

Urban Land use Allocation Model

An analysis of its purpose and
function

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Introduction

— Urban Land Use Allocation Model (ULAM) was initiated by the Florida state government to provide better projections on land use trends

— Florida has many complex issues

- Urban Sprawl
- Traffic
- Rapid population increase
- Sensitive environment
 - wetlands

Florida Land use System

— Twenty-five Metropolitan Planning Organizations (MPOs)

- Charged with the responsibility of developing existing land use and projections for future land use.
- 1980s – 1990s used simple spreadsheets, decennial census, Delphi, or other techniques

Florida Land use System

- 1997, the Florida Department of Transportation sanctioned a study on the source, development, and forecasting of land use variables in the current Florida Standard Models.
- The study identified some of the pitfalls of current models and identified a need for change in the following areas:
 - A need to improve zonal projections
 - A need for a custom land use model for local needs
 - A need to incorporate GIS into the development and review process
 - A need to provide development tracking and approval with future projections
 - A need to provide a time-effective tool to evaluate alternative land use scenarios based on policy and transportation improvements
 - And lastly, a need for an urban land use allocation model that would assist each of the MPOs to develop and forecast land for input to the Florida Standard Model.

ULAM County & Regional Models



ULAM

- Integrated model

- Utilizing GIS technology
- Transportation modeling

- It provides an automated process to allocate future growth in the form of countywide population and employment control totals at the traffic analysis zone (TAZ) level.

ULAM Objectives

- _ To assist local land use planners to do more with less
- _ To improve projections
- _ To raise the overall level of planning expertise
- _ To provide consistency between plans
- _ To provide the ability to do proactive, instead of reactive planning

ULAM

- Complex model that offers users a high degree of customization
- Consists of more than sixty separate programs
- Can be used for a variety of planning applications in addition to the allocation of land use
- The programs are accessed through a series of windows based menus, and can use a GIS interface

Main Menu

Documentation

Florida Land Use Modeling System

ULAM98 Land Use Planning Package

Edit ULAM98 Input Files

Allocate Future Growth

Review Allocation Results

Create Other FSUTMS Files

Create Life Style Data Files

Save Land Use Alternative

Compare Two Alternative Land Use
Scenarios

Planning Applications

Tampa Bay ULAM Model

Southeast Florida ULAM Model

ULAM98 Utility Programs

Last Updated 3/5/99

Control Variables

County-wide variables

- The future year population and employment control totals
- Maximum percentage of any given zone that can be developed
- The ability to allocate only existing plus committed development
- The ability to restrict growth based upon concurrency restrictions

Control Variables

Individual land use categories

- The minimum acreage required in each traffic zone for a particular type of land use
- The maximum allowable growth for any zone
- A gross-to-net acreage conversion process to subtract vacant land required for supporting uses (i.e., Right-of-way, parks, schools, etc.)
- Subtraction of vacant land for approved development.

Control Variables

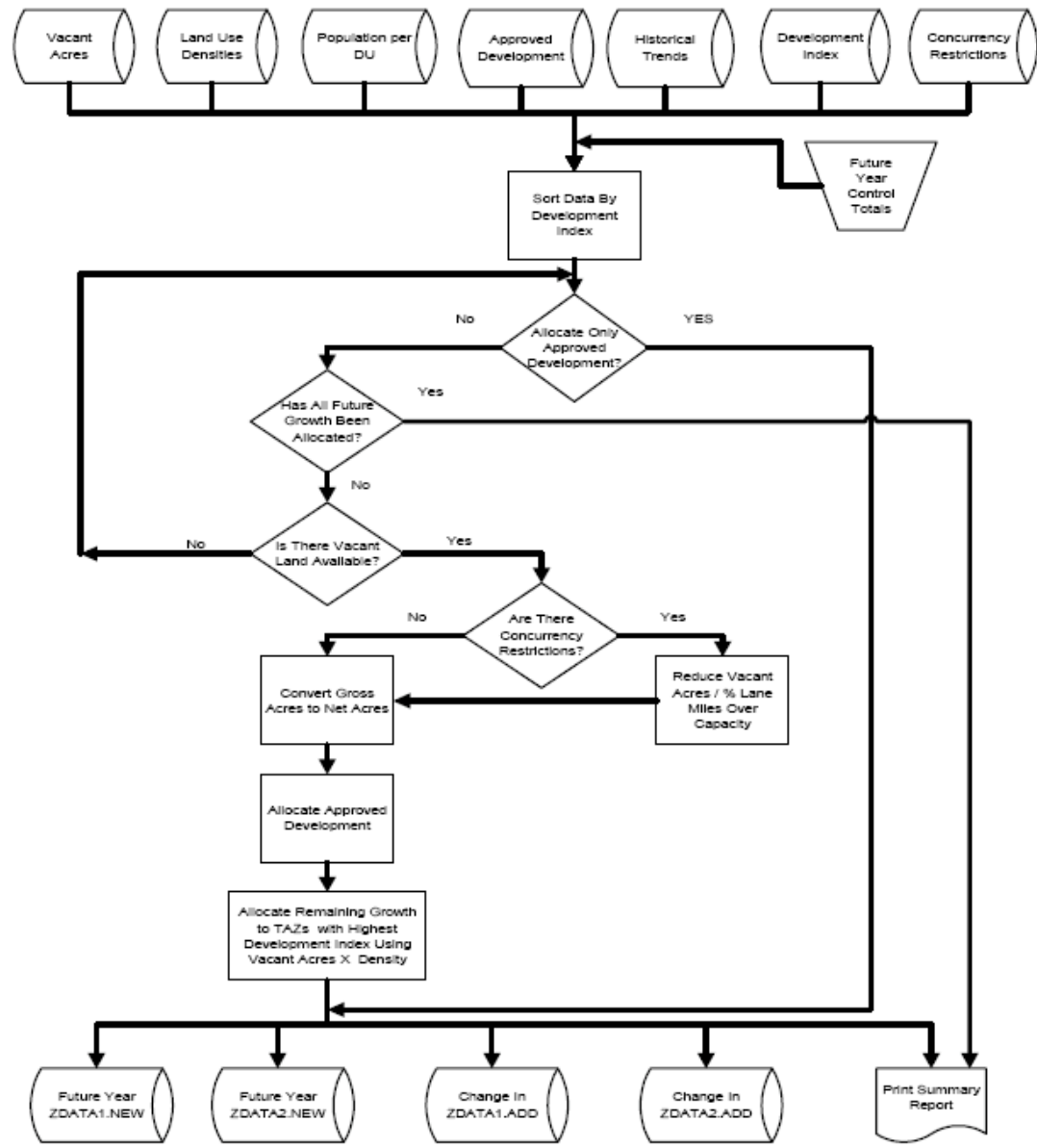
Individual traffic zones

- Vacant developable acreage by land use type
- Allowable land use densities
- Approved development
- Population per dwelling unit
- Percentage of vacant or seasonal units
- Auto ownership information
- Variables for the life style trip generation model
- Concurrency restrictions for each TAZ

The Allocation Process

- A development index or desirability score for each TAZ and each type of land use is computed using approved development, historical trends and the market index information
- The development index is then used by the ULAM model in the allocation process to determine which TAZs will be developed first for a particular land use.
- A smoothing process is used to ensure that too much growth is not allocated to a few TAZs. This smoothing process is done using the countywide land absorption rate for the allocation period and by setting a limit on the maximum allowable growth for any given TAZ

Figure 2 ULAM Model Land Use Allocation Process



GIS DISPLAY AND EDITING

— The land use visualization component

- Pre-defined ArcView project files designed to:
 - Assist in developing and editing input data
 - Compare and evaluate the results
 - Verification tool
 - Identifies zones that were allocated growth but have no vacant land for that particular land use

Output – Summary Report

- Provides countywide statistics that can help determine if vacant land is available to support each type of new development
- Identifies past trends in the employment mix, changes in population per dwelling unit, and how much future growth has already been approved
- Identifies countywide build out levels, the amount of capacity absorbed for each land use type and the projected build out year for each land use category
- Summarizes the results of the allocation process for each type of land use identifying remaining vacant developable land for future growth, and growth that could not be allocated because of a lack of available vacant land for that land use type

ULAM applications

– <http://www.ulam.org/DevelopmentTrack.htm>

– <http://www.ulam.org/VaclandInv.htm>

– <http://www.ulam.org/ULAMSCH.html>

– <http://www.ulam.org/ULAMFIM.html>

– <http://www.ulam.org/ULAMTPP.html>