VDOT Accessibility Tool

User's Guide

Prepared

by

Caliper Corporation

for

Virginia DOT

January 2020

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INTRODUCTION

This document serves as the user's guide for the Accessibility Tool software developed by Caliper Corporation. It is intended to familiarize the modeler with its graphical user interface and model structure, and outline the software's features, capabilities, data requirements and settings.

Please refer to the project's final report for a description of the methodological details of the FAF software design, datasets, model, and implementation.

INSTALLING THE ACCESSIBILITY TOOL

The digital media delivered with the FAF flow tool includes the following:

1. Accessibility Dataset including all input and output files

The Accessibility software requires TransCAD Version 9.0 (64-bit) to run. A valid TransCAD license is required to run TransCAD 9. The steps to install the FAF Flow Tool are as follows:

1. Install TransCAD 9.0 by running the AutoRunTransCAD.exe program within the TransCAD 9.0 Installer folder
2. Copy the entire contents of the data folder into the location of your choosing

HARDWARE AND SOFTWARE REQUIREMENTS

The following are minimum and recommended hardware requirements for the tool:

Operating Systems

Windows 10, 8 (including 8.1), and 7 are supported. Older versions of Windows are no longer supported. Server versions of Windows (2008R2, 2012, 2012 R2, 2016, 2019) are supported only with a special TransCAD Remote Desktop license. 64-bit OS for all machines are required.

Processor

The Accessibility Visualizer tool benefits from the fastest processors, and we recommend 6, 8, or 12-core single and dual processor machines with those chips for running large models. The tool contains key multi-threaded procedures that automatically sense and take advantage of multiple cores and multiple CPUs. There are also procedures whose performance scales with the clock speed of the CPU, so higher clock speeds are always desirable.

Memory

As the tool is a fully 64-bit application, we recommend a minimum of 32GB of RAM and 64-bit Windows 10 (or 7).

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Hard Drive

Each FAF scenario requires close to about 50MB to 2GB of hard drive space per project scenario. SSD drives are recommended to improve performance.

Software

The Accessibility Tool requires TransCAD 9.0. Contact https://www.caliper.com/ovucntct.htm for information on acquiring a license for TransCAD or for acquiring a download of the TransCAD software.

ACCESSIBILITY TOOL FLOWCHART

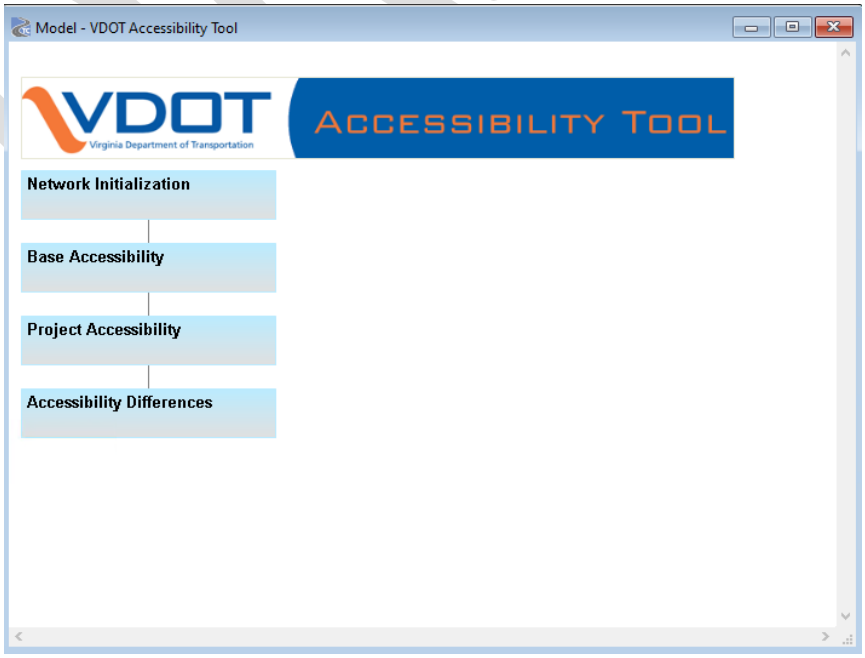
The Accessibility Model uses TransCAD's flowchart interface to help the user set up and run the model and project scenarios, and to view and change model inputs, outputs, and parameters. The flowchart approach employs boxes connected in a logical sequence that mirrors the accessibility model process flow. Users can clearly visualize its component steps and interact with the same to view, modify and edit its constituent inputs and parameters.

The flowchart interface and TransCAD platform offers the following benefits:

- An intuitive graphical user interface to interact with the model and its settings.
- A built-in database engine to efficiently manage the heavy intermediate outputs generated.
- A ready-made GIS for quickly and efficiently visualizing, analyzing and exporting model inputs and outputs.

Opening the Accessibility Model Flowchart

1. Open TransCAD.
2. Choose File-Open, select the "model" file type from the drop-down list, and browse out Accessibility.model located in the install folder.
3. TransCAD loads the Accessibility model framework and displays the flowchart:



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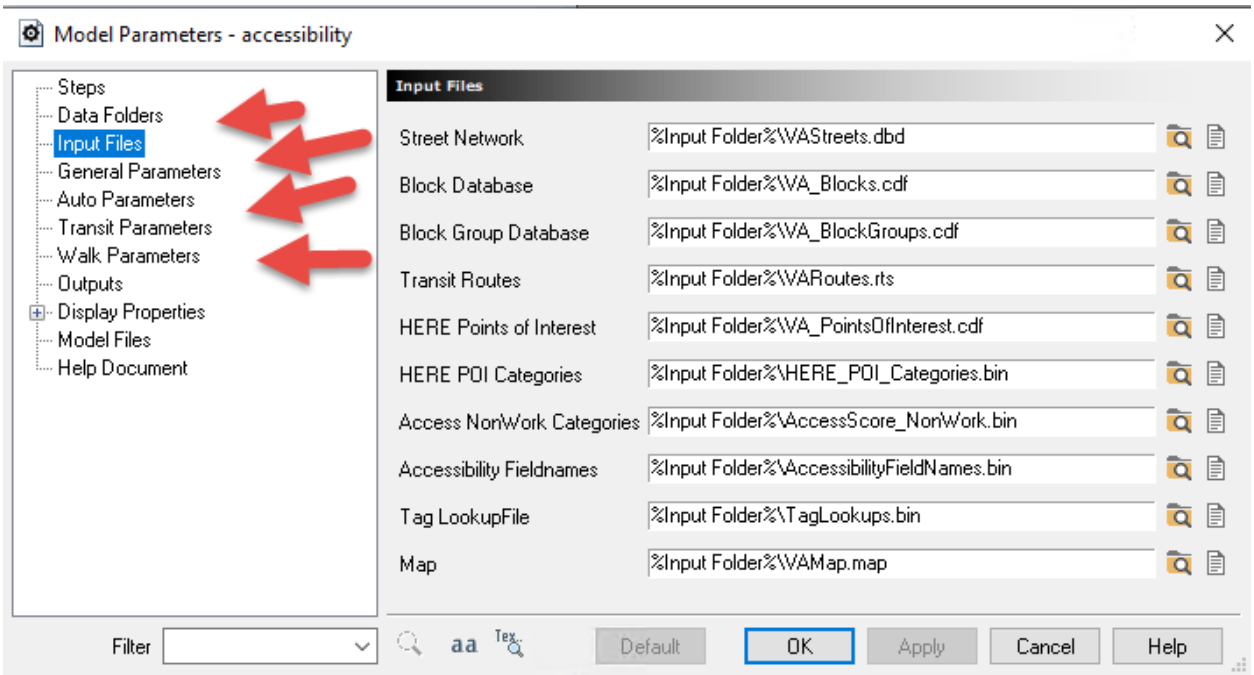
Viewing and Setting Files and Parameters

You can view and set files and parameters for any step by first double-clicking on the flowchart to open the Parameters dialog box:



Click any of the items to view the parameters for the item. Parameters are organized into the following sections:

- General Parameters
- Auto Parameters
- Transit Parameters
- Walk Parameters

Model data folders are organized in the Data Folders section. The main Base Folder is set to the folder the the user installed the model to. All other folders and subsequent input and output files are set as subfolders to the main Base Folder:

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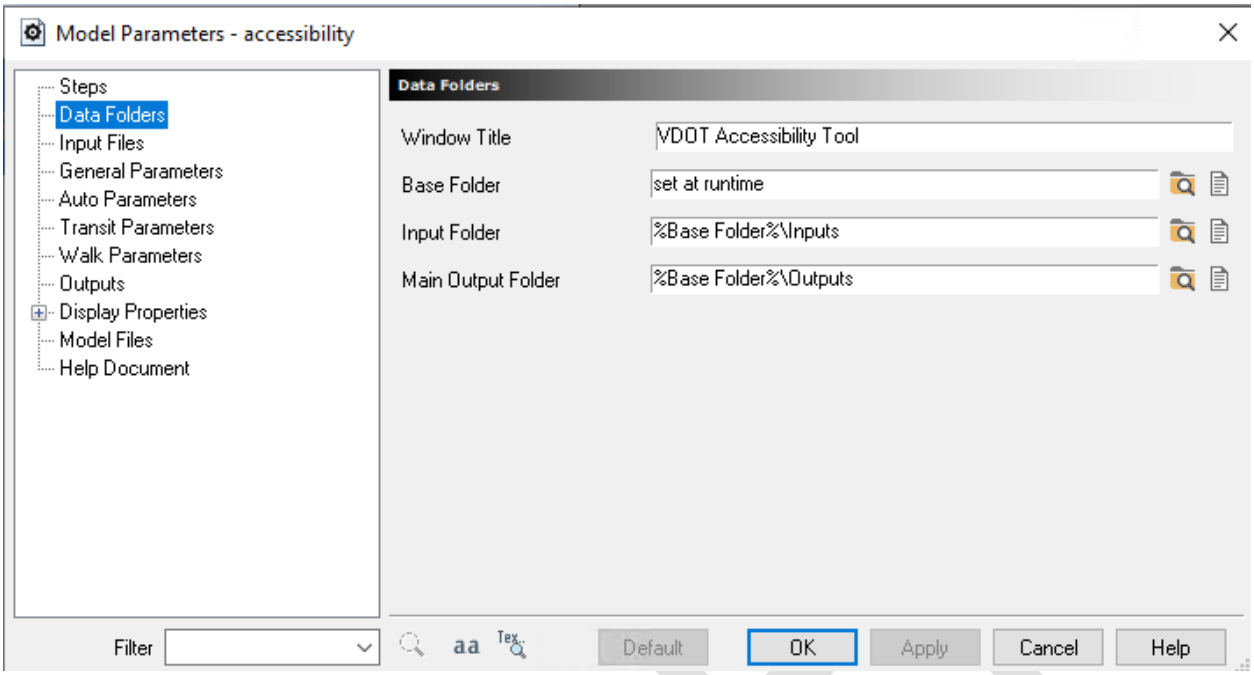

Input and output files are organized into the following sections:

- Input Files
- Outputs

Descriptions of each parameter and input and output file are detailed later in this manual.

Click to open each input or output file. To change the file name, type in new value or click to browse for a new file. Alternatively, you can right-click on the flowchart and choose *Draw Model-Draw Parameters* to show all input and output files associated with each step:

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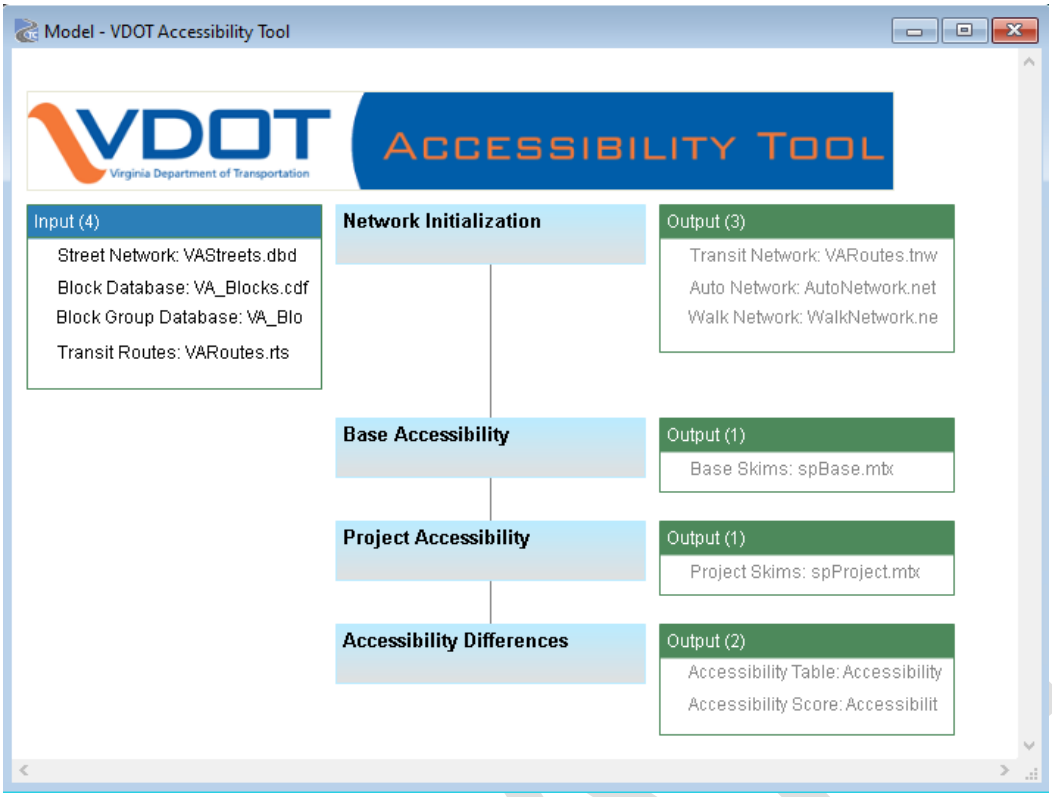


To open any of these files in this interface, click on a file and choose "Open". More detailed documentation on using flowcharts can be found in *Chapter 19, Model Manager* of the TransCAD Travel Demand Model Guide.

The process boxes in the flowchart are described briefly below.

Network Initialization: This box creates the highway, transit, or walk network from the base and project information using speed and LOS network information.

Base Accessibility: This box calculates travel time skims and zonal accessibilities for the base case.

Project Accessibility: This box calculates travel time skims and zonal accessibilities for the project case.

Accessibility Differences: This box calculates the zonal accessibility differences between base and project and calculates an accessibility score for the project.

Running the Accessibility Model

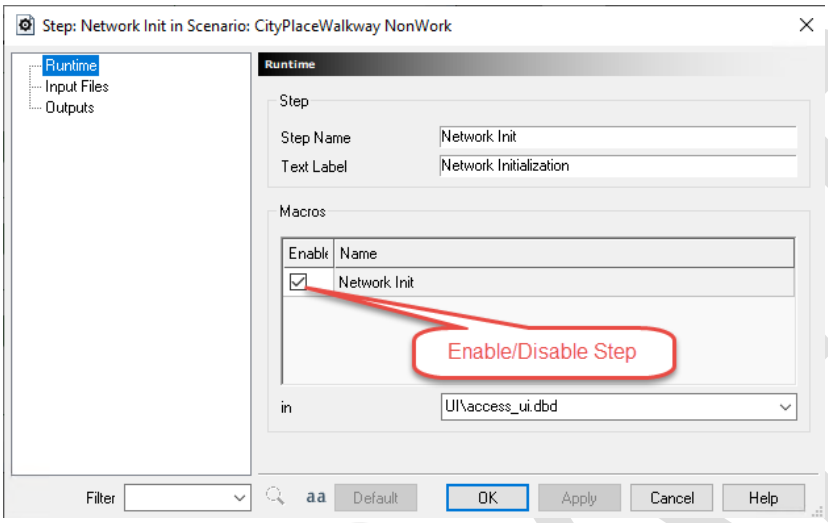
You may run the entire model by right-clicking on the flowchart outside of any model step and choosing *Run Model*. You may run a model step by right-clicking an appropriate box and selecting *Run Model.* Generally, the model run will begin from the Network Initialization box after ensuring that all input files exist.

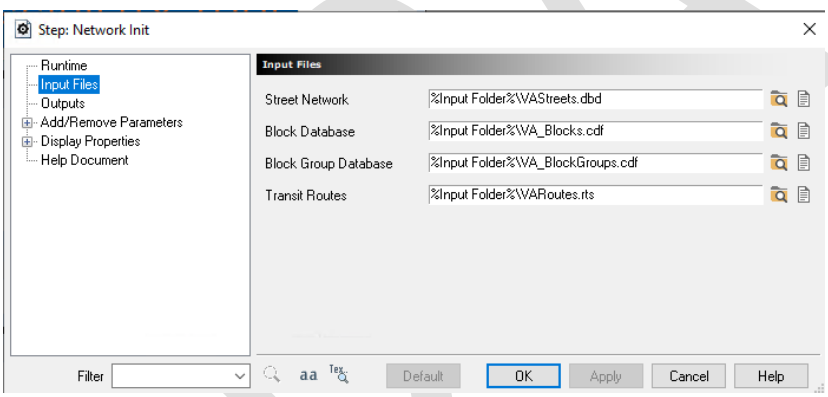
The flowchart interface highlights the step that is currently being executed, and displays progress bars for more a more detailed status update:

ACCESSIBILITY FLOWCHART FUNDAMENTALS

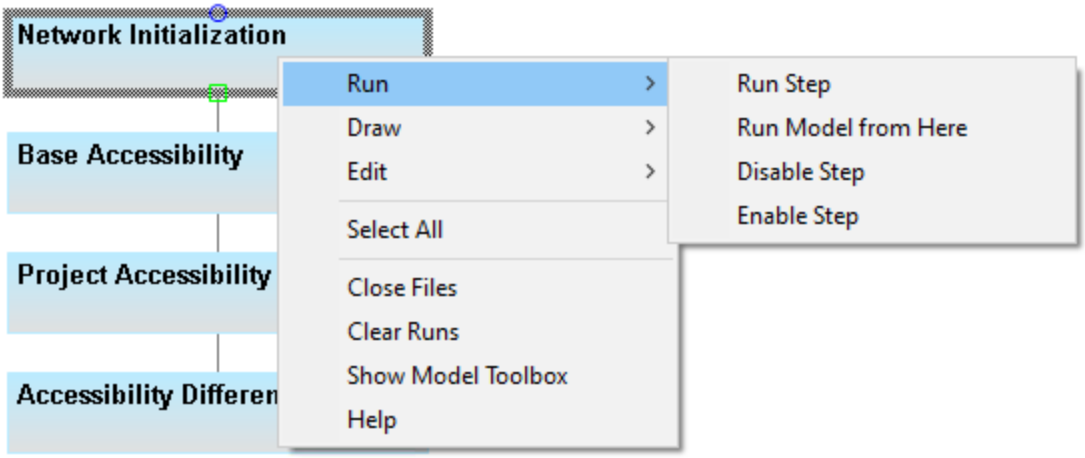
Reviewing/Running Model Steps

Double-clicking on any model step opens the Model Parameters dialog box and displays the input and output files and parameters specifically for that model step. Also, in the Runtime section, the substeps for the model are listed with the option for enabling or disabling specific substeps during the model run. The example below shows the Accessibility Input File and Runtime section options for the Commodity Generation step:



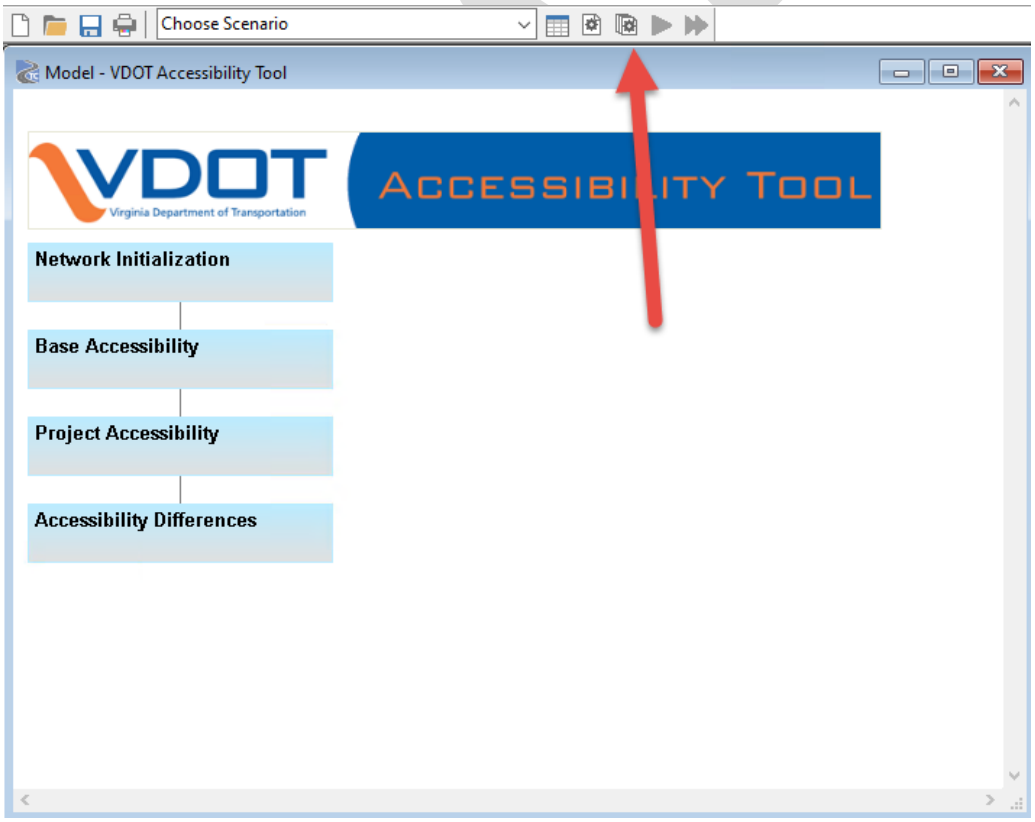


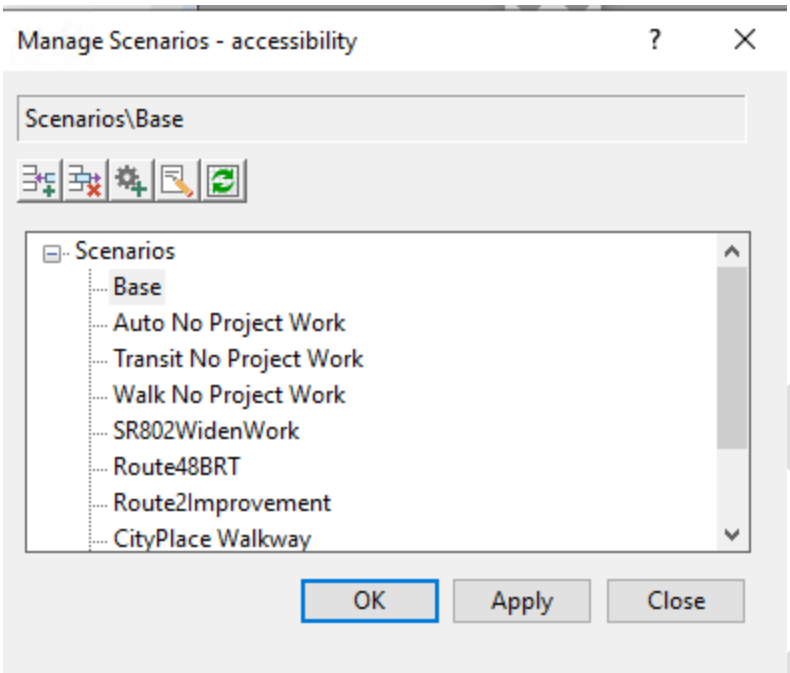
If you right-click on the step, you can choose Run-Run Step to run just that step of the model or choose Run Model From Here to run the enter accessibiilty model from that step onwards:



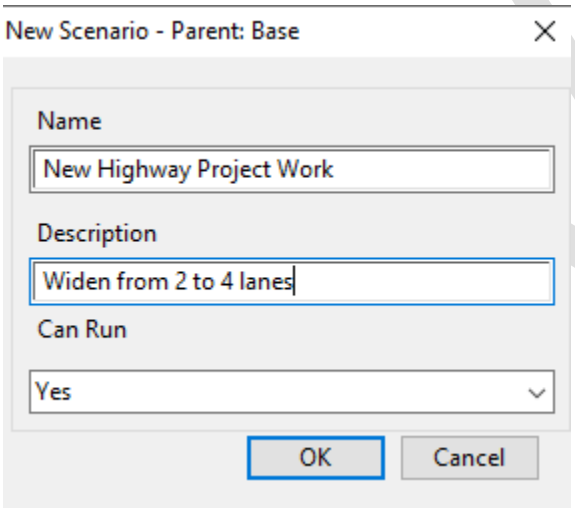
RUNNING SCENARIOS/SETTING UP PROJECTS

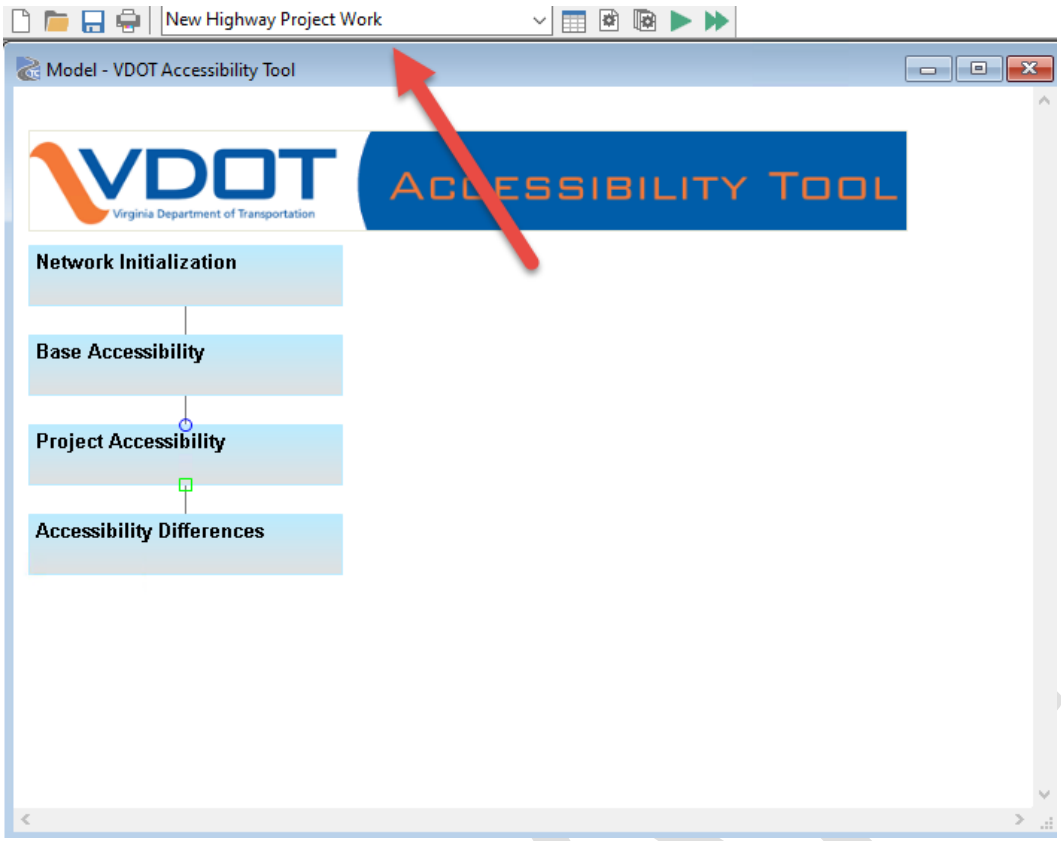
The flowchart interface lets you set up and run new scenarios and projects where you can change inputs or parameters and run the model based on the changes. You can define scenarios by clicking on the button after you open up the FAF flowchart model and open the Manage Scenarios dialog box.





To create a new scenario or project, click on the button and enter in the new scenario name and description, click OK, and then make sure that you choose the scenario in the Scenarios list:





Once the scenario is chosen, you can double-click on the flowchart to go into the parameter editor and change parameter values, files, and folders to reflect the scenario. Parameter changes will only be applied to the scenario. As an example, for the New Highway Project Work project, you may want to change both the Project ID and the period.

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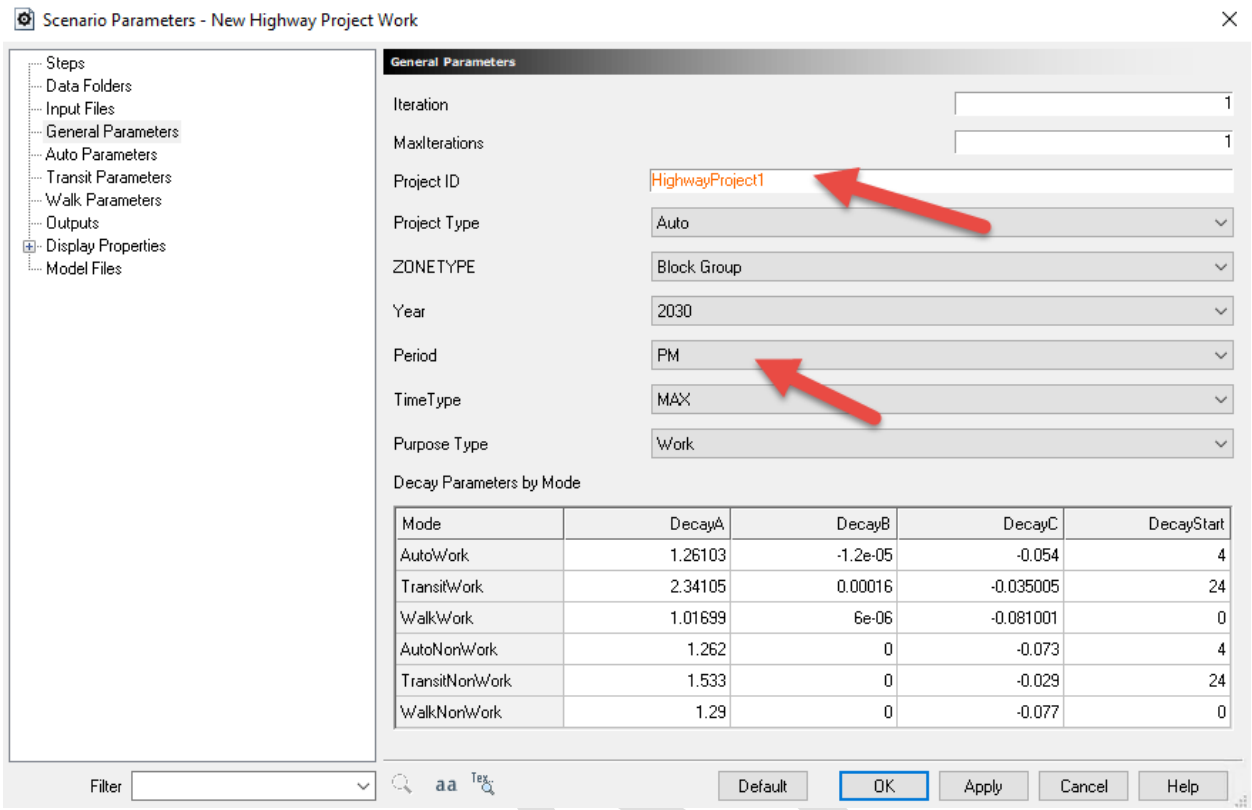


All changed parameters will be color coded. When you run the model, all output files will be placed in a newly created folder with the same as the scenario (i.e. New Highway Project Work) and will reflect the new parameters. You can switch between scenarios in the scenario dropdown list to run different scenarios/projects. Scenario information is stored in a text file. The scenario file has a .scenario extension and is found in the same folder as the .model file. Each scenario stores information on all parameter values that are different from the default values. For the example scenario described previously, the contents of the .scenario file are below:

```
Scenario "New Highway Project Work"
    Scenario.Description = "Wident from 2 to 4 Lanes"

    [Base Folder] = "%Model Folder%\\"
    [Project ID] = "HighwayProject1"
    Period = "PM"
EndScenario
```

More detailed information about scenarios and the interacting with flowcharts in general can be found in the TransCAD Travel Demand Manual, Chapter 19 – Model Manager. The documentation will later go through a complete example of creating and running a new highway, transit, and walk project.

ACCESSIBILITY MENU ENTRIES

When you open the accessibility model, several items appear in the Accessibility Model menu. This section describes each menu entry.

Toggle PB Accessibility Visualizer

This item opens the Accessibility Visualizer. The visualizer is documented at the end of the user guide.

Preprocess Transit

This menu item should be called after transit edits are performed or after any of the default transit settings have changed This menu item regenerates all necessary transit inputs whenever the base transit network or its settings have changed.

Select Project Links

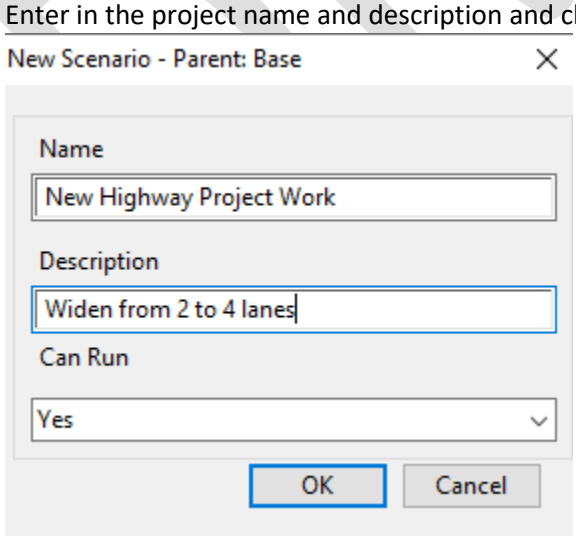
This menu item opens a map window, selects all links, routes, or stops associated with the current project, and zooms to the current project. The utility also opens data windows that show all the speed, LOS, and other route and stop fields that should be filled in to define base and project speeds and other project characteristics.

CREATING A NEW PROJECT

This section describes step-by-step recommended instructions on creating, specifying, and running new highway, walk, and transit projects.

Creating a New Highway Project

1. Open the Accessibility.model flowchart model
2. Click to open the Manage Scenarios dialog box, then choose Scenarios and click to add a new scenario/project.
3. Enter in the project name and description and click OK.



4. Choose the scenario from the top drop-down menu.

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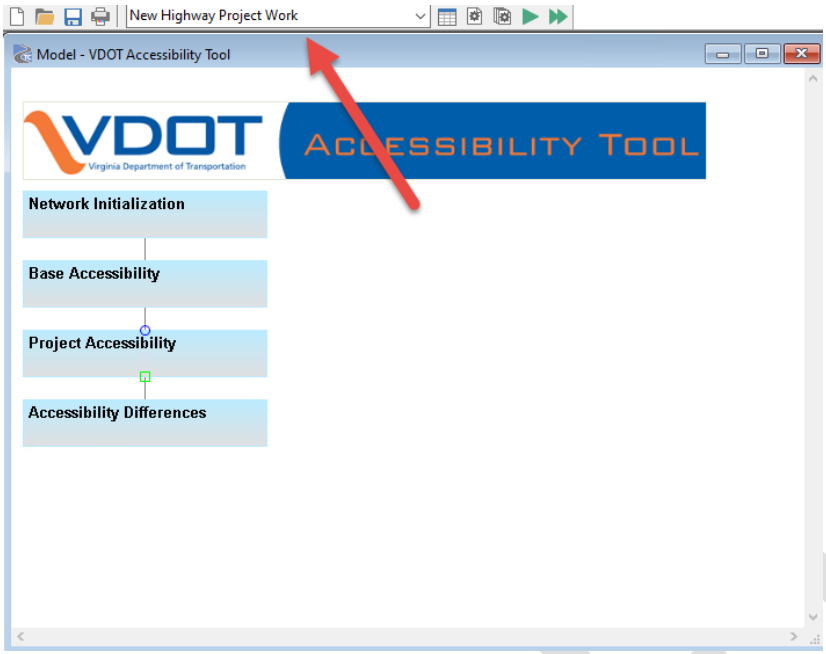
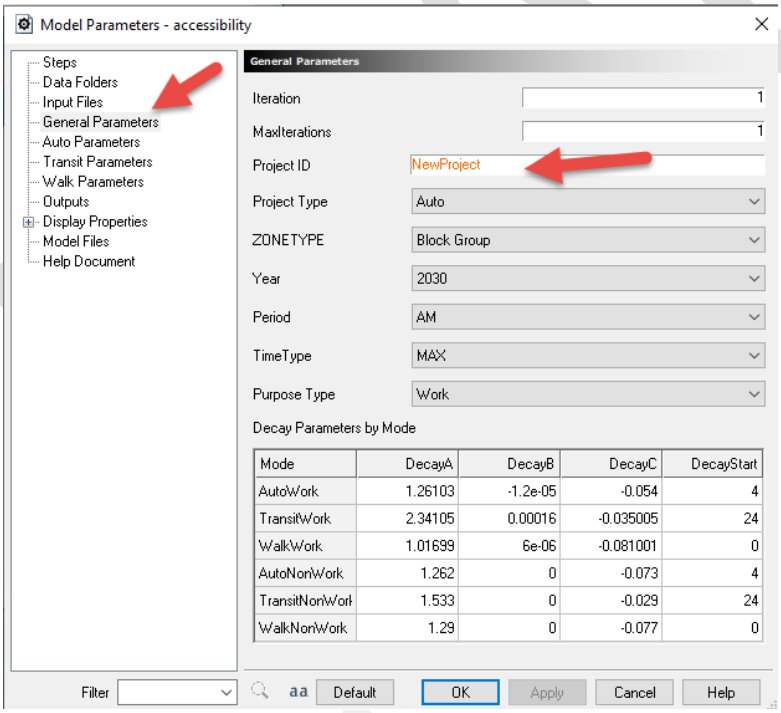
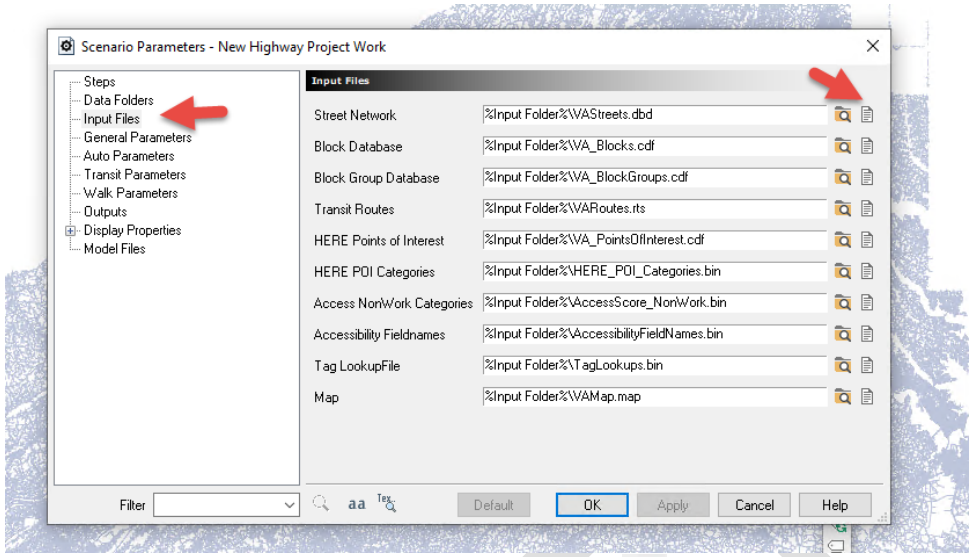


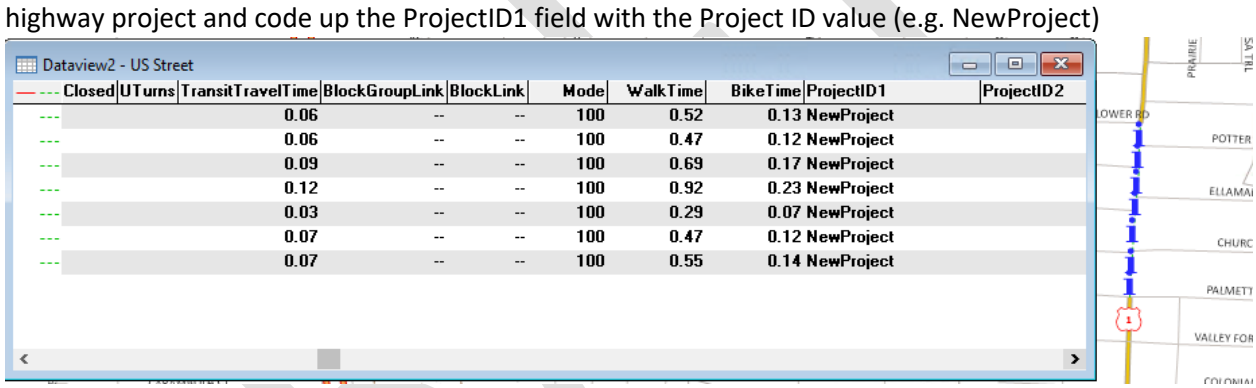
5. Double-Click on the flowchart or click to view files and settings for the scenario/project
6. Click on General Parameters and enter in a Project ID name. Make a note of the project ID name. Make sure that the Project Type is set to "Auto". If necessary, change other General or Auto parameters. Appendix A describes each parameter.



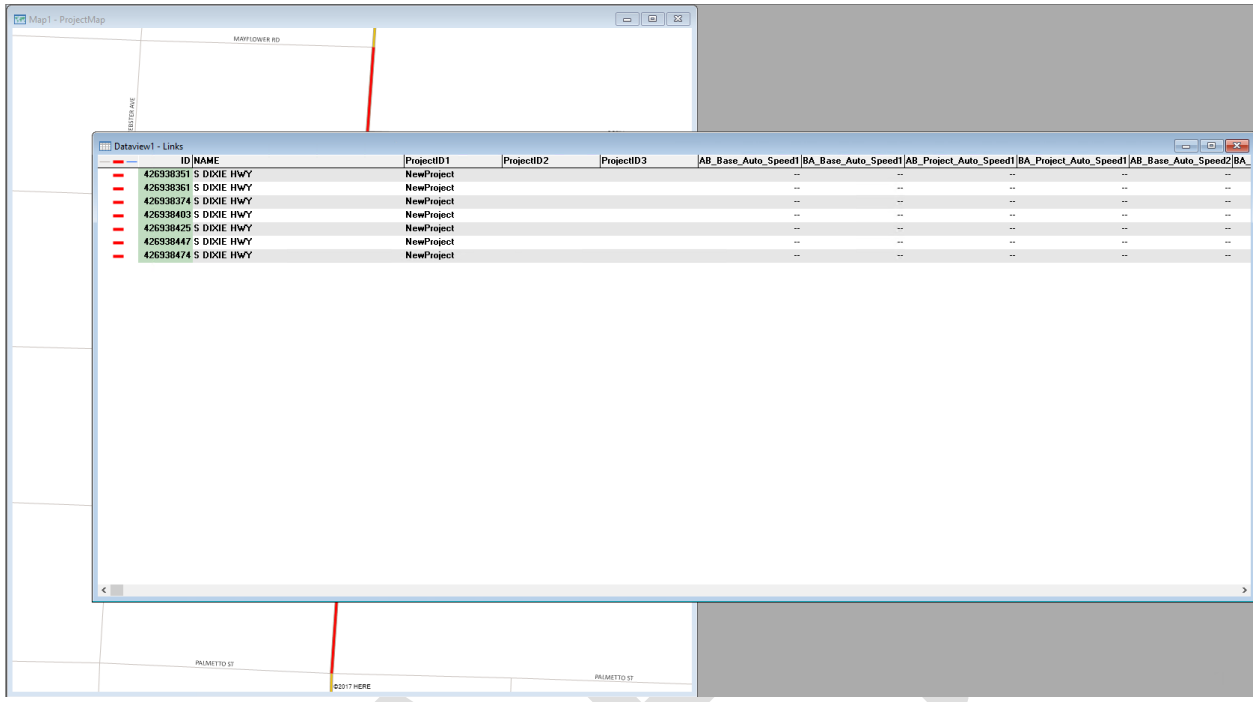
7. Click on Input Files and click next to the street network to open the street network, then click OK to close the dialog box.



8. In the street map, using the TransCAD select or Info tool, identify all links that are part of the highway project and code up the ProjectID1 field with the Project ID value (e.g. NewProject)



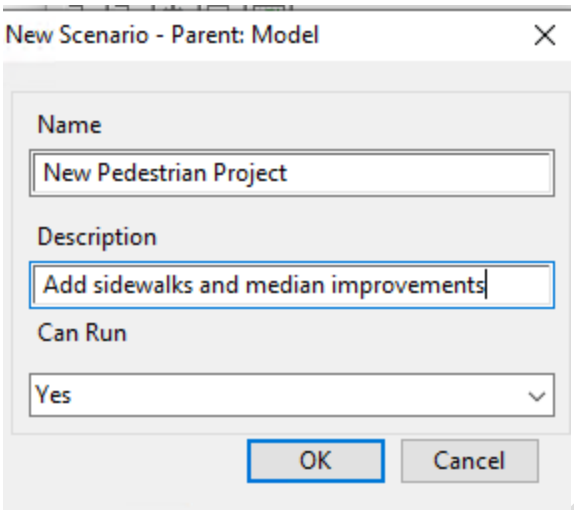
9. Choose Window-Model-VDOT Accessibility Tool to go back to the flowchart window, then right-click and choose Close Files to close all open map windows. Then choose Accessibility-Select Project Links to select all links coded with "NewProject". A new map appears which selects out the project links. A new data window appears which shows all fields that can be coded for the project:



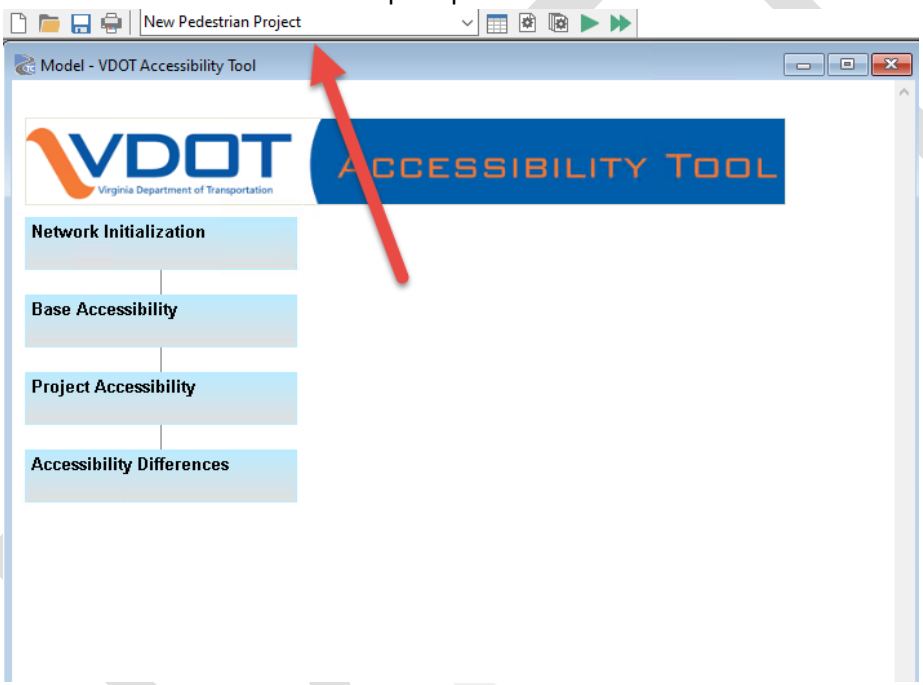
10. If Base auto speeds for the links are to be different from the HERE congested defaults, enter them in in the AB_Base_Auto_Speed1 and BA_Base_Auto_Speed1 fields. Otherwise, code in the revised speeds after the project is complete in the AB_Auto_Project_Auto_Speed1 and BA_Auto_Project_Speed1 fields. Use the Speed2 and Speed3 fields if necessary when there is already an existing project coded for the link.
11. If the project links exists in the base, put in "1" in the InludeLinkInBase field. If the project link exists in the project, put in "1" in the IncludeLinkInProject field.
12. Close both the data window and the map to go back to the flowchart. Run the model by right-clicking on the flowchart and choosing Run Model. All outputs will be in a newly created folder that is named after the scenario name. (e.g. New Highway Project Work)

Creating a New Pedestrian Project

1. Open the Accessibility.model flowchart model
2. Click to open the Manage Scenarios dialog box, then choose Scenarios and click to add a new scenario/project.
3. Enter in the project name and description and click OK.

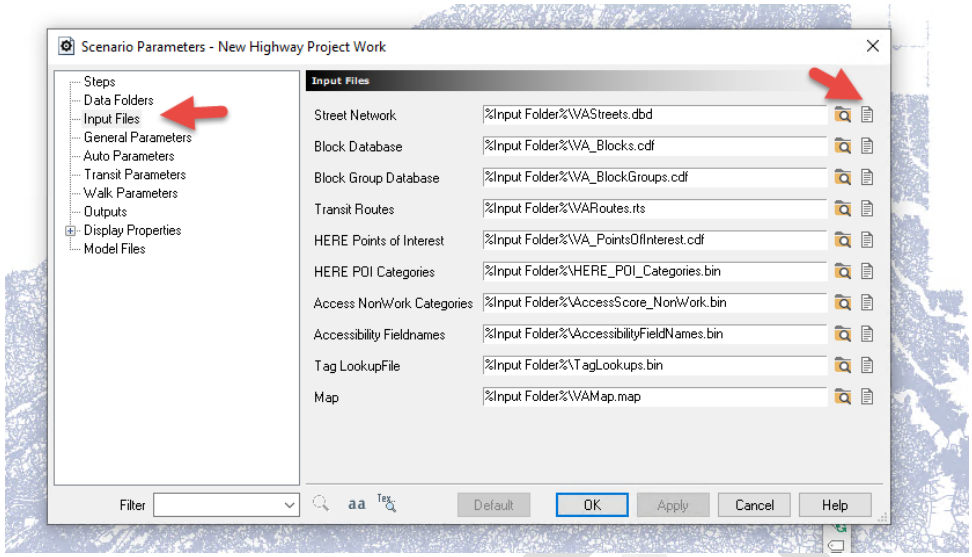


4. Choose the scenario from the top drop-down menu.

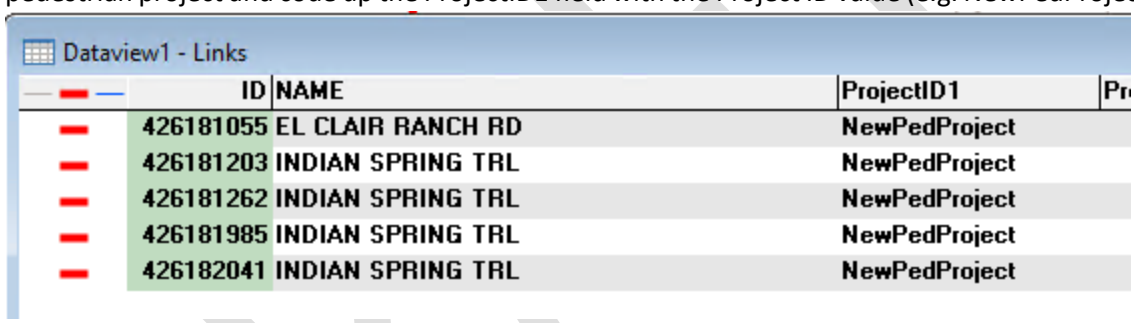


5. Double-Click on the flowchart or click to view files and settings for the scenario/project
6. Click on General Parameters and enter in a Project ID name. Make a note of the project ID name. Make sure that the Project Type is set to "Walk". If necessary, change other General or Walk parameters. Appendix A describes each parameter.

7. Click on Input Files and click next to the street network to open the street network, then click OK to close the dialog box.



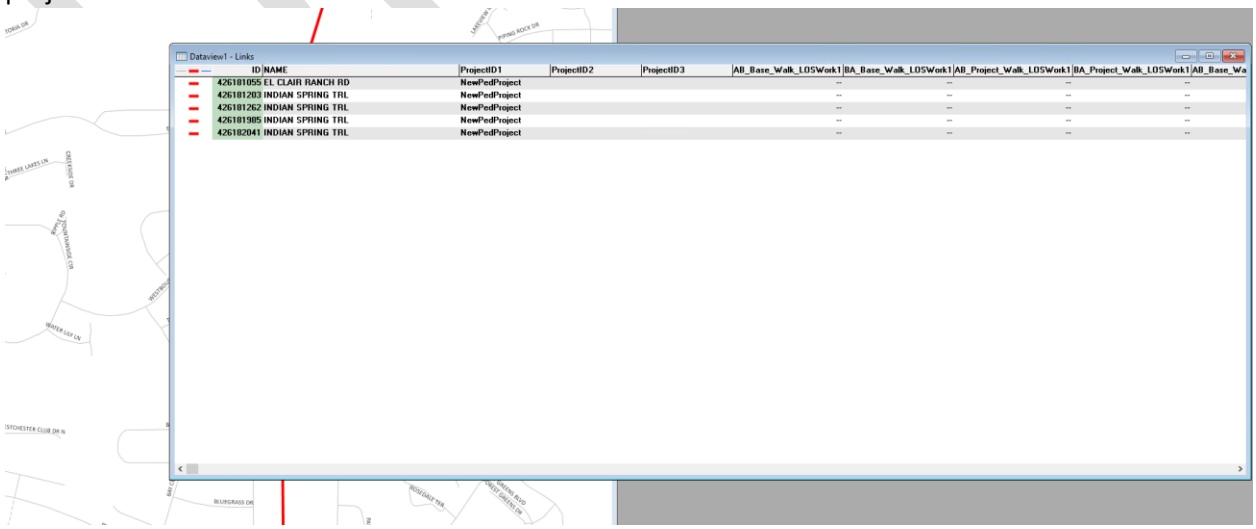
8. In the street map, using the TransCAD select or Info tool, identify all links that are part of the pedestrian project and code up the ProjectID1 field with the Project ID value (e.g. NewPedProject)



Dataview1 - Links

ID	NAME	ProjectID1	Pr
426181055	EL CLAIR RANCH RD	NewPedProject	
426181203	INDIAN SPRING TRL	NewPedProject	
426181262	INDIAN SPRING TRL	NewPedProject	
426181985	INDIAN SPRING TRL	NewPedProject	
426182041	INDIAN SPRING TRL	NewPedProject	

9. Choose Window-Model-Palm Beach Accessibility Tool to go back to the flowchart window, then right-click and choose Close Files to close all open map windows. Then choose Accessibility-Select Project Links to select all links coded with "NewPedProject". A new map appears which selects out the project links. A new data window appears which shows all fields that can be coded for the project:



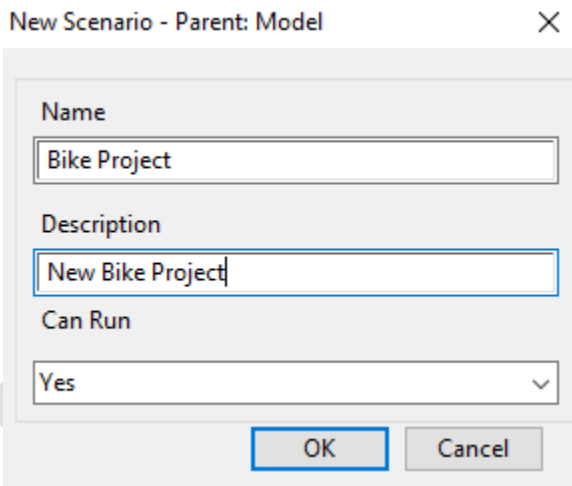
Dataview1 - Links

ID	NAME	ProjectID1	ProjectID2	ProjectID3	AB_Base_Walk_LOSWork1	BA_Base_Walk_LOSWork1	AB_Project_Walk_LOSWork1	BA_Project_Walk_LOSWork1	AB_Base_Wa
426181055	EL CLAIR RANCH RD	NewPedProject			--	--	--	--	
426181203	INDIAN SPRING TRL	NewPedProject			--	--	--	--	
426181262	INDIAN SPRING TRL	NewPedProject			--	--	--	--	
426181985	INDIAN SPRING TRL	NewPedProject			--	--	--	--	
426182041	INDIAN SPRING TRL	NewPedProject			--	--	--	--	

10. Base pedestrian LOS values are automatically calculated based on the facility type of the link, number of lanes, and posted speed. If Base LOS for the links are to be different from defaults, enter them in in the AB_Base_Walk_LOS_Work1/BA_Base_Walk_LOS_Work1 and AB_Base_Walk_LOS_NonWork1/BA_Base_Walk LOS_NonWork1 fields. Otherwise, code in the revised LOS values after the project is complete in the AB_Project_Walk_LOS_Work1/BA_Project_Walk_LOS_Work1 and AB_Project_Walk_LOS_NonWork1/BA_Project_Walk_LOS_NonWork1 fields. Use the LOS2 and LOS3 fields if necessary when there is already an existing project coded for the link.
11. If the project links exists in the base, put in "1" in the InludeLinkInBase field. If the project link exists in the project, put in "1" in the IncludeLinkInProject field.
12. Close both the data window and the map to go back to the flowchart. Run the model by right-clicking on the flowchart and choosing Run Model.

Creating a New Bike Project

1. Open the Accessibility.model flowchart model
2. Click to open the Manage Scenarios dialog box, then choose Scenarios and click to add a new scenario/project.
3. Enter in the project name and description and click OK.



4. Choose the scenario from the top drop-down menu.

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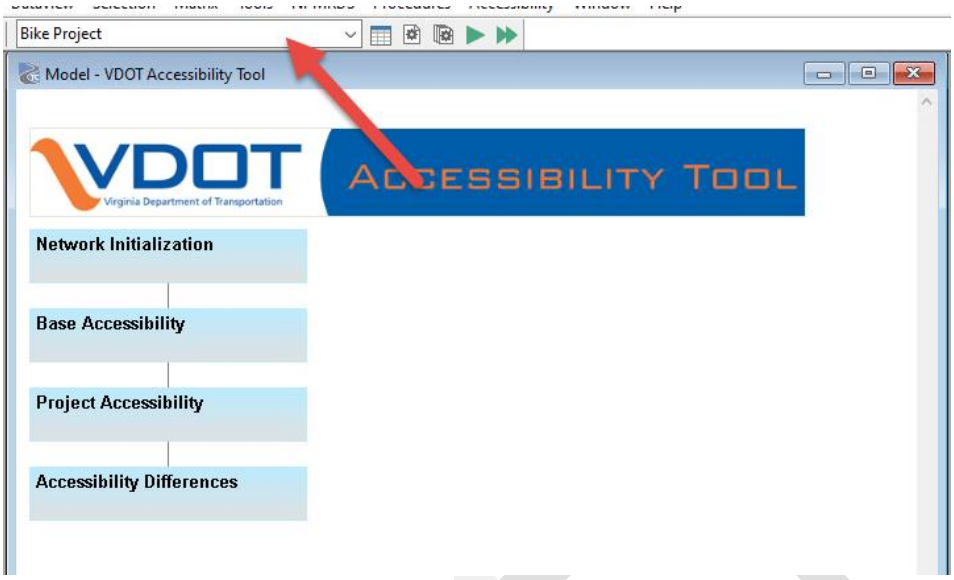
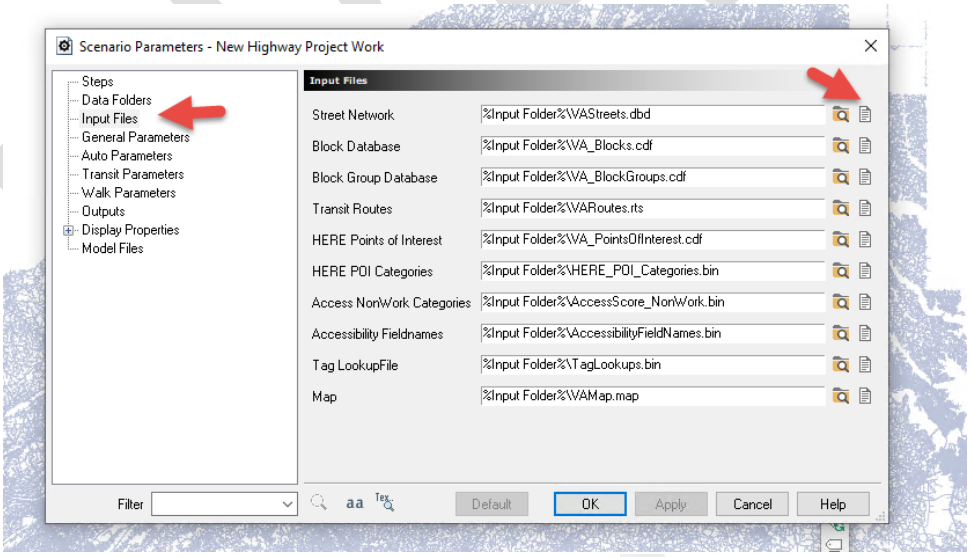


5. Double-Click on the flowchart or click to view files and settings for the scenario/project
6. Click on General Parameters and enter in a Project ID name. Make a note of the project ID name. Make sure that the Project Type is set to "Bike". If necessary, change other General or Bike parameters. Appendix A describes each parameter.

7. Click on Input Files and click next to the street network to open the street network, then click OK to close the dialog box.

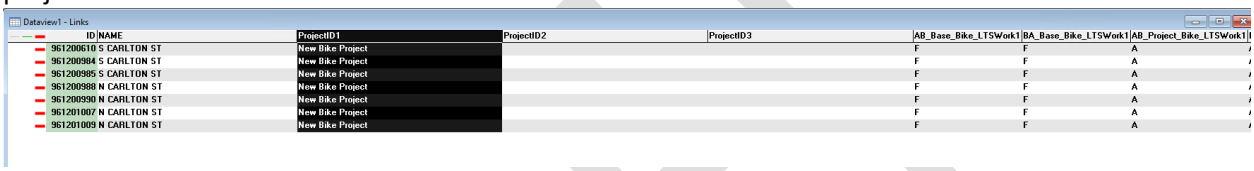


8. In the street map, using the TransCAD select or Info tool, identify all links that are part of the pedestrian project and code up the ProjectID1 field with the Project ID value (e.g. NewPedProject)

Dataview1 - Links

ID	NAME	ProjectID1	ProjectID
961200610	S CARLTON ST	New Bike Project	
961200984	S CARLTON ST	New Bike Project	
961200985	S CARLTON ST	New Bike Project	
961200988	N CARLTON ST	New Bike Project	
961200990	N CARLTON ST	New Bike Project	
961201007	N CARLTON ST	New Bike Project	
961201009	N CARLTON ST	New Bike Project	

9. Choose Window-Model-Palm Beach Accessibility Tool to go back to the flowchart window, then right-click and choose Close Files to close all open map windows. Then choose Accessibility-Select Project Links to select all links coded with "NewPedProject". A new map appears which selects out the project links. A new data window appears which shows all fields that can be coded for the project:



ID	NAME	ProjectID1	ProjectID2	ProjectID3	AB_Base_Bike_LTSWork1	BA_Base_Bike_LTSWork1	AB_Project_Bike_LTSWork1
961200610	S CARLTON ST	New Bike Project			F	F	A
961200984	S CARLTON ST	New Bike Project			F	F	A
961200985	S CARLTON ST	New Bike Project			F	F	A
961200988	N CARLTON ST	New Bike Project			F	F	A
961200990	N CARLTON ST	New Bike Project			F	F	A
961201007	N CARLTON ST	New Bike Project			F	F	A
961201009	N CARLTON ST	New Bike Project			F	F	A

10. Base bike LTS values are automatically calculated based on the facility type of the link, number of lanes, and posted speed. If Base LOS for the links are to be different from defaults, enter them in in the AB_Base_Bike_LTSWork1/BA_Base_Bike_LTSWork1 and AB_Base_Bike_LTSNonWork1/BA_Base_Bike_LTSNonWork1 fields. Otherwise, code in the revised LOS values after the project is complete in the AB_Project_Bike_LTSWork1/BA_Project_Bike_LTSWork1 and AB_Project_Bike_LTSNonWork1/BA_Project_Bike_LTSNonWork1 fields. Use the LTS2 and LTS3 fields if necessary when there is already an existing project coded for the link.
11. If the project links exists in the base, put in "1" in the InludeLinkInBase field. If the project link exists in the project, put in "1" in the IncludeLinkInProject field.
12. Close both the data window and the map to go back to the flowchart. Run the model by right-clicking on the flowchart and choosing Run Model.

Creating a New Transit Project

1. Open the Accessibility.model flowchart model
2. Click to open the Manage Scenarios dialog box, then choose Scenarios and click to add a new scenario/project.
3. Enter in the project name and description and click OK.

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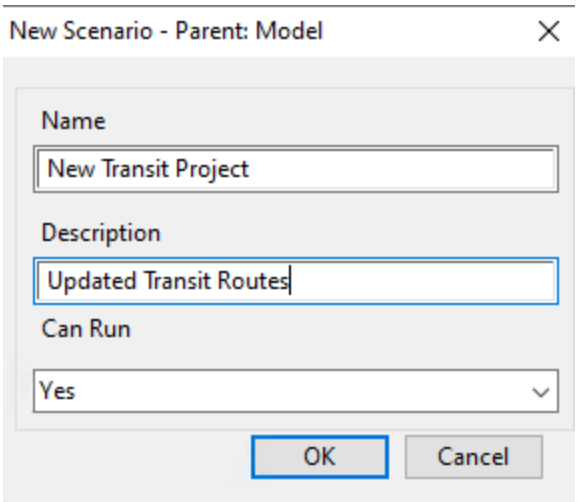
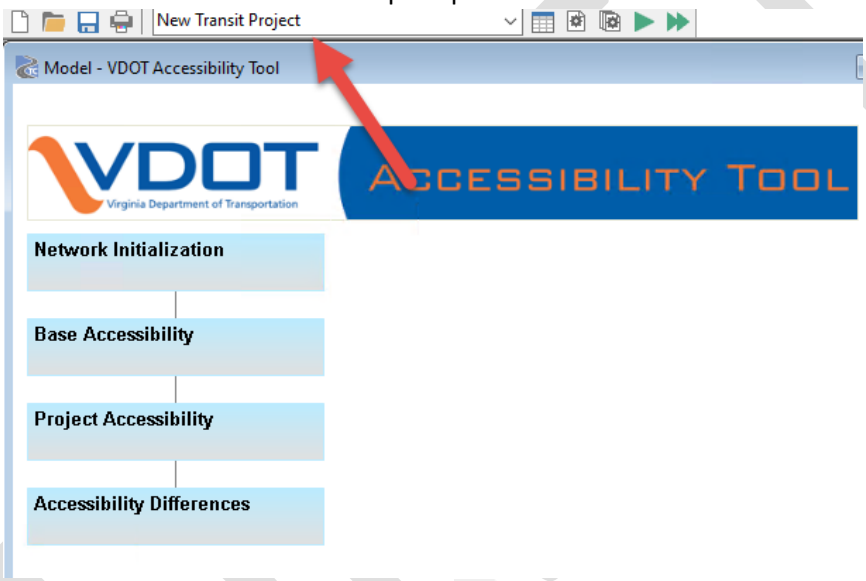
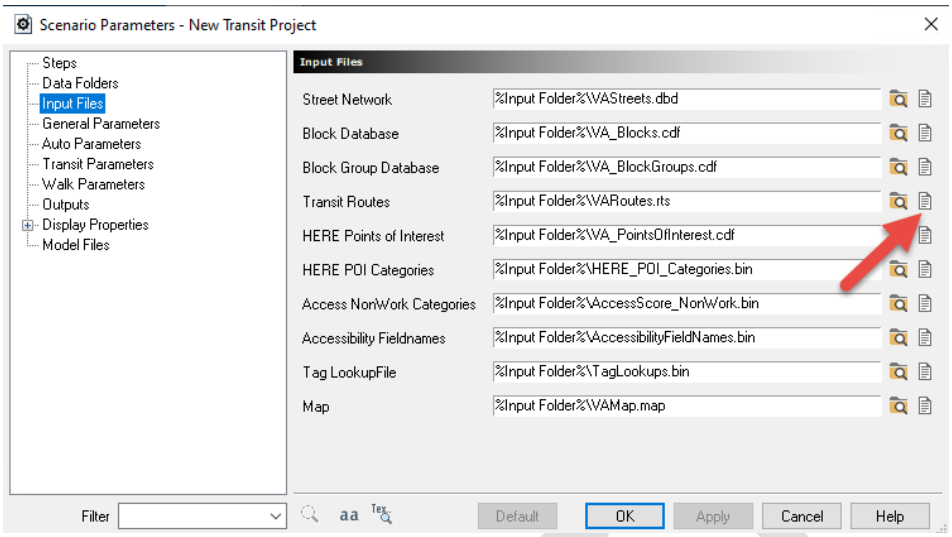


4. Choose the scenario from the top drop-down menu.

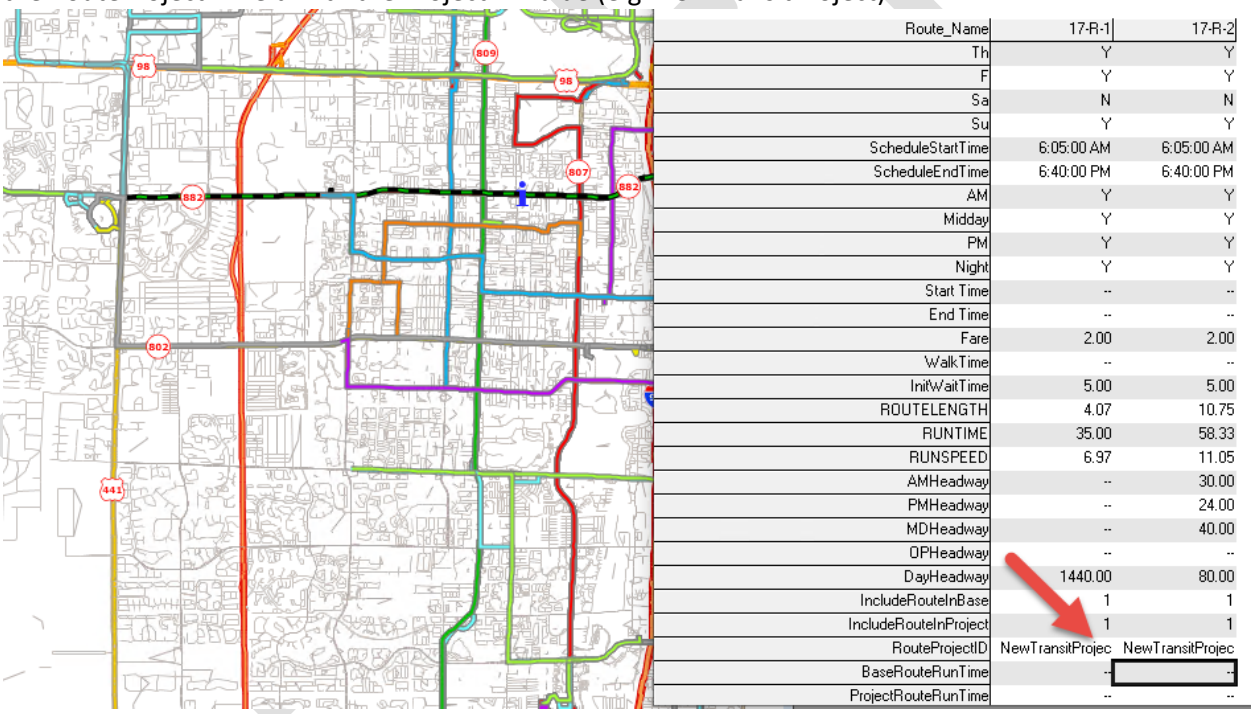


5. Double-Click on the flowchart or click to view files and settings for the scenario/project
6. Click on General Parameters and enter in a Project ID name. Make a note of the project ID Transit. Make sure that the Project Type is set to "Transit". If necessary, change other General or Walk parameters. Appendix A describes each parameter.

7. Click on Input Files and click next to the Transit Routes to open both the transit route layer and the HERE streets., then click OK to close the dialog box.

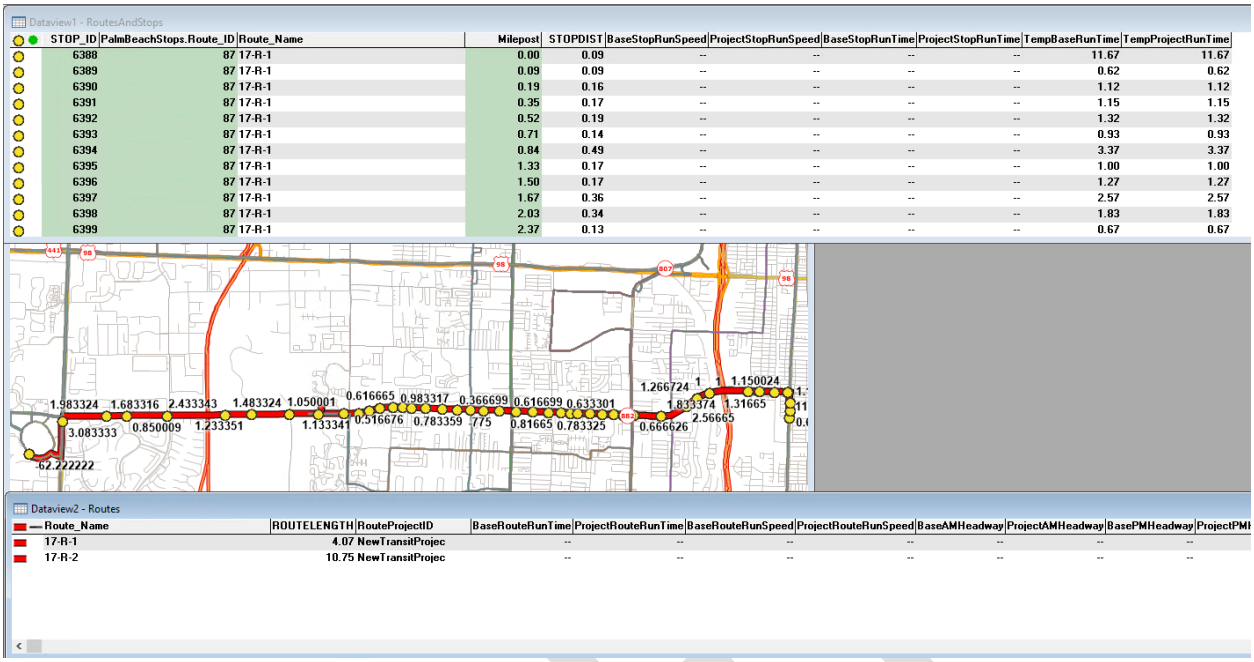


8. In the map, using the TransCAD route editor tools to create or edit the project routes. Then select out or using the Info tool, identify all routes that are part of the transit project and code up the RouteProjectID field with the Project ID value (e.g. NewTransitProject)



Route_Name	17-R-1	17-R-2
Th	Y	Y
F	Y	Y
Sa	N	N
Su	Y	Y
ScheduleStartTime	6:05:00 AM	6:05:00 AM
ScheduleEndTime	6:40:00 PM	6:40:00 PM
AM	Y	Y
Midday	Y	Y
PM	Y	Y
Night	Y	Y
Start Time	--	--
End Time	--	--
Fare	2.00	2.00
WalkTime	--	--
InitWaitTime	5.00	5.00
ROUTELENGTH	4.07	10.75
RUNTIME	35.00	58.33
RUNSPEED	6.97	11.05
AMHeadway	--	30.00
PMHeadway	--	24.00
MDHeadway	--	40.00
OPHeadway	--	--
DayHeadway	1440.00	80.00
IncludeRouteInBase	1	1
IncludeRouteInProject	1	1
RouteProjectID	NewTransitProjec	NewTransitProjec
BaseRouteRunTime	--	--
ProjectRouteRunTime	--	--

9. Choose Window-Model-Palm Beach Accessibility Tool to go back to the flowchart window, then right-click and choose Close Files to close all open map windows. Then choose Accessibility-Select Project Links to select all links coded with “NewTransitProjec”. A new map appears which selects out the project links. A new data window appears which shows all fields that can be coded for the project:



10. Coding occurs in two data windows: the Routes and the RoutesAndStops. For the routes, you can code both the base and project total run times. You can alternately code the route run speeds and the route run times will automatically be determined. Lastly, you can code in the base and project headways by time period. For the stops, you can code in individual station-to-station run speeds and times. Station speeds and times will take priority over route run speeds and times. The TempBaseRunTime and TempProjectRunTime fields house the results of the input route and stop speeds and times.
    11. If the route exists in the base, put in “1” in the InludeRouteInBase field. If the project link exists in the project, put in “1” in the IncludeRouteInProject field.
    12. Close both the data window and the map to go back to the flowchart. Run the model by right-clicking on the flowchart and choosing Run Model.

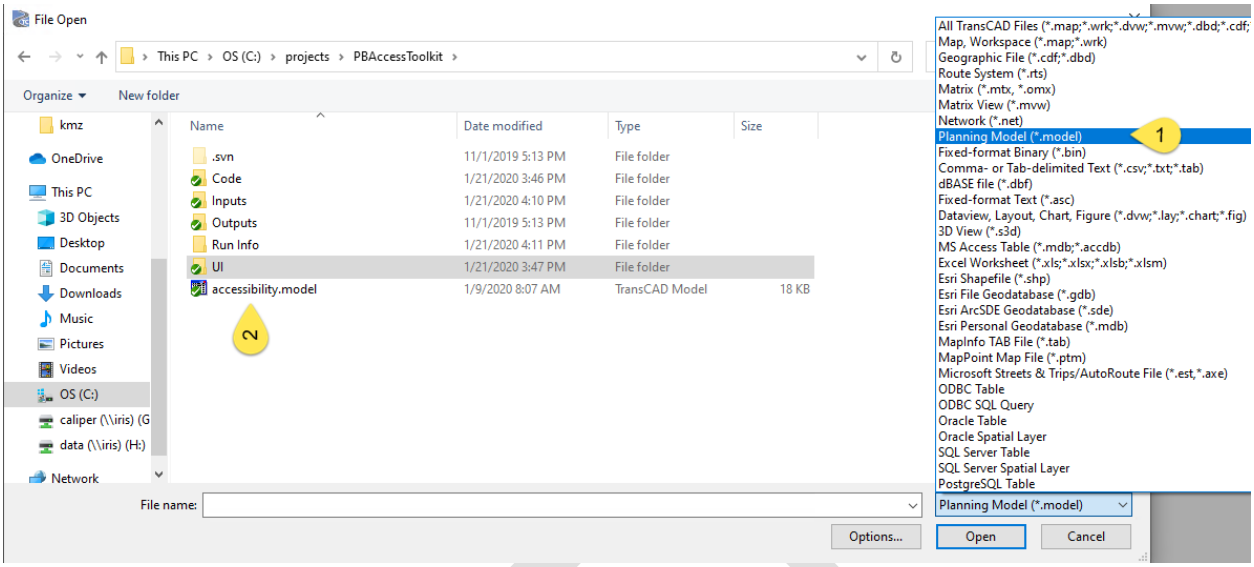
THE ACCESSIBILITY TOOL VISUALIZER

Users can map accessibilty outputs in the Accessibility Visualizer User Interface. Both the model and visualizer are implemented in TransCAD, Caliper’s travel demand modeling platform. The Accessiblity sidebar visualizer lets the user query and visualize the following accessibilities:

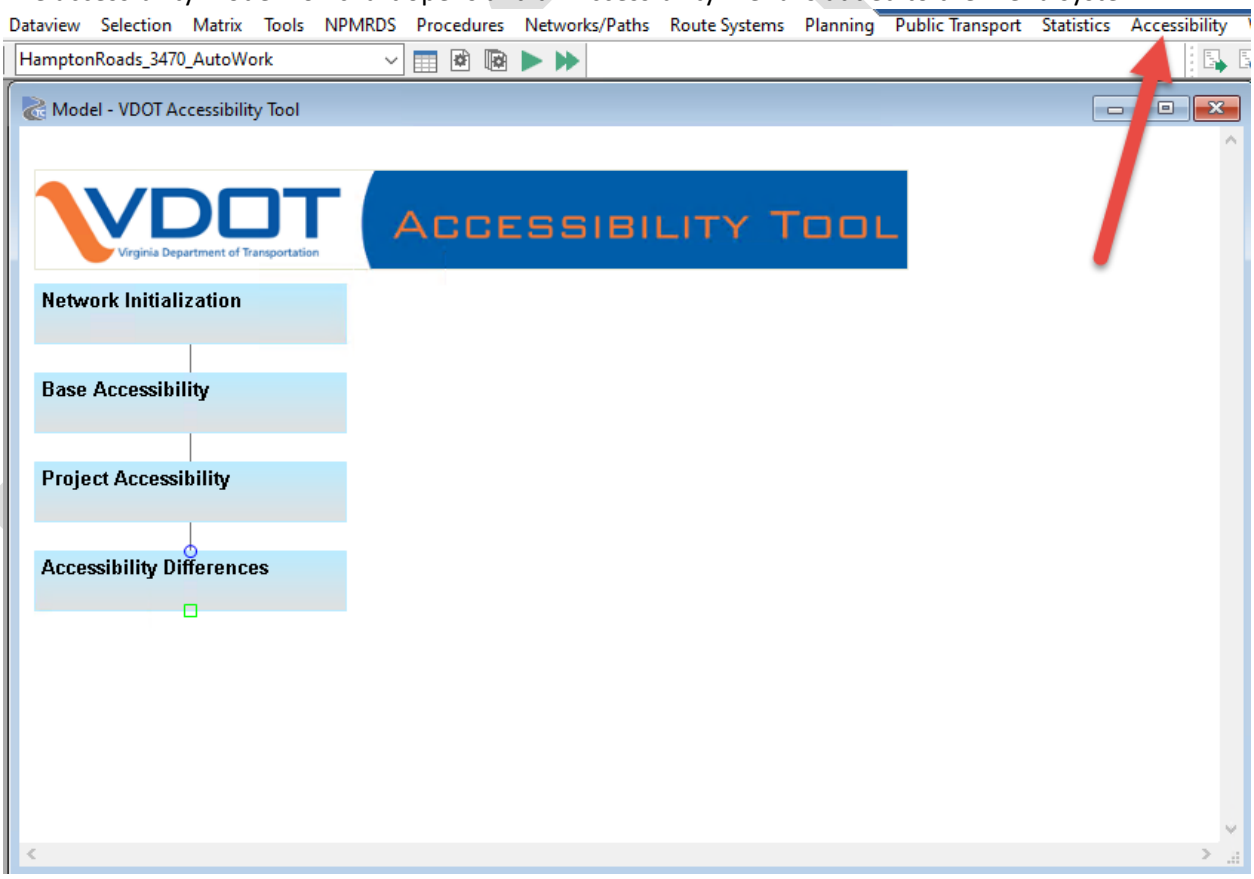
- Total Employment and resident worker accessibilities from and to zones
- Point of Interest (POI) accessibilities from and to zones
- Zonal walk scores
- Accessibilities between specific zone-to-zone pairs

Opening the Accessibility Visualizer

1. Open TransCAD 9.0
2. Choose File-Open, browse to the location of the Accessibility folder
3. Choose Planning Model (*.model) for the file type and choose the accesibility.model file:



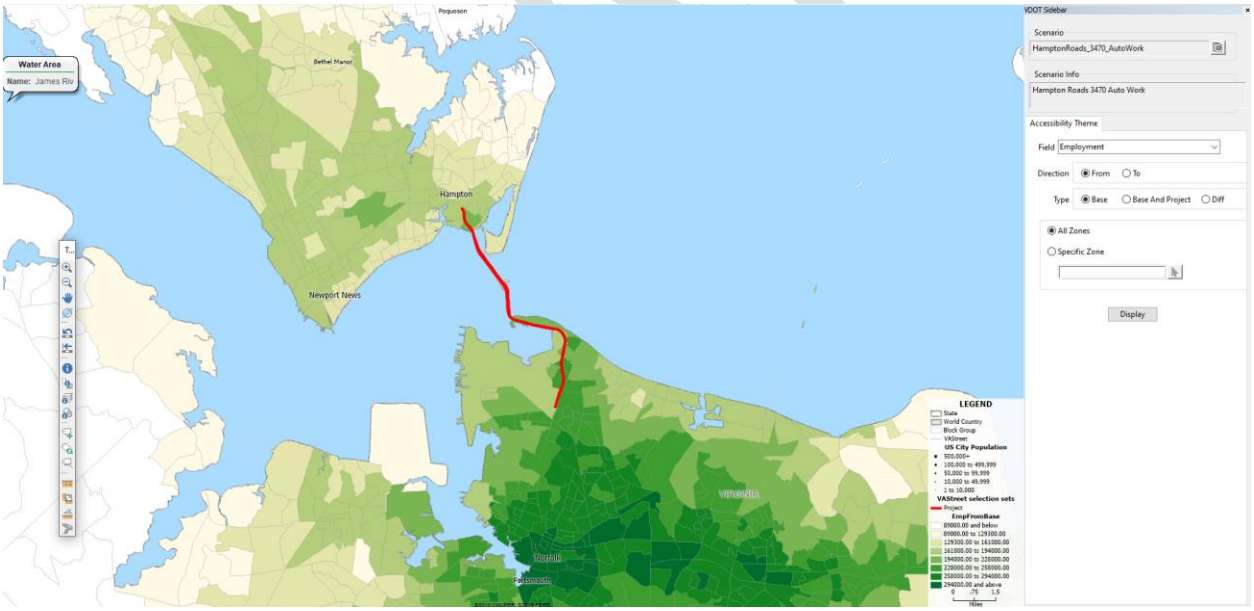
4. The accessibility model flowchart opens and an Accessibility menu is added to the menu system:



5. Choose *Accessibility-Taggle Accessibility Visualizer* from the menu
6. TransCAD loads the Accessibility sidebar and displays the map with the latest selected project:

Displaying Accessibilities

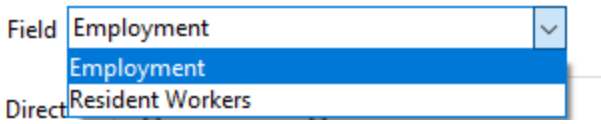
The sidebar can display color themes of total zonal or zone-to-zone accessibilities:



To Display Employment or Resident Worker Accessibilities

Employment or resident worker accessibilities are only available when project settings are set to “Work”. For more information on setting up project settings, go to the section “Setting up Projects”.

1. Choose and choose a project that has its project PurposeType setting set to “Work”.
2. Choose “Employment” or “Resident Workers” under the Field dropdown list:

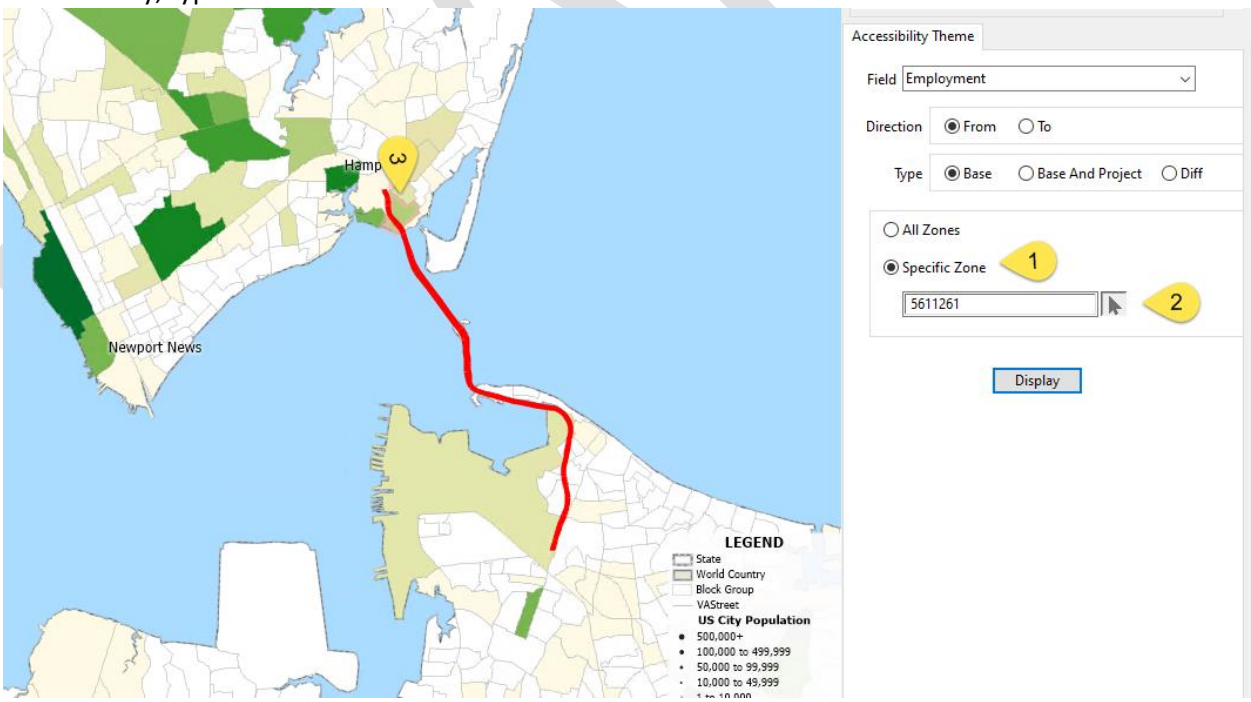


3. Choose "From" or "To" under the Direction radio list. "From" represents total accessible employment or resident workers from the zone. "To" represents total accessible resident workers or employment to the zone.
4. Choose the type:
    a. Base: Display all zonal accessibilities before the project improvement takes place
    b. Project: Display accessibilities both before and after the project improvement in separate maps shown side-by-side
    c. Diff: Display a color theme showing the difference in zonal accessibilities between the project and the base.
5. Click on the Display button. The visualizer will display a color theme showing the total accessibilities by zone. A legend will show the accessibility range for each represented color.

To Display Specific Zone-to-Zone Accessibilities

These steps show how to display specific zone-to-zone accessibilities

1. Repeat steps 1, 2, and 3 above.
2. Choose "Specific Zone" (1) , then click on the button (2), then click on a zone on the map (3). Alternatively, type in a zone number.



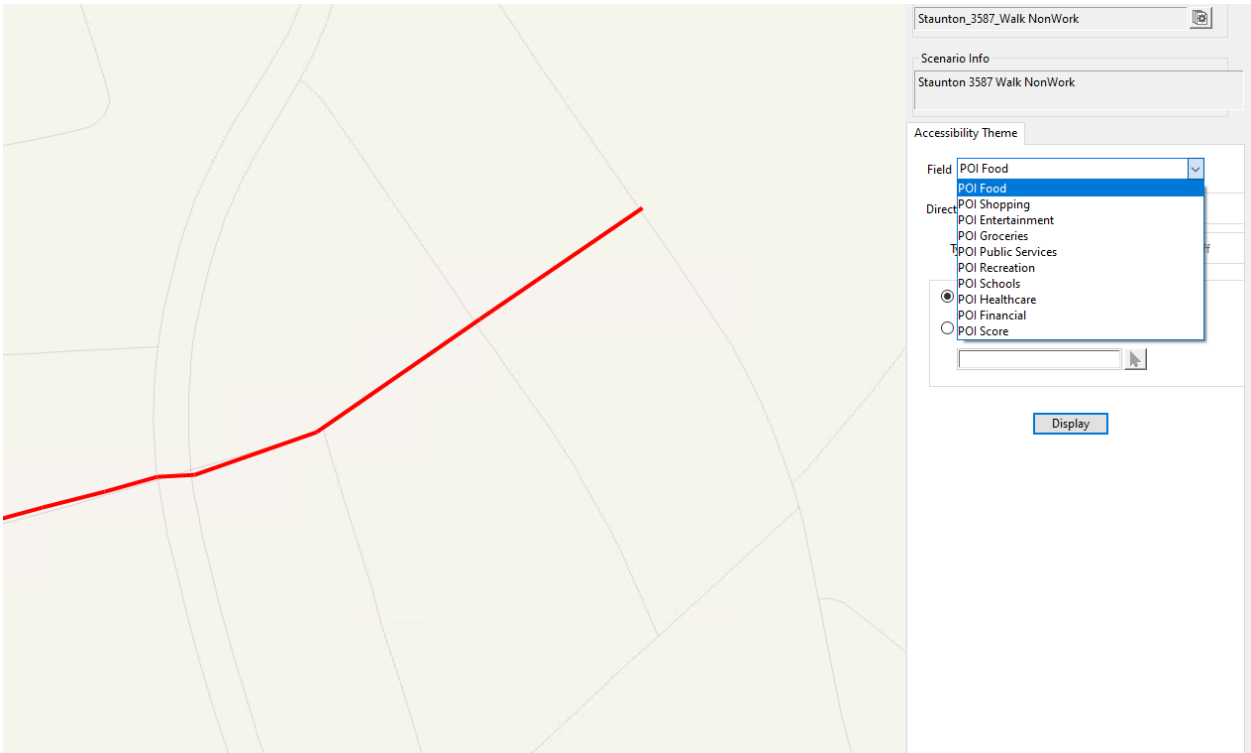
You are now tracking accessibilities specifically from the chosen zone to other zones.

3. Click on the Display button. The map will show a color theme showing specific zone-to-zone accessibilities. For example, the accessible employment from zone chosen in (1) below to (2) is 800 or so.

To Display Point of Interest Accessibilities or Walk Scores

Point of Interest accessibilities or Walk Scores are only available when project settings are set to "NonWork". For more information on setting up project settings, go to the section "Setting up Projects".

1. Choose and choose a project that has its project PurposeType setting set to "NonWork".
2. Click on the Field dropdown list and choose one of the POI categories



The category specifies how many locations of that category (e.g. how many grocery stores or schools) are accessible from or to zones. “POI Score” is a proxy for Walk Score.

3. Follow the same downstream steps as “To Display Employment or Resident Worker Accessibilities”

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INPUTS AND OUTPUTS AND PARAMETERS

All input and output files and settings are described below.

General Parameters

Parameter	Description
Iteration	Ignored
MaxIterations	Ignored
Project ID	Name of Project. Similar name must be coded in the ProjectID or RouteProjectID fields in the network or route system
Project Type	"Auto", "Transit", "Walk" or "Bike"
ZONETYPE	Zonal layer used, either "Block" or "Block Group".
Year	Year of Analysis (2025, 2030, or 2035)
Period	Time period of Analysis (AM, PM, or OP)
TimeType	How hourly congested speeds are converted to time period congested speeds: "MAX" = use maximum congested hour, "AVG" = use average congested hour
Purpose Type	"Work": Generate employment and resident worker accessibilities "NonWork": Generate Point of Interest accessibilities and walk scores
Decay Parameters by Mode	Decay parameters used to model decaying accessibility percentage based on travel time to/from zone. See equation below

$$Decay = if\ Time < DecayStart\ then\ 1.0\ else\ DecayA * e^{DecayC*Time} * Time^{DecayB}$$

Auto Parameters

Parameter	Description
MAXAutoDistance	Maximum distance in miles to use when choosing zones within the proximity of the project to calculate accessibility scores
MAXAutoTime	Maximum travel time between zones to calculate accessibility
CentroidSpeed	Assumed travel speed in mph for centroid connectors

Transit Parameters

Parameter	Description
MAXTransitDistance	Maximum distance in miles to use when choosing zones within the proximity of the project to calculate accessibility scores
MAXTransitTime	Maximum travel time between zones to calculate accessibility
MaxWalkToTransitTime	Maximum allowed travel time to walk from centroid to access station
PERMITWALK	If checked, zone-to-zone paths are allowed to be all-walk that does not include transit
TransitPathType	Walk: users walk to transit station Drive and Walk: users can either drive to Park and Ride station or walk to transit station

Walk Parameters

Parameter	Description
Walk Speed	Average default walking speed in mph

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MaxWalkTime	Maximum travel time between zones to calculate accessibility
MaxWalkToTransitTime	Maximum allowed travel time to walk from centroid to access station
MaxWalkDistance	Maximum distance in miles to use when choosing zones within the proximity of the project to calculate accessibility scores
Work and Nonwork Walk LOS Speeds	When a user puts in a walk LOS value in the network (A to F), it translates to the approapriate walk speed laid out in this parameter

Bike Parameters

Parameter	Description
Maximum Bike Path Time	Maximum travel time between zones to calculate accessibility
Maximum Bike Path Distance	Maximum distance in miles to use when choosing zones within the proximity of the project to calculate accessibility scores
Bike Level of Traffic Stress (LTS) speeds	When a user puts in a bike LTS value in the network (A to F), it translates to the approapriate bike speed laid out in this parameter

Map (VAMap.map): This is a TransCAD map file that houses the input HERE network, zones, and background layers used by the Accessibility Visualizer tool.

Street Network (VAStreets.dbd): Input HERE Network. The table below describes the line attributes:

Field Name	Description
ID	Unique link ID
Dir	Link flow direction: 0 = Two-Way, 1 = 1-way with topology, -1 = 1-way against topology
Length	Length of feature in Miles
NAME	Street Name
ALTERNATE NAME	Street alternate name
PARITY	Not used
LEFT ZIP	Zip code on left side
RIGHT ZIP	Zip code on right side
ntID	Link ID|HERE
Toll	Whether a usage fee is required|HERE
AB_Speed	Estimated Speed for forward direction (MPH)|Typical Wednesday Noon to 1pm|HERE
BA_Speed	Estimated Speed for reverse direction (MPH)|Typical Wednesday Noon to 1pm|HERE
AB_Travel Time	Estimated Travel Time for forward direction (Min)|Typical Wednesday Noon to 1pm|HERE
BA_Travel Time	Estimated Travel Time for reverse direction (Min)|Typical Wednesday Noon to 1pm|HERE
Travel Time	Estimated Travel Time (Min)|Typical Wednesday Noon to 1pm|HERE

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Field Name	Description
Speed Category	Speed Category|1 : > 80 MPH|2 : 65-80 MPH|3 : 55-64 MPH|4 : 41-54 MPH|5 : 31-40 MPH|6 : 21-30 MPH|7 : 6-20 MPH|8 : < 6 MPH|HERE
Sign	Route Number|Derived by Caliper
ccStyle	Display Style|Caliper
Network	Whether the link is routable|M - Major Highways (Functional Classes 1 & 2)|S - Secondary Highways (Functional Classes 3 & 4)|L - Local Roads (Other Functional Classes)|Caliper
AB_Speed Limit	Posted or legal speed limit for forward direction (MPH)|HERE
BA_Speed Limit	Posted or legal speed limit for reverse direction (MPH)|HERE
Lane Category	Lane Category|1 : 1-Lane|2: 2-3 Lanes|3: 4+ Lanes|HERE
AB_Lanes	Number of lanes for forward direction|HERE
BA_Lanes	Number of lanes for reverse direction|HERE
Auto	Whether automobiles are allowed on the link|HERE
Bus	Whether buses are allowed on the link|HERE
Deliveries	Whether deliveries are allowed on the link|HERE
Emergency Vehicle	Whether emergency vehicles are allowed on the link|HERE
Motorcycle	Whether motorcycles are allowed on the link|HERE
Pedestrian	Whether pedestrians are allowed on the link|HERE
Taxi	Whether taxis are allowed on the link|HERE
Through Traffic	Whether through traffic is allowed on the link|HERE
Truck	Whether trucks are allowed on the link|HERE
Bridge	Whether the link passes over a bridge|HERE
Frontage	Whether the link is a frontage (service) road|HERE
Paved	Whether the road is made of materials which create a solid surface|HERE
Private	Whether the link is a private road|HERE
Ramp	Whether the link is a ramp (slip road)|HERE
Rotary	Whether the link is a rotary (roundabout)|HERE
Tunnel	Whether the link passes through a tunnel|HERE
Ferry	Whether the link is a ferry|HERE
Divider	Whether there is a physical traffic blocking device|A: Both nodes and link are divided|L: Only the link is divided|N: No divider|1: From node and link are divided|2: To node and link are divided|HERE
FClass	Functional class of the link|1-2: Major Highways|3-4: Secondary Highways|5+: Local Roads|HERE
Limited Access	Whether the road has limited entrances and exits that allow uninterrupted high speed traffic flow|HERE
Public Access	Whether the public has access to the road|HERE
Toll Strct	Whether there is a toll structure on the link|HERE

Field Name	Description
Low Mobility	Whether the link has low mobility|1: Yes|2: No|3: Unknown|HERE
Closed	Whether the link is blocked|C: Closed for construction for more than six months|1: Key access gate|2: Attended gate requiring permission|3: Gate allowing only emergency vehicle access|HERE
UTurns	Whether U-Turns are prohibited from the link|Assigned by jurisdiction|HERE
TransitTravelTime	Estimated transit travel time
BlockGroupLink	For centroid connectors, the blockgroup ID
BlockLink	For centroid connectors, the block ID
Mode	Mode of link
WalkTime	Default walktime
BikeTime	Default Biketime
ProjectID1,2,3	ProjectID name value
AB/BA_Base_Auto_Speed1,2,3	Auto speed, if different from HERE, coded for the base case before project implementation
AB/BA_Project_Auto_Speed1,2,3	Auto speed, if different from HERE, coded for the base case after project implementation
AB/BA_Base_Walk_LOSWork1,2,3	Walk LOS value coded for the base case before project implementation (A to F)
AB/BA_Project_Walk_LOSWork1,2,3	Walk LOS value coded for the base case after project implementation (A to F)
AB/BA_Base_Walk_LOSNonWork1,2,3	Walk LOS value coded for the base case before project implementation for the nonwork purpose (A to F)
AB/BA_Project_Walk_LOSNonWork1,2,3	Walk LOS value coded for the base case after project implementation for the nonwork purpose (A to F)
AB/BA_Base_Bike_LTSWork1,2,3	Bike LTS value coded for the base case before project implementation (A to F)
AB/BA_Project_Bike_LTSWork1,2,3	Bike LTS value coded for the base case after project implementation (A to F)
AB/BA_Base_Bike_LTSNonWork1,2,3	Bike LTS value coded for the base case before project implementation for the nonwork purpose (A to F)
AB/BA_Project_Bike_LTSNonWork1,2,3	Bike LTS value coded for the base case after project implementation for the nonwork purpose (A to F)
AB/BA_Base_Transit_Speed	Override speed to code transit stations passing through link in the base case before project implementation
AB/BA_Project_Transit_Speed	Override speed to code transit stations passing through link in the base case after project implementation
BaseWalkTime/ProjectWalkTime	Not used
IncludeLinkInBase	Include link in base network
IncludeLinkInProject	Include link in project network
AB/BA_Speed_<period>_AVG/MAX	Estimated period speed from HERE data
AB/BA_Speed_HourX	Estimated hourly HERE speed
WalkToTransitLink	1 = Close to transit
CloseToProject	1 = link is close to project (dynamically calculated)

Block Database/Block Group Database (PalmBeachMAZ/MAZCopy.dbd): Input zonal layer. Most of the fields are similar to the MAZ database found in the SERPM model. Additional fields are documented as follows:

Field Name	Description
POP<Year>	Population for the specified year
EMP<Year>	Employment for the specified year
MinPop<Year>	Minority population for the specified year
PovPop<Year>	Poverty population for the specified year
LEPop<Year>	
EDPop<Year>	Economically disadvantaged population for the specified year
LEHDResidentTotalJobs<Year>	LEHD Resident Workders for the specified year
POI_Food	Food establishments
POI_Shopping	Shopping locations
POI_Entertainment	Entertainment locations
POI_PublicServices	PublicService Locations
POI_Groceries	Grocery Locations
POI_Recreation	Recreation locations
POI_Schools	School locations
POI_Healthcare	Healthcare locations
POI_Financial	Financial locaitons

Transit Routes(PalmBeach_Routes.rts): Input transit route system from GTFS Import:

Field Name	Description
Route_ID	Unique route id
Route_Name	Uniqure route name
Route	Unique GTFS Route ID
Short Name	Short Name of Route
Long Name	Long Name of Route
Description	Description of Route
Agency	ID of Agency Operating the Route
Mode	Transit Mode|0 = Tram, Streetcar, Light Rail|1 = Subway, Metro|2 = Rail|3 = Bus|4 = Ferry|5 = Cable Car|6 = Gondola|7 = Funicular
URL	URL for the Particular Route
Color	Color of Route (xCCCCCC)
Text Color	Legible Color for Text Against the Background of the Route (0xCCCCCC)
Trip	Trip Identifier
Sign	Sign Text Identifying Destination to Passengers
Service	Service ID|Identifies a Set of Dates When Service is Available

Field Name	Description
Agency Name	Name of Agency Operating the Route
Agency URL	URL for Agency Operating the Route
Agency Phone	Phone Number for Agency Operating the Route
Length	Length of Route
Direction	Forward/Reverse Direction
M	Monday
Tu	Tuesday
W	Wednesday
Th	Thursday
F	Friday
Sa	Saturday
Su	Sunday
ScheduleStartTime	Earliest arrival time in the Stop Times table
ScheduleEndTime	Latest departure time in the Stop Times table
AM	AM: 6:00:00 AM-9:00:00 AM
Midday	Midday: 9:00:00 AM-3:00:00 PM
PM	PM: 3:00:00 PM-6:00:00 PM
Night	Night: 6:00:00 PM-6:00:00 AM
Start Time	Time at Which Service Begins with Specified Headway (sec past midnight)
End Time	Time at Which Service Ends with Specified Headway (sec past midnight)
Fare	Fare paid
WalkTime	Not used
InitWaitTime	Not used
ROUTELENGTH	Route distance
RUNTIME	Average run time
RUNSPEED	Average run speed
AMHeadway	AM Headway
PMHeadway	PM Headway
MDHeadway	MD Headway
OPHeadway	OP Headway
DayHeadway	Daily Headway
IncludeRouteInBase	1: include route in base
IncludeRouteInProject	1: include route in project
RouteProjectID	Project ID value assigned to route
BaseRouteRunTime	Route run time in base case
ProjectRouteRunTime	Route run time in project case
BaseRouteRunSpeed	Route run speed in base case
ProjectRouteRunSpeed	Route run speed in project case
BaseAMHeadway	AM Headway for base
BasePMHeadway	PM Headway for base
BaseMDHeadway	MD Headway for base
BaseOPHeadway	OP Headway for base
ProjectAMHeadway	AM Headway for project

Field Name	Description
ProjectPMHeadway	PM Headway for project
ProjectMDHeadway	MD Headway for project
ProjectOPHeadway	OP Headway for project

Transit Stations(PalmBeach_Routes.rts): Input transit route system from GTFS Import:

Field Name	Description
ID	Unique stop ID
Longitude	Location of station
Latitude	Location of station
Route_ID	Route associated with station
LinkID	Link associated with station
Pass_Count	Pass of stations
Milepost	Mileage of station
Physical_Stop_ID	Physical stop id of station
STOP_ID	Unique stop id
Pickup	Pickup Type|0 = Regularly Scheduled Pickup|1 = No Pickup Available|2 = Must Phone Agency to Arrange Pickup|3 = Must Coordinate with Driver to Arrange Pickup
Dropoff	Dropoff Type|0 = Regularly Scheduled Drop Off|1 = No Drop Off Available|2 = Must Phone Agency to Arrange Drop Off|3 = Must Coordinate with Driver to Arrange Drop Off
Service	Service ID|Identifies a Set of Dates When Service is Available
Length	Segment Length
Sequence	Sequence from stop_times.txt
Timepoint	Timepoint from stop_times.txt
NodeID	Node ID associated with station
SkipStop	
NEXTMP	Milepost of next stop
TRANISTDISTANCE	Distance to next stop
STOPDIST	Distance to next stop
AVGTRANSITTIME	Average time to next stop
TRANSITTIME	Average time to next stop
AVGTRANSITSPEED	Travel speed to next stop
BaseStopRunSpeed	Stop-to-stop speed for base case
BaseStopRunTime	Stop to stop run time for base case
ProjectStopRunSpeed	Stop to top speed for project
ProjectStopRunTime	Stop to stop run time for project
LastStop	1: last stop in route
TempBaseRunTime	Estimated stop-to-stop run time for base case
TempProjectRunTime	Estimated stop-to-stop run time for project
TRANSITDISTANCE	Distance to next stop

HERE Points of Interest (pb_pointsofinterest.cdf): HERE points of interest points database:

Field Name	Description
ID	Unique ID
LONGITUDE	
LATITUDE	
Name	Point of Interest Name|HERE
Type	Facility Type|HERE
ccStyle	Display Style|Caliper
Abbrev	State Abbreviation|HERE
Postal	Postal Code|HERE
ZIP	Pseudo ZIP Code|Caliper
City	City Name|HERE
LocateByName	Unique landmark name for locate tool|Caliper
LocateByCity	Unique City name for locate tool|Caliper
LocateByCityState	Unique City name with State abbreviation for locate tool|Caliper
MAZ	MAZ ID of point

HERE POI Categories (HERE_POI_Categories.dbd): Database of POI Categories:

Field Name	Description
Category	POI Category
HERE_Category	HERE Code for category
HERE_Facility_Type	HERE Subcategory
CategoryWeight	Weight placed on category
POI_Target	Number of accessible locations to achieve a 100% walk score

Access Nonwork Categories (AccessScore_Nonwork.bin): List of nonwork categories:

Field Name	Description
Description	Category description
Cat_Weight	Category weight
POI_Target	Number of accessible locations to achieve a 100% walk score
PointClass	Category class number
FAC_TYPE	HERE class number

Accessibility Fieldnames (AccessibilityFieldNames.bin): Lookup list of employment and POI fields:

Field Name	Description
DatabaseFldName	Fieldname in zonal layer
Caption	Caption to use in visualizer

Tag LookupFile (TagLookups.bin): Lookup list for tagged string values in Accessibility Fieldnames:

Field Name	Description
TagName	Tag string
TagValues	Tag String value possibilities

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