regarding this fix please read the [Contents](#).
- Numerous visual improvements made to various existing items ~ of which there is to many to list.
- OneWayRoad Bridges have been adjusted. The models & textures they use are no longer dependent on the games own files, & hence can be changed. Please see the [Contents](#) for more details.
- Monorail over Elevated Highway overpass.
- Double Diagonal Rail x Orthogonal Avenue (this is a normal ground intersection).
- Numerous new Puzzle Pieces added. Any new Puzzle Pieces have been placed in their appropriate menu button. A majority of new Puzzle Piece items have been integrated into their existing appropriate Puzzle Pieces menu position & can be accessed via the Home/End keyboard key. For example; the Diagonal Road Start/End Puzzle Piece is integrated along with the existing Orthogonal Road Start/End Puzzle Piece. Using the Home/End keyboard keys will rotate the item from

orthogonal to diagonal to orthogonal etc. The same applies to many other Puzzle Pieces containing a Diagonal component. Please see the [Contents](#) for more details.

- OneWayRoad Puzzle Pieces have been overhauled to address Pathing/Automata issues that currently exist with them. Most OneWayRoad Puzzle Pieces now contain Directional Enforcing & contain Directional Arrows to assist with their placement & general use. Please note: For this reason any existing OneWayRoad Puzzle Pieces should be checked, preferably bulldozed & replaced, especially if Pathing issues start to arise. The game should also be given some time to adjust & update because of this. This adjustment will ultimately reduce the Pathing/Automata issues that currently exist with this item & make them function more efficiently. Using either query tools &/or the bulldozing tool & highlighting OneWayRoad Puzzle Pieces (one tile at a time only) will show these Directional Arrows, & hence the flow of direction.
- The above paragraph subsequently also applies to OneWayRoad Overpasses.
- The existing 1x1 Avenue Filler Puzzle Piece has been overhauled to address pathing/automata issue that currently exist with the item & now contain Directional Enforcing. Please note: For this reason any existing 1x1 Avenue Filler Puzzle Pieces should be checked, preferably bulldozed & replaced, especially if Pathing issues start to arise. The game should also be given some time to adjust & update because of this. This adjustment will ultimately reduce the Pathing/Automata issues that currently exist with this item. Directional Arrows have now also been added to applicable 1x1 Avenue Filler Puzzle Pieces & preview models to assist with their placement & general use. Using either query tools &/or the bulldozing tool & highlighting applicable 1x1 Avenue Filler Puzzle Pieces (one tile at a time only) will show these Directional Arrows, & hence the flow of direction.
- Various other file item adjustments, improvements &/or fixes ~ of which there is too many to list.
- Main NAM.dat surpasses 8,000 files.

#### **05.03.08 (05.02.15B) (NAM 15)**

- Orthogonal Elevated Highway over Orthogonal Ground Highway Stack. Note; if you've used a previous (file) version of this in-game, for best usage be sure to bulldoze the item & re-build it.
- Diagonal Avenue transition into Orthogonal Road. To join, simply drag a straight road into a dead-end diagonal avenue.
- Orthogonal Road transition into Double Diagonal OneWayRoad – this must be joined using the Road tool, in a similar fashion as the Diagonal Avenue to Orthogonal Road transition above. Be sure when/if connecting this, that the Double Diagonal OneWayRoads' flow of traffic matches up with the road it's transitioning into.
- Elevated Highway transition into Double OneWayRoad – Orthogonal & Diagonal. The Elevated Highway tool must be used to join the two networks, in the same fashion as ElevatedHighway<>Avenue transition; in order to join, the OneWayRoad section of network must be two tiles width.
- Fixed a pathing issue with games original Diagonal Elevated Highway over Orthogonal Elevated Highway overpass, which prevented vehicles from using the whole of one side of the diagonal highway overpass.
- New Orthogonal Elevated Highway (Raised) over Diagonal Elevated Highway (Flat) Overpass. The Orthogonal portion of the Elevated Highway rises over the Diagonal portion of the Elevated Highway. This is in addition to the games original overpass of this type, which has the Diagonal portion rising over the Orthogonal portion. If the

conditions are right, this will be built automatically when using the Elevated Highway Tool.

- New Orthogonal Ground Highway (Raised) over Diagonal Ground Highway (Flat) Overpass. The Orthogonal portion of the Ground Highway rises over the Diagonal portion of the Ground Highway. This is in addition to the games original overpass of this type, which has the Diagonal portion rising over the Orthogonal portion. If the conditions are right, this will be built automatically when using the Ground Highway Tool.
- Minor fix of issues resulting from custom content (seems some particular custom related Overpasses have been unable to draw/build – this should now be fixed though).
- Double Diagonal Rail Merge, as well as new intersections related to this. It should now also be easier to draw/drag Double Diagonal Rail. Please note; that while numerous bugs related to this have been addressed, some may still exist.
- (Single) Orthogonal Rail x Double Diagonal Rail intersection, as well as new intersections related to this. Please note; that while numerous bugs related to the implementation of this have been addressed, some may still exist.
- A number of (other) Rail related (drawing) bugs &/or intersections addressed. Please note; that it may require bulldozing &/or (re-)drawing some sections/intersections of rail network in order for some of these addressed bugs to take effect.
- All existing Road/OneWayRoad/Avenue Overpasses, Puzzle Pieces, Ground & Elevated Highway Ramps Preview Models have been given a facelift.
- Following (diagonal-based) Puzzle Pieces added:
  - Orthogonal Road over diagonal/double diagonal Rail
  - Orthogonal Road over diagonal/double diagonal Road
  - Orthogonal Road over diagonal/double diagonal OneWayRoad
  - Orthogonal Road over diagonal Avenue
  - Orthogonal Road over diagonal GroundHighway
  - Orthogonal OneWayRoad over diagonal/double diagonal Rail
  - Orthogonal OneWayRoad over diagonal/double diagonal Road
  - Orthogonal OneWayRoad over diagonal/double diagonal OneWayRoad
  - Orthogonal OneWayRoad over diagonal Avenue
  - Orthogonal OneWayRoad over diagonal GroundHighway
  - Orthogonal Avenue over diagonal/double diagonal Rail
  - Orthogonal Avenue over diagonal/double diagonal Road
  - Orthogonal Avenue over diagonal/double diagonal OneWayRoad
  - Orthogonal Avenue over diagonal Avenue
  - Orthogonal Avenue over diagonal GroundHighway
  - Orthogonal Rail over diagonal/double diagonal Rail
  - Orthogonal Rail over diagonal/double diagonal Road
  - Orthogonal Rail over diagonal/double diagonal OneWayRoad
  - Orthogonal Rail over diagonal Avenue
  - Orthogonal Rail over diagonal GroundHighway

- Please note: Diagonal-based Puzzle Pieces are more temperamental. Extra care should be taken when interacting with these (placement, bulldozing etc.)

#### **04.11.29 (NAM 14)**

- All Ped Mall Tiles & Footbridges now contain YIMBY Effects. Specific details of the (YIMBY) Effects are as follows:
  - Type of Effect (Magnitude, Radius)
  - Landmark Effect (150,7)
  - Park Effect (150,7)
  - Mayor Rating Effect (5,8)
  - Air Pollution Reduction (-150,3)
  - Water Pollution Reduction (-100,3)
  - Garbage Reduction (-10,0)
- In addition Ped Mall Tiles now contain an extra 'Pedestrian Automata' Effect. Pedestrian Automata should now spawn on Ped Mall Tiles periodically from time to time in addition to the natural automata of Ped Mall Tiles.

#### **04.11.15 (NAM 13)**

- ElevatedHighway to GroundHighway Extended Transition (This is actually an Interchange item).
- Missing Paths fixed for the Avenue Y-Stack, causing a delayed reaction/freezing with the game when placed.
- Avenue curve missing Pedestrian Path files fixed; this prevented Sims from being able to walk along an Avenue Curve, & potentially preventing them from accessing Mass Transit buildings along Diagonal Avenue.
- Lights added to Elevated Rail Dual/Double-Decker Networking Pieces.
- Diagonal Avenue to Diagonal Road transition. The Avenue tool &/or Road tool can be used to connect the two on the diagonal.
- Orthogonal OneWayRoad to Orthogonal Road transition.
- Diagonal OneWayRoad to Diagonal Road transition.
- Improvements made to Double-Diagonal OneWayRoad to Diagonal Avenue Transition & Double-Diagonal OneWayRoad to Diagonal GroundHighway Transition. The OneWayRoad tool itself can now be used as well, to join to Diagonal Avenue/GroundHighway.
- Various GroundHighway, ElevatedHighway, & Avenue; intersections &/or tiles; fixes &/or improvements, & are as follows;
- GroundHighways & ElevatedHighways can now be shifted over sideways by just one tile in a single continuous stretch, thus removing the previous two tile restriction. This is applicable to both Orthogonal & Diagonal directions (try a little experimenting).
- Models, Textures, &/or Paths addressed as applicable for the following items (References to "S-Curve" can & do encompass a sideward shift of the network mentioned by one tile &/or two tiles, as applicable). Please note that some of these may still have some minor issues with them.
  - ElevatedHighway Curve by Orthogonal Street - Enabled



- ElevatedHighway S-Curve by Orthogonal Street - Implemented
- ElevatedHighway Curve by Orthogonal Road - Enabled
- ElevatedHighway S-Curve by Orthogonal Road - Implemented
- ElevatedHighway Curve by Diagonal Road - Enabled
- ElevatedHighway Curve by Orthogonal OneWayRoad - Fixed
- ElevatedHighway S-Curve by Orthogonal OneWayRoad - Implemented
- ElevatedHighway Curve by Diagonal OneWayRoad - Enabled
- ElevatedHighway Curve by Orthogonal Rail - Fixed
- ElevatedHighway S-Curve by Orthogonal Rail - Implemented
- ElevatedHighway Curve by Diagonal Rail - Enabled
- ElevatedHighway Curve by Orthogonal Avenue - Enabled
- ElevatedHighway Curve by Diagonal Avenue - Fixed
- ElevatedHighway S-Curve by Orthogonal Avenue - Enabled
- ElevatedHighway S-Curve by Diagonal Avenue - Fixed
- ElevatedHighway Curve by Orthogonal GroundHighway - Fixed
- ElevatedHighway Curve by Diagonal GroundHighway - Enabled
- ElevatedHighway S-Curve by Orthogonal GroundHighway - Fixed
- ElevatedHighway S-Curve by Diagonal GroundHighway - Enabled
- GroundHighway Curve by Orthogonal ElevatedRail - Improved
- GroundHighway S-Curve by Orthogonal ElevatedRail - Implemented
- GroundHighway Curve by Diagonal ElevatedRail - Enabled
- GroundHighway Curve by Orthogonal MonoRail - Improved
- GroundHighway S-Curve by Orthogonal MonoRail - Implemented
- GroundHighway Curve by Diagonal MonoRail - Enabled
- GroundHighway Curve by Orthogonal ElevatedHighway - Fixed
- GroundHighway Curve by Diagonal ElevatedHighway - Enabled
- GroundHighway S-Curve by Orthogonal ElevatedHighway - Fixed
- GroundHighway S-Curve by Diagonal ElevatedHighway - Enabled
- GroundHighway S-Curve by S-Curve ElevatedHighway - Implemented
- Avenue Curve by Orthogonal ElevatedRail - Fixed
- Avenue Curve by Diagonal ElevatedRail - Fixed
- Avenue S-Curve by Orthogonal ElevatedRail - Fixed
- Avenue Curve by Orthogonal MonoRail - Fixed
- Avenue Curve by Diagonal MonoRail - Fixed
- Avenue S-Curve by Orthogonal MonoRail - Fixed
- Avenue Curve by Orthogonal ElevatedHighway - Fixed
- Avenue Curve by Diagonal ElevatedHighway - Fixed
- Avenue S-Curve by Orthogonal ElevatedHighway – Fixed

#### 04.10.28 (NAM 12)

- Important note(s) regarding a known game issue. See the [Contents](#) or for more details.
- The optional Auto Prompting file is no longer supported. See the for more details.
- Ground Rail Puzzle Pieces.
- Additional Pedestrian Mall Tiles.
- Pedestrian Footbridges (Puzzle Pieces) added.
- Lights added to various Puzzle Pieces & Overpasses.
- Elevated Rail Dual Networking (This is only just new, & currently rather limited).
- Double-Diagonal OneWayRoads to Diagonal GroundHighway transition.
- Minor Path fixes; includes pathing for the games original 1x1 Road & 1x1 Street; having to many of these in a city (previously) caused issues with the game.
- 1x1 Rail single tile & pathing added ~ similar as above.

#### 04.09.04 (NAM 11)

- U-Drive-It for Elevated Rail.
- Avenue Y-Stack.
- New radical Traffic Plugin file. See the [Traffic Plugin](#) file for full details.
- Several path file changes & fixes pertinent to UDI EI Rail, & various other file improvements.
- NAM now contains well over 2100 files (This is just the main NAM .dat file, & doesn't take into account any of the other additional .dat files).

#### 04.08.14 (NAM 10)

- Monorail has been changed, so that it no longer creates Air Pollution - Note: The "[Traffic\\_Plugin](#)" file used must be replaced in order to make use of this; Be sure to let the game [city/cities] run for a few months so that it can update this.
- All Custom preview models now contain a 'red' [or bad] draw preview; that appears when a network item can not be placed.
- New intersections added;
- Orthogonal Elevated Highway x Double-Diagonal rail
- Orthogonal Elevated Highway x Double-Diagonal road
- Diagonal Elevated Highway x Double-Diagonal rail
- Diagonal Elevated Highway x Double-Diagonal road
- Orthogonal Elevated Rail x Double-Diagonal rail
- Orthogonal Elevated Rail x Double-Diagonal road
- Orthogonal Elevated Rail x Double-Diagonal OneWayRoad
- Diagonal Elevated Rail x Double-Diagonal rail
- Diagonal Elevated Rail x Double-Diagonal road
- Diagonal Elevated Rail x Double-Diagonal OneWayRoad
- Orthogonal Monorail x Double-Diagonal rail

- Orthogonal Monorail x Double-Diagonal road
- Orthogonal Monorail x Double-Diagonal OneWayRoad
- Diagonal Monorail x Double-Diagonal rail
- Diagonal Monorail x Double-Diagonal road
- Diagonal Monorail x Double-Diagonal OneWayRoads
- Orthogonal OneWayRoad x Double-Diagonal rail

#### **04.07.18 (NAM 9)**

- Double-Diagonal OneWayRoads - Note: The OneWayRoad Tool behaves slightly differently with these than with typical normal OneWayRoads. It's highly advisable you do not use the "NoOneWayRoadArrows" Mod with these as it may cause problems. Using these may take some trial & error.
- Double-Diagonal OneWayRoads to Diagonal Avenue transition.
- Complete overhaul of all Ped Mall Tiles and all Puzzle Pieces - The previous Flat Terrain requirement is no longer necessary in order to use & place these, even when next to each other. This includes now being able to place them on water. Note: Be mindful/careful of how you use these with the terrain.
- Orthogonal road by Double-diagonal Rail intersection.

#### **04.07.13 (NAM 8)**

- Diagonal Single-Sided Ramps added for all the [current Single Sided] Parallel Ground/Elevated Highway Ramps
- Improvements made to all custom Ground/Elevated Highway Single Sided Orthogonal Ramps-Terrain movement should now be minimized/minimal when placing orthogonal single sided ramps.
- Slight improvements made to the preview models for Ground/Elevated Highway Single Sided Parallel Ramps.
- Elevated Highway Avenue One-Sided [dual] Ramp [not single sided; but one sided].

#### **04.07.06 (NAM 7)**

- Various improvements made to the games original Elevated Highway 'X' type junction; which includes additional Rotation among other things.
- Improvements made to the games original Elevated Highway Orthogonal by Diagonal highway Overpass junction.
- Fixed an issue regarding Elevated Highway Perpendicular Single-Sided Road Ramps.
- Fixed an issue with Ped Mall Tiles, causing the game to crash [this should be fixed].

#### **04.07.02 (NAM 6)**

- Various improvements made to the games original Elevated Highway '+' type junction; which includes additional Rotation among other things.
- Four (4) Elevated Cloverleaf-based interchanges added.
- Optional Custom Highway Menu file added.

- A new feature added; Ped Mall Tiles.
- Various changes & improvements made to the documentation and files [both internal & external changes]
- A “[Q&A](#)” file added.
- Path fixes for Orthogonal by Diagonal Elevated Highway Interchange.

#### **04.06.19 (NAM 5)**

- Visual display issue fixed for the new Orthogonal by Diagonal Elevated Highway Interchange-This affected players using Software Mode.
- A number of Single-Sided Perpendicular & Parallel Ramps added for both Ground &/or Elevated Highway
- Puzzle Pieces added for OneWayRoad.
- New & Improved Menu Icons for additional menu buttons that this mod has added.
- Main mod file by default, no longer contains AutoPrompting.

#### **04.06.12 (NAM 4)**

- Orthogonal by Diagonal Elevated Highway Interchange added.
- Puzzle Pieces feature added. See the [Contents](#) file for list of Puzzle Pieces included.
- Various improvements made to the games original Ground Highway ‘+’ & ‘X’ type junctions; which includes additional Rotation among other things.

#### **04.06.04 (NAM 3)**

- Various New Overpasses added [see the [Contents](#) file].
- Elevated Highway single sided OnRamp & OffRamp added.

#### **04.05.09 (NAM 2)**

- Additional Network Overpasses added.
- Additional Traffic & Automata related Plugin options added. See the [Traffic Plugin](#) &/or [Automata Plugin](#) files for full details.
- Ground Highway to One way road transitions added.

#### **04.24.04 (NAM 1)**

- NetworkAddonMod Beta Version released. Please consult this file in conjunction with the [Contents](#) file for a list of Transit related items added for this mod to date.

### **8.4 Pre-NAM (before April 2004)**

- Textures changed for Street to Avenue intersections for better visual look.
- Made it possible to have double-wide diagonal rail transition into double wide orthogonal rail and vice-versa

- Created a work-around for a bug that prevented one-way roads from intersecting at a road-avenue t-intersection. In order to build this intersection, draw the one-way road last and draw it only to/from the tile next to the road/avenue intersection
- Made street intersections with road/avenue t-intersections easier. Draw the street last and draw it only to/from the tile next to the road/avenue intersection
- Made it possible for a orth 1-way road to intersect with a diag road/ave t-intersection
- Made it possible for a diag 1-way road to intersect with a orth road/ave t-intersection
- Fixed a visual bug that caused traffic to drive on the wrong side of the road on a diag ave-diag ave T-intersection.
- Fixed a bug that prevented U-turns on diagonal avenues that intersected or T-intersected with a diagonal road.
- Fixed a bug that prevented U-turns on orthogonal avenues that intersected with a diagonal avenue.
- Fixed a U-Drive-It bug for a ground rail intersection that previously did not allow you to switch the track while driving a train in U-Drive-It.
- On Avenue intersections between a straight (orthogonal) avenue and a diagonal avenue, Sims coming from the diagonal avenue could not turn left onto the straight avenue. This is fixed.
- The ability to dead end straight (orthogonal) roads or oneways into a diagonal avenue has been added. Thanks to Teirusu for the textures. Enjoy!
- Diagonal T interchanges have improved graphics.
- Sims could not drive straight through the road in a parallel road onramp to a ground highway when driving so the highway is on their right. This is fixed.
- One of the bugs causing cars to jump to different ramps on diagonal T ground highway interchanges was fixed.
- Avenue/oneway transitions now have custom graphics so they look better, textures compliments of Teirusu.
- When entering a ferry terminal in U-Drive it, your mission could fail instead of being redirected back onto the road. This is fixed, thanks to Karybdis.
- When driving over a ground level highway on an avenue overpass with onramps in the left lane, a U-Drive-it mission would fail. This is fixed.
- U turns immediately bordering avenue onramps on an avenue crossing a ground level highway could not be used by people just leaving or about to enter the highway. This is fixed.
- U turns immediately bordering avenue onramps on an avenue crossing an elevated highway could not be used by people just leaving or about to enter the highway. This is fixed.
- Half of the time Sims went underneath a diagonal elevated highway on a road with onramps, they could not turn left on the onramp. This has been fixed in Rush Hour.
- Half of the time Sims exited a diagonal elevated highway onto a diagonal road with offramps, they could not turn left on the road. This has been fixed in Rush Hour.
- Added the ability to end diagonal Oneways in a T-intersection with a perpendicular diagonal avenue.
- When Sims approached a diagonal avenue from a diagonal oneway, they could not turn left on the avenue. This is fixed.

- When Sims were driving on a diagonal avenue, they could not make a U-turn at half of the intersections with a perpendicular oneway road. This is fixed.
- Added the ability to end diagonal roads in a T-intersection with a perpendicular diagonal avenue.
- Fixed another avenue/oneway transition bug. It should be out of beta now, and fully operational with no further issues.
- Fixed avenue/oneway transitions so that U-Drive-it works in both lanes.
- Transitioning avenues to one way roads without an intersection.
- Previously, cars could not make some left turns onto a diagonal road when approaching from a straight one way road. This is now fixed.
- In three way monorail junctions, you could not change the switch's direction. Driving the monorail over the switch would end your U-Drive-It mission instantly. This has been fixed.
- 3 Bugs fixed which prohibited cars from turning in various directions when a diagonal road crossed a straight avenue.
- Avenues dead ending into streets were completely impassable by any form of transit.
- Perpendicular road to one way intersections oriented on the diagonal did not allow left turns from the one way.
- The rest of the perpendicular road to road intersections oriented on the diagonal were fixed. Sims could not turn left from one of the roads coming from either direction.
- Updated some intersections between avenues and one way roads to show better automata.
- Diagonal Avenues with grid aligned (non-diagonal) ground train tracks crossing the avenue would not allow any cars to pass.
- A road to road diagonal T intersection was not allowing Sims to turn left onto one of the roads.
- Continuing an avenue with one way streets from an avenue/one way intersection did not allow any cars to pass through the avenue/one way intersection.
- Sims could not turn left at some diagonal avenues when approaching from a diagonal road.
- Elevated rail lines crossing ground highways prevented cars from travelling on the ground highway below.
- North or Southbound one way roads could not create T intersections with Westward avenues.
- Some intersections between avenues and one way roads did not allow correct turns.
- Avenues dead ending into one way roads did not allow any Sims to pass through the intersection.
- On half of the perpendicular road to road intersections oriented on the diagonal, Sims could not turn left from one of the roads coming from either direction.

## 9 FAQs (Frequently Asked Questions)

The contents of this file aims to answer some of the more common questions and/or problems some users might come across with this mod. It is not intended to replace the but rather accompany it.

If at any time you have any technical problems and/or questions regarding the contents &/or features of the mod, it is strongly advised that you look through here before deciding to post on the forum/website.

### 9.1 Installation

#### 9.1.1 I am new to all this. Where can I find more information about this mod?

Anything that you may want to know or may need to know about this mod should be contained in the files that came with this mod. The Read Me contains links to most other information regarding this mod. Some of the files have links within them though, to other related items. It is up to you to make sure you read through the files to find what you may need. That is the whole reason why the documentation was made; to make it easier for people to find the information they want or need first without having to look through forums/websites.

#### 9.1.2 I play SimCity 4 in a different language. Are there any localized versions?

The NAM has been localized for both German and Japanese users, though these localizations may not be fully up to date with all current features. If you created another translation, please submit it to the NAM Team, so it can be included in the next version.

#### 9.1.3 I have just downloaded the newest version, but nothing works or only some things work & some things do not work.

95% of the time, player issues are a result of users not reading the properly or not at all. If something does not work, it is most likely because of a file conflict with the mod and/or the files have not been installed correctly. So you will need to read the specifically the section that deals with Compatibility & also What files to use; & then look through the Plugins folder to ensure no other files conflict with this mod & that the files in this mod are installed properly.

#### 9.1.4 I have tried everything, but I still cannot get anything to work or only some things work.

If you have tried everything, then this means you would have tried, &/or need to try, the following; temporarily remove anything and everything from both Plugins folders, except for this mod & the games 5 original BackGround.PNG files; then Start the game & Start ablank New City and then try out the different items that this mod contains. If this is done properly it will ensure that the mod works, at which point progressively place any other files [BATs/Lots/Mods/etc.] back into the Plugins folder, progressively testing the mod [in a Blank city] to make sure it still works. If at any point the mod no longer works, then that means a file conflict has occurred & you will need to pin-point exactly what file(s) is causing the problem.

#### 9.1.5 Can I use one of the included Traffic and/or Automata Plugin files in this mod & nothing else if I wanted to?

Yes. The main reason the Traffic & Automata Plugin files have been included is to help towards adding functionality for certain aspects contained as part of the Network Addon Mod

(PLEASE NOTE: If you have used the Installer to install the NAM, the NAM core files will be installed by default).

#### **9.1.6 Can I still use Traffic Cop?**

Please read the [link](#) regarding this, as it is covered in detail there.



## 9.2 Compatibility

### 9.2.1 I see duplicated Menu Icons [or Menu Buttons].

This means you have a doubled file in either one of the Plugins folders, that should not be there. This is the ONLY reason why replicated menu icons might appear in a menu. So search through both Plugins folders more thoroughly until you find the problem file(s).

### 9.2.2 I have a red arrow and cannot plop the new puzzle pieces.

This means you have an outdated version of the NAM Controller in your plugins folder. Please make sure that you installed the latest version. Use the NAM uninstaller and the BSC Cleanitol list or Cleanup functionality in the new cross-platform installer to remove outdated files.

### 9.2.3 Some puzzle pieces or other network items seem to block the traffic.

Make sure that you have installed the proper NAM version and NAM Controller. If issues still persist, pick up buggi's SC4ExtraCheats DLL plugin, and use the DrawPaths cheat to check the pathing functionality.

### 9.2.4 I have an old Transit\_BugFix\_ExpandedOptions file, and I want to keep it because of its features.

Remove/delete it from the Plugins folder. Anything & everything in that file [among other things] is included as part of the Network Addon Mod. The BSC Cleanitol file that is included in the NAM download will help you with this task.

### 9.2.5 I use this mod and now have problems of some sort with my game.

From time to time new additions included in this mod may affect existing items in/with the game. If you experience any pathing, automata &/or any other problems with any of the networks, &/or items contained in this mod, with the game when using this mod; in the first instance recheck your installation of this mod by following the & make sure you've read the & for any other relevant information. If a problem persists, in the next instance properly check, completely bulldoze & then rebuild the problem network tiles/items in question. The game should then be given some time to update as a result. If a problem still continues (even after 12-24 months game time) then this may indicate an issue with item(s) in question, in which case please report the problem with specific details so it can be looked into.

Please note that the NAM only affects transportation functionality, and any other simulator function that relies on transportation. If you have recently installed a number of plugins along with the NAM, it is also possible that one of the other plugins may be responsible, particularly if the issue does not pertain to transportation functionality (i.e. brown boxes, which are a sign of missing dependencies--the NAM has no dependencies).

### 9.2.6 I experience game crashing or my game crashes to the desktop when using this mod.

There is a known issue with the game that can cause this if certain conditions exist and/or are triggered. Please read the for more details.

#### **9.2.7 I use this mod, & now some of my buildings have messed-up textures on them, what gives?**

This is most likely due to a file conflict. The various parts of this mod have been made using a particular and necessary ID system for the network items; and the only time anything should or would conflict with this mod is if there is another file that is conflicting with it. This would only be due to a custom Mod/Lot/Bat file, as most of the files in this mod have been made so that they do not have conflicting issues with the games original files.

#### **9.2.8 Help! I've installed the new NAM version, and now some NAM items are missing in my cities!**

Most likely, those items are contained in optional plugins. When installing the NAM, make sure to select the same plugins that you installed with the last version of the NAM. If you kept your previous NAM installation in tact and installed the new one over top, the installer should recognize what you previously had installed.

#### **9.2.9 I use one of the "...Traffic\_Plugin" files, and my Sims no longer use Mass Transit or they use Mass Transit to much, what's going on?**

Most of the Traffic Plugin files alter the way the game's Traffic Pathfinding behaves. They work for the better so that Sims now commute from Point1 to Point2 more efficiently while still keeping their commuting preferences in mind. So if Sims are no longer using Mass Transit or using Mass Transit to much in a particular city, this means the Sims have found a more efficient way to get from Point1 to Point2. This can have a great deal to do with how a city [& region] has been structured &/or laid out. Essentially, people should [try to] alter the way they design their cities, and try build with the different zones being spaced further apart more.

## 9.3 Functionality problems

### 9.3.1 I can't place my GLR stations on the draggable GLR anymore.

The existing GLR stations have to be modified for the usage of draggable GLR. A patch for most stations will be available separately. It's not necessary to bulldoze stations that are already placed in your cities, though.

### 9.3.2 I use this mod and now some or all of my Transit Enabled Lots no longer work properly.

This mod contains a fix that affects Transit Enabled Lots for Left-Hand Version players. Please read the [for details regarding this fix.](#)

### 9.3.3 I cannot get U-Drive-It for Elevated Rail to work.

Read the [Contents](#) file as it explains how & what is necessary in order to access U-Drive-It for Elevated Rail.

### 9.3.4 When I use this mod, my computer &/or cities run very slow, why?

The general contents of this mod, especially many of the Traffic Plugin files which increase the accuracy of the games Traffic Pathfinding, may have an impact on the overall general performance of the game. What this does is increase the Resource usage of a computer, which subsequently has a roll-on effect & is why some people may experience a slowdown of their computer &/or cities. The more resources a computer has, namely faster CPU, the less of a problem this will be [typically]. Modern computers should be able to handle the better accuracy without any problems.

### 9.3.5 When I build an item contained in this mod, my game &/or computer momentarily freezes &/or locks-up when I build the item, what is going on?

This may potentially indicate a problem with the item being built, missing the necessary file(s) it needs to function properly. If this happens to you when building an item contained in this mod, then please report the problem with specific details so it can be looked into.

### 9.3.6 Why do I get asked to build overpasses all of the time, and can I stop it?

This will only occur if you are using the *NetworkAddonMod\_AUTOPROMPT\_Plugin.dat* file. There is no other reason why this would be happening. So if you do not want to be asked to build overpasses all of the time; then simply remove this file from the Plugins folder. This mentioned file is no longer supported though & should not be used. The BSC Cleanitol file that is included in the NAM download will help you with this task.

## 9.4 Miscellaneous information

### 9.4.1 When is this mod going to be complete and/or come out of development stage?

Maybe when Maxis releases the next version of SimCity? The files associated with this mod make it possible to continue adding certain additional network items for some time still.

### 9.4.2 What is the ANT item?

The ANT [Additional Network Tool] item in the mod was actually an unfinished item that Maxis left in the games files. Technically it is separate from the other networks, with its own capacity and speeds. As of the NAM 22 update of January 2008, the ANT Plugin has been discontinued and fully integrated into the RealHighway Mod (RHW; released separately). Please delete the *NetworkAddonMod\_ANT\_Plugin\_Beta.dat* from your plugins folder, or let the NAM installer and Cleanitol do it for you.

### 9.4.3 Can we change any of the networks to something else; for example; make them wider?

Anything that involves making a network wider, that requires using up more tiles width-wise, is currently not possible. However, the same effect can be achieved to a degree with Override Networks. The RealHighway Mod (RHW; released separately) Network Widening Mod (NWM; released separately) do get around this limitation to an extent by using the existing game networks with network override technology to wider networks.

### 9.4.4 When are more Interchanges, Overpasses, Ramps, Puzzle Pieces, & other items going to be released?

Any additional items made will be released when those making them are good and ready to release them. It may take weeks, sometimes a lot longer, to make something from beginning to end; and no amount of question asking and/or bothering is going to change this or speed up the process.

### 9.4.5 When is the mod going to be updated next?

When those working on it, are good and ready to. We won't provide any release dates (aside from that one time we did, and it didn't go well), and besides, we like to surprise people. ;-)

### 9.4.6 Is there anything I can do to help?

Yes. We are constantly looking for others to help with various items, especially Texturing/Skinning newly created models. Currently there is only a hand few of people working on this mod, & those currently involved may not always be [so] involved, so the extra help would be good [& some of us are willing to teach others with some of the aspects involved]. The more help all-round would mean some things may be made quicker. Some people have even helped without asking, going out of their way to make various items for this mod, and have thus earned the right to have their name placed in the Credits.

### 9.4.7 SimCity is just a game, all this just for a game, are you nuts?

Absolutely. :P

## 10 Credits & Special Thanks

The following named members of Simtropolis, SC4Devotion and SimCityPlaza have, for whatever particular reason, been specifically included here for their special contributions. Very special thanks goes towards them in the making, supplying, &/or supporting of this mod &/or its contents possible in one way shape or another:

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Webmaster & administration staff at Simtropolis, SC4Devotion and SimCityPlaza.

Members of the SFBT for the German translation, ToutSimCity for the French version and CSC for the Spanish version.

All (other) members of former Simtropolis Modd Squad, especially the Modd Squad founders.

And possibly others who may not have been mentioned. If your name has been forgotten or you're not on the list, then drop us a line, as it has been difficult to keep track of anyone/everyone that may of helped somewhere along the lines.

And to the community itself, especially to those that donate, we would also like to thank. For it is the community who keep the site alive, thus making mods such as this possible too.

And last but not least, a thanks for the Maxis individuals too, for the [paid] work that they do. ;-)