

CRTPA Sustainable Communities Calculator

The CRTPA Sustainable Communities Calculator is a web-based tool that helps agencies identify the impacts of potential developments and development patterns that may occur in the CRTPA region. This document provides an overview of the inputs and outputs of the CRTPA Sustainable Communities Calculator.

The “Home” Tab

1 Username Password **Login**

Planned Development & Surrounding Infrastructure Characteristics

2 Development Name:

Characteristics of Proposed Development & Surrounding Area

	Dense CBD	Multi Modal District	Scattered / Suburban Corridor	Rural
3 Existing Development Setting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Proposed Development Pattern	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generated Traffic Avg. Trip Length 5	3.6	4.3	5.2	6.9
6 Proposed Number of Residential Dwelling Units	<input type="text"/>			
7 Single Family <input type="checkbox"/>				Multi Family <input type="checkbox"/>
8 Proposed Development Size (acres)	<input type="text"/>			
9 VMT per Household per Year (from CNT website)	<input type="text"/>			
Proposed Development Location	10 <input type="text" value="- Select Location"/>			
11 Proposed Development's Land Use Mix (Area):				
% Residential Area	<input type="text"/>			
% other Developed Area	<input type="text"/>			
12 Existing Fuel Costs <input type="text"/> \$/gallon				

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The “Home” tab is what you will see when you first open the calculator.

1. Login: A login is not required to run the calculator in the basic format. However, having a login username and password will allow you to change some variables with respect to transit service and the development street network design.
2. Development Name: Enter a name for the proposed development.
3. Existing Development Setting: Choose (check) the setting that most closely represents the existing density of development at and surrounding the location of the proposed development.
4. Proposed Development Pattern: Choose (check) the setting that most closely represents the density and land use characteristics of the proposed development itself.
5. The Generated Average Trip Length: This is not an input. This value is calculated for the proposed development based on the proposed number of residential dwelling units, the annual VMT per household (see below), and the assumed number (approximately 9.5) of daily external trip ends per unit. Estimated average trip lengths for typical development densities are also shown based on a sample of these types of settings.
6. Proposed Number of Residential Dwelling Units: Enter the number of residential units (single-family and multi-family) being proposed.
7. Single or Multi Family Dwelling Units: Choose the dwelling unit type that matches your proposed development.
8. Proposed Development Size: Enter the size (in square miles) of the proposed development.
9. VMT per Household per Year: The Center for Neighborhood Technology (CNT) has developed a Housing and Transportation (H + T) Affordability Index. One component of the H + T Index is an interactive map that depicts related information by location, including the annual vehicle miles traveled (VMT) by household; this map can be accessed at <http://www.htaindex.org/map/>. On either side of the map screen, select "Vehicle Miles Traveled (VMT) per Household" from the drop-down menu. Then, zoom into the Tallahassee region and click on the location of the proposed development. A box will appear showing the annual VMT per household for several

areas, the first of which is the Census Block Group for the selected location. Enter that value here.

10. Proposed Development Location: Select the appropriate location from the drop-down menu. If the proposed location is inside an incorporated city or town, select that city or town; otherwise, select the appropriate county.
11. Proposed Development's Land Use Mix: Enter the percentage of the proposed development's total land area that is anticipated to consist of residential land uses. The "% Other" is assumed to consist of the remainder and is automatically calculated.
12. Existing Fuel Cost: Enter the average price for regular unleaded fuel in the Tallahassee region at the time of the analysis. This value can be obtained from AAA's Fuel Gauge Report at <http://fuelgaugereport.opisnet.com/FLmetro.asp>.


The “Livability” Tab (for logged in users only)

Planned Development & Surrounding Infrastructure Characteristics


"Livability" Infrastructure of Surrounding Area

1 **Public Transit Service:**
(select the quality of service provided to your development)


Minimal Transit Service
(0-2 per hour)




Transit Service
(2-4 per hour)



Frequent Transit Service
(4-6 per hour)



Very Frequent Transit Service
(6-8 per hour)



Use Default

2	Average Distance to Transit (mi)	0.000	<input type="checkbox"/>	<input type="text"/>
3	Street Density (mi/mi ²)		<input type="checkbox"/>	<input type="text"/>
4	Pedestrian Infrastructure: Sidewalk % Arterial and Collector Coverage			
	Existing	0%	<input type="checkbox"/>	<input type="text"/>
	Proposed	0%	<input type="checkbox"/>	<input type="text"/>
5	Bicycle Infrastructure: % Arterial and Collector Coverage			
	Existing	0%	<input type="checkbox"/>	<input type="text"/>
	Proposed	0%	<input type="checkbox"/>	<input type="text"/>

6 **Roadway Network Operations & Maintenance Costs**
(excluding costs for through facilities)

Cities	\$0
County	\$0
State	\$0
Total	\$0

7 Annual VMT for Selected County
(excluding external VMT)

0

8 O&M Costs per VMT for Network

\$0.0000

	Development	Household
VMT Benchmark	0	0
VMT of Proposed Development	0	0
% reduction in VMT	0	

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- Public Transit Service: Select (check) the frequency of fixed route transit service currently provided to the development location. The service can be either internal to the development or along a street immediately adjacent to the development. The value selected can take into consideration multiple routes along the same street, but should not be additive for stops on different streets surrounding the development.

2. Average Distance to Transit: This value represents the average “bird’s eye” distance to fixed route transit stops from all points within the proposed development. The analyst has two options: 1) specify a value based on the location of existing transit stops relative to the development, or 2) use on a default value based on the selected Proposed Development Pattern by checking the “Use Default” check box.
3. Street Density: This value represents the internal density of streets for the proposed development. If calculated and specified, divide the total distance of streets (in miles) by the development’s size (in square miles). Alternately, a default value can be used.
4. Pedestrian Infrastructure: This value represents the percentage of the total mileage of arterial and collector roadways (both directions) internal to or immediately adjacent to the development that have, or are anticipated to have, sidewalk coverage. A default value can be used.
5. Bicycle Infrastructure: This value represents the percentage of the total mileage of arterial and collector roadways (both directions) internal to or immediately adjacent to the development that include, or are anticipated to include, bicycle facilities; bicycle facilities include designated bike lanes, paved shoulders, and shared use paths. A default value can be used.
6. Regional Roadway Network Operations & Maintenance Costs: Public agencies in the region incur operations and maintenance (O&M) costs, primarily in the form of resurfacing to maintain public roadways. This information is calculated at the county level (for the selected development location) based on existing data from the city and county annual budgets and the Florida Department of Transportation’s 5-Year Work Program.
7. Annual VMT for Selected County: This value is based on the most recent available data from the Florida Department of Transportation.
8. O&M Costs per VMT for Network: This value is automatically calculated by dividing the O&M costs by the VMT.

Fiscal Impacts Tab

The fiscal impacts tab provides a comparison of the proposed development as specified, to a Multi-Modal District (the theoretical “ideal” in terms of minimized VMT for the CRTPA region). It also provides a comparison to a “typical” development of the same type as the proposed development.

Municipalities' & Taxpayers' Fiscal Impacts & Comparative Costs				
O&M Costs by Development Type & Location				
		Development Pattern		
		MMD	Base Proposed	Proposed Community Development
1	P/A 3% rate 35 years	↓	↓	↓
2	Impact to Affected Jurisdictions' Roadway Network Operating & Maintenance Costs			
	Annual	\$0	\$0	\$0
	35-Year Total	\$0	\$0	\$0
	Present Costs	\$0	\$0	\$0
3	Impact to Public Schools' Student Bus Transportation Costs			
	Annual	\$0	\$0	\$0
	35-Year Total	\$0	\$0	\$0
	Present Costs	\$0	\$0	\$0
4	Impact to Other Public Infrastructure and O&M Costs (e.g., Public Safety, Wastewater, Fire/Rescue, Water, Trash, Solid Waste)			
	Annual	\$0	\$0	\$0
	35-Year Total	\$0	\$0	\$0
	Present Costs	\$0	\$0	\$0
5	Total O&M Costs (Roads, School Transportation, and Other Public Infrastructure)			
	Annual	\$0	\$0	\$0
	35-Year Total	\$0	\$0	\$0
	Present Costs	\$0	\$0	\$0

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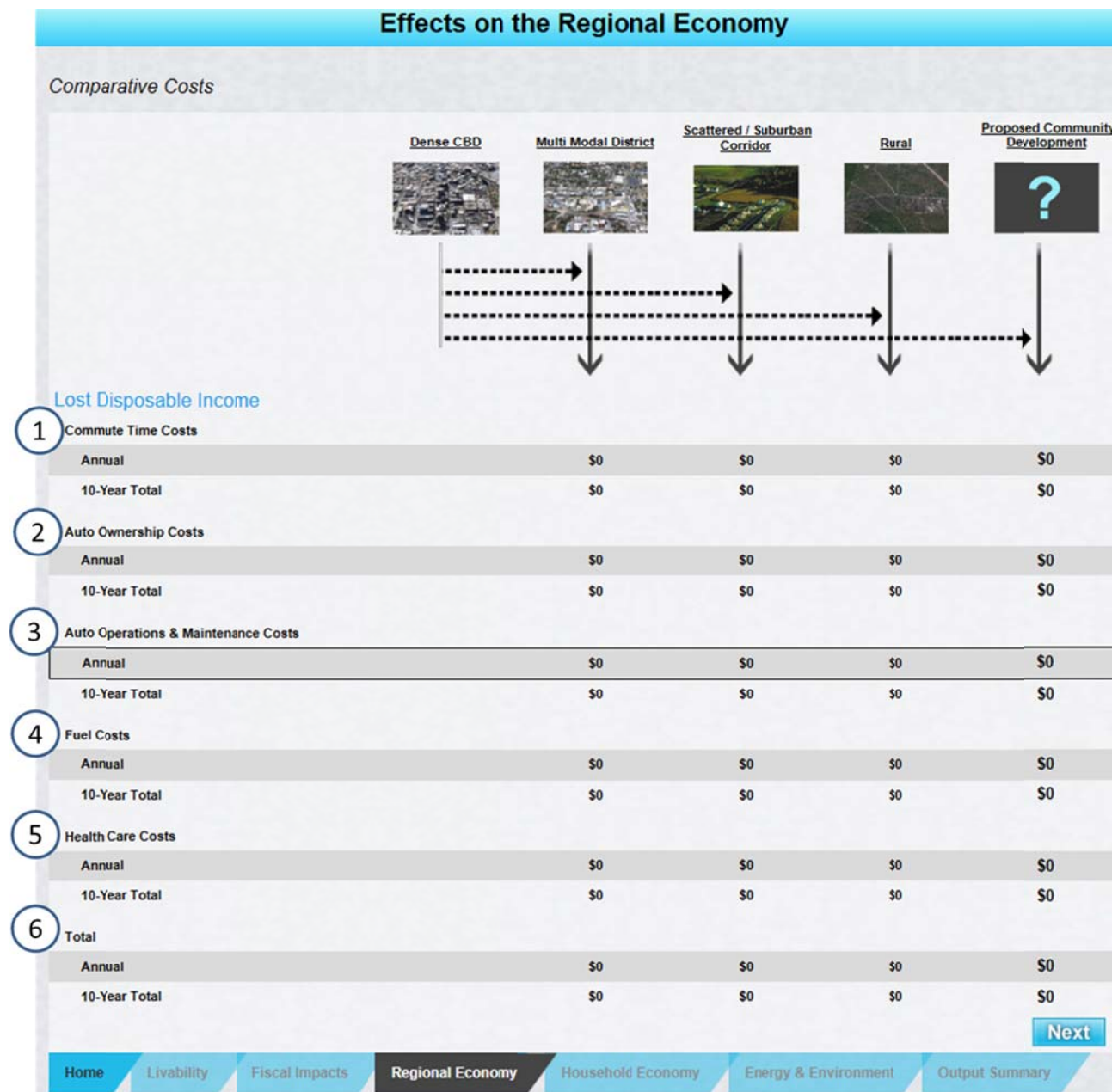
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1. P/A (present cost given an annual expenditure): Assumed interest rate and analysis period.
2. Impact on Affected Jurisdictions' Roadway Network Operations & Maintenance Costs: Product of generated VMT and calculated O&M costs per VMT.
3. Impact on Public Schools' Student Bus Transportation Costs: Based the number of development households, the number of students per household (based on current enrollment data by county), an assumed percentage of students bused, and busing costs per student (based on current transportation cost data by school district).

4. Impact on Other Public Infrastructure and O&M Costs: Based upon the change in costs per person for services those results from changes in land use densities.
5. Total O&M Costs: The sum of the three costs above.

Regional Economy Tab

The “Regional Economy” tab screen shows the difference between the proposed development and the “central business district” condition (such as might be found in a major urban downtown area) in terms of comparative costs.








1. Commute Time Costs: This is the value of the time lost due to time spent commuting. It is based upon average salary rates and time spent commuting to and from work.
2. Auto Ownership Costs: The value of purchasing a car, depreciation, and insurance.
3. Auto Operations & Maintenance Costs: Includes oil changes, tires, and other regular maintenance. Does not include the cost of fuel.
4. Fuel Costs: This the amount of money spent on fuel based upon vehicle miles travelled and fuel cost.
5. Health Care Costs: This value assumes that when trips are converted from motor vehicle to walking or bicycling, an exercise benefit is realized.

Total Costs: The sum of the above costs.

Energy & Environment Tab

The “Energy and Environment Tab” provides a comparison of the proposed to development to “typical” examples of other development patterns.

Community-Wide Energy & Environmental Impacts & Costs								
1	Average Auto Fuel Cost	\$ / gallon						
2	Average Auto Fuel Efficiency	20.7 mpg						
	Base Annual VMT/Household	0 miles	per http://htaindex.cnt.org/map/					
			Dense CBD	Multi Modal District	Scattered / Suburban Corridor	Rural	Proposed Community Development	
								
			↓	↓	↓	↓	↓	
3	Fuel Consumed (gallons)							
	Annual		0	0	0	0	0	
	35-Year Total		0	0	0	0	0	
4	Fuel Consumption Costs							
	Annual	\$0	\$0	\$0	\$0	\$0	0	
	35-Year Total	\$0	\$0	\$0	\$0	\$0	0	
5	Emissions Impact (lbs/year)							
	VOC		0	0	0	0	0	
	NOx		0	0	0	0	0	
	Particulates		0	0	0	0	0	
	Greenhouse (CO ₂)		0	0	0	0	0	
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1. Average Auto Fuel Cost: Taken from the value input by the user on the front screen.

2. Average Auto Fuel Efficiency: Based on latest U.S. EPA data.
3. Fuel Consumed: Product of number of households, VMT per household, and average auto fuel efficiency.
4. Fuel Consumption Costs: Product of fuel consumed and average auto fuel cost.
5. Emissions Impacts: Function of fuel consumption and the resulting emissions resulting from the fuel consumption.

Output Summary Tab

This tab provides a summary of the impacts of the proposed development. It may be printed or saved as a pdf using the buttons on the bottom of the page.

Output Summary	
Development Name:	
Proposed Development Location:	
Existing Development Pattern:	
Proposed Development Pattern:	
Proposed Number of Residential Dwelling Units	
Development Area (square miles)	0
Base VMT per Household per Year	0
Base Development MVMT per Year	0
VMT per Household per Year	0
Proposed Development MVMT per Year	0.000
% change	0 %
Annual fuel cost per household	\$0
Fiscal Impact of Development	
Annual	\$0
35-year Total	\$0
Present Costs	\$0
Emissions Impact (lbs / year)	
VOC	0
NOx	0
Particulates	0
Greenhouse (CO ₂)	0
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