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Lake County

Traffic Concurrency Management System - A GIS Based System



GMB ENGINEERS
AND PLANNERS, INC.



LAKE COUNTY
FLORIDA

History of GMB and Concurrency Management Systems

- **Public Representation**
 - Orange County, Lake County, Citrus County, Putnam County
- **Private Development Representation**
 - DRI's to Small Traffic Studies
- **Multiple Levels of Involvement and Representation**

General Overview to Concurrency

- **What is traffic concurrency?**
 - Staying concurrent with supply
- **Why maintain concurrency?**
 - Providing and maintaining public facilities
- **How to maintain concurrency?**
 - Maintaining agency regulations

Legislative Overview – How did we get here?

- **Growth Management Act of 1985**
- **Senate Bill 360**
- **House Bill 7203**

Legislative Overview

Growth Management Act of 1985

“...public facilities and services needed to support development should be available concurrent with the impact of such development” Section 163.3177(10)(h)

Legislative Overview

Senate Bill 360 – General Highlights

- Financial tie between development and roadways.
- Comprehensive Plans must be financially feasible
- Requires CIE to include schedule of improvements
- Authorizes 10-year or 15-year long-term CMS system
- Mandated adoption of proportionate-share ordinance
- Provides that proportionate share mitigation be applied to transportation impact fees

Legislative Overview

House Bill 7203 – General Highlights

- Officially labeled as “Glitch Bill”
- Effective July 1, 2007
- Redefines terms “urban redevelopment” and “financially feasibility”; establishes requirements
- DRI buildout dates automatically extended 3 years
- Stronger pipelining language
- Creation of transportation backlog areas / authorities

Concurrency Impacts

What does this mean for Government Agencies?

- **Counties and Municipalities must establish a method for tracking transportation concurrency.**
 - Maintain Traffic Volume Database
 - Quantify impacts to the transportation system including DeMinimus
 - Identify and provide Capacity Improvements
 - Assess Development Responsibility
- **In Addition each municipality must adopt a Proportionate Fair Share Ordinance**
 - Allows for developers to pay for their impacts on the roadway network
 - In - order to accept proportionate share a project must be included in the CIE.

Concurrency Impacts

What does this mean to Development Community?

- Meet Requirements of the local agency
- Traffic Impact Study
- Identify Adversities
- Mitigate Adversities

General Concurrency Procedures

- Establish Thresholds
- Maintain Log of Use
- Assessment of Future Impacts
- Addressing Deficiencies

General Concurrency Procedures - Thresholds

- **Supply and Demand – Defining Supply**
- **Capacity vs. Level of Service (LOS)**
 - Capacity – absolute threshold
 - LOS – desired threshold
- **Maintain LOS**
 - Standards – A, B, C, D, E, F
 - Municipalities and Comprehensive Plans
 - Challenges to maintain – supply and demand

General Concurrency Procedures – Maintain Log

- Supply and Demand – Defining Demand
- Traffic concurrency – annual traffic counts
- Traffic Count Procedure
 - Machine counts, automated counts, person counts
 - Adjust for season – 90th percentile volume
 - Adjust for multi-axle vehicles
 - Time of day – daily, peak hour AM or PM

General Concurrency Procedures – Assessment of Future Impacts

- Supply and Demand – Defining Demand
- Future Background Traffic – Natural growth of traffic
 - Growth Rates
 - Tracking Development – Historical Log of Approved Projects
- New Project Impacts – Traffic Impact Analysis
 - Trip Generation
 - Analysis Area
 - Trip Distribution
 - Assigning trips to roadways
- Total Future Demand = Future Background + New Project Traffic

General Concurrency Procedures – Addressing Deficiencies

- **Total Anticipated Traffic < LOS Capacity**
 - Public facilities in place and adequate
- **Total Anticipated Traffic > LOS Capacity**
 - Need to accommodate future demand
 - Provide roadway capacity improvements
- **Methods for Capacity Improvements**
 - Scaling Back of Development Intensity
 - Funded Capacity Project
 - Developer Funded Project
 - Partnership between Municipality and Developer
 - Proportionate Share Contribution

Traffic Concurrency Methods

- Two Prevailing Methods
- Growth Trends Approach
 - Future demand traffic defined by growth trends
 - Highlands County, Sumter County, Pasco County
- Checkbook Approach
 - Future demand traffic defined by tracking development trips
 - Lake County, Orange County, Seminole County

Traffic Concurrency Methods – Growth Trends

- Future background traffic defined by growth
 - Continual historical trends analysis based on annual count program
- Total future traffic = future background + project traffic
- Total future traffic demand compared to LOS Supply
- Approval, denial, or mitigation options

Traffic Concurrency Methods – Checkbook

- Future background traffic defined by existing traffic count and tracking of trips
 - All developmental traffic recorded and summed
- Total future traffic = future background + project traffic
- Total future traffic compared to LOS Supply
- Approval, denial, or mitigation options

Traffic Concurrency Methods – Similarities and Differences

- **Similarities**

- Reliance on annual traffic counts for baseline
- Project development impacts
- Comparison to LOS Capacity Supply

- **Differences**

- Tracking of development trips
- Analysis year derivation
- Applying historical growth rates

Traffic Concurrency Methods – Benefits

- **Growth Trends Approach**
 - Easier – tracks development approval, not development trips
 - Promotes Growth
 - Accommodates areas experiencing difficulty tracking trips
- **Checkbook Approach**
 - Definitive future traffic demand
 - Based on logged approved development trips
 - Ease in requesting proportionate share
 - Easily converted to GIS based application
 - Can be “handed over” to municipality

Traffic Concurrency Methods – Disadvantages

- **Growth Trends Approach**
 - Challenges to growth rate
 - Application of proportionate share
 - May underestimate future traffic demand
 - May rely on outside consultants for yearly update
- **Checkbook Approach**
 - More difficult for CMS administrator
 - Tracking and removing development traffic
 - May overestimate traffic
 - May underestimate background inherent growth
 - May hinder development

Background

Growth Management Act of 1985

“...public facilities and services needed to support development should be available concurrent with the impact of such development”

Section 163.3177(10)(h)

Background

Proportionate Fair-Share

- Provide for Development Impacts to be Mitigated by Cooperative Efforts of Public and Private Sectors
- Provides a Mechanism for Applicants to Satisfy Concurrency Requirements and Move Forward by Participating in the Improvement of a Transportation Facility
- Relies on a Formula Found in Chapter 163.3180 F.S. Under Developments of Regional Impact
- FDOT Model Ordinance for Proportionate Share on Transportation Corridors

Background

Proportionate Fair-Share-Equity for Applicants

- Provides that Impact Fee Credits be Given for Contributions
- Provides that Contributions Do Not Exceed Fair-Share

Proportionate Fair-Share Ordinance

Where does Proportionate Fair Share fit in?

- Ties into the Concurrency Management System
- An Applicant Starts with a Request for Capacity
- Requires a Traffic Impact Study
- Traffic Study Follows the Land Development Code and TIA Guidelines
- Traffic Study Identifies an Adverse Roadway Segment
- County Staff Reviews the Study and Determines Proportionate Share Calculation is Appropriate

Proportionate Fair-Share Ordinance

Proportionate Fair-Share Formula

$$\Sigma [[(Development Trips) / (SV Increase)] \times Cost]$$

**Development Trips = PM Peak Hour Peak Directional Trips
Generated by the Project**

**SV Increase = Increase in Peak Hour Peak Directional Capacity
that**

Results from Improvement

**Cost = Total Cost of Improving Road Segment Located Within
the Area Tested for Concurrency**

Proportionate Fair-Share Ordinance

Examples – 100 Lot SFR Subdivision

- Total Project Trips: 100
- Trips Assigned to Roadway with no Capacity: 40
- SV at Adopted LOS: 810

SV Increase: $1720 - 810 = 910$

Proportionate Fair-Share Ordinance

Examples – 100 Lot SFR Subdivision

- (Development Trips) / (SV Increase): $40/910 = .04$
- Cost Estimate: \$8 M
- $.04 \times \$8,000,000 = \$320,000$

Proportionate Fair-Share Ordinance

Examples of Proportionate Share in Action

- Orange County
- Lake County
- Osceola County

Lake County Concurrency Management System

- Unique Characteristics
- Checkbook Concurrency
- Interactive application with GIS
- Engineering and Policy Efforts

Lake County CMS – One Overall System

- **17 Different Municipalities and Agencies**
 - County and State
 - 14 Cities and Towns
 - Lake~Sumter MPO
- **One overall CMS**
 - One common methodology to apply to all municipalities
 - MPO to act as “hub” for all traffic tracking
- **Checkbook Approach**
 - All Cities/Towns and County to share development data
 - Every trip tracked
 - Counts conducted every year to provide baseline

Lake County CMS – Creating Efforts

- **Methodology Meetings**
 - Multiple County departments, all cities/towns, MPO invited
- **Incremental Due Diligence Analyses**
- **Group Consensus**
- **Incorporation of All Concerns and Ideas**

Lake County CMS – Engineering and Policy

- **Compiling Comprehensive Plans and LOS Information**
- **Compiling Traffic Counts – Multiple Agencies**
- **Researching Historical Projects – Vested Trips**
- **Creating Format for Application**
 - Trip Diary, Project Diary, Roadway Database
- **Compiling Roadway Data**
 - Number of lanes, speed limits, lengths, characteristics, etc.
- **Land Development Code Update**

Lake County CMS – Technical Application

- **Creating GIS Structure**
 - Roadway Network Segmentation
- **Creating Checkbook Mechanism and Programming**
- **Database Creation – SQL Server**
- **Application and Interface Creation**

Lake County CMS – GIS

- Integrated with Database
- Visual Reference of Network
- Point and Click Summaries
- Assistance to Evaluations

Lake County CMS – Implementation

- Coordination with IT
- Network Establishment
- Merge to SQL Server
- Permissions
- Installment
- Testing – Alpha and Beta
- Remote Access

Lake County CMS – Current Progress

- Maintained by Lake - Sumter MPO
- Direct Access to Lake County Server
- Apply Countywide Methodology
- Recent Annual Count Update

The Future of Concurrency

- **Financing not keeping up with growth**
 - Increased construction costs
 - ROW
 - Insufficient Impact Fees
- **Private Public Partnership**
- **TCEAS**
- **Backlog Authority**
- **Toll Roads**
- **Legislative Changes**

Questions

