Subcontract with Mary Bosch Associates shall contain a special provision that ties Georgia Tech payments to the receipt of payments by GTRC from the sponsor.
SPONSORED PROJECT TERMINATION/CLOSEOUT SHEET

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Grant/Contract Closeout Actions Remaining:

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☐ Final Invoice or Copy of Last Invoice Serving as Final
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☐ Final Report of Inventions and/or Subcontract:
  Patent and Subcontract Questionnaire
  sent to Project Director x
☐ Govt. Property Inventory & Related Certificate
☐ Classified Material Certificate
☐ Other

Continues Project No. Continued by Project No.

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THE ROLE OF THE

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY

IN

ORLANDO'S TRANSPORTATION FUTURE

GEORGIA INSTITUTE OF TECHNOLOGY
A UNIT OF THE UNIVERSITY SYSTEM OF GEORGIA
GRADUATE CITY PLANNING PROGRAM
COLLEGE OF ARCHITECTURE
ATLANTA, GEORGIA 30332

1987
THE ROLE OF THE

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY

IN

ORLANDO'S TRANSPORTATION FUTURE

October 1987

Georgia Institute of Technology
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I. EXECUTIVE SUMMARY

TRANSPORTATION ISSUES

The Orlando region's population and economy have soared in recent years. From 1982 to 1987, the Orlando metropolitan area added employment at the rate of 8.2% annually -- faster than any other urban area in the United States. Population is growing at a rate faster than for Florida as a whole. During this period of unprecedented growth, the region's transportation system has not kept pace. The Florida Turnpike and I-4 were completed in the mid-1960s. The OOCEA has added the only limited access highways in the area since then.

Insufficient transportation development during a period of significant growth is affecting the region detrimentally. Orlando's low population density and decentralized growth pattern compound traffic problems and reduce the chances for developing a fixed route transit system. While there is no evidence to suggest Orlando's economic growth has been or will be hindered by congestion, transportation conditions affect location decisions of individuals and businesses.

Orlando's ability to resolve its transportation problems is integrally linked to public and private leadership in the region. Other urban areas have discovered the importance of leadership and consensus-building through a single organization. While various alternatives for regional organizations have been proposed, none have gained the broad-based support and momentum necessary to succeed. The need for strong, cohesive leadership is among the most critical of Orlando's transportation issues.

A single regional agency responsible for expressways continues to be desirable for several reasons: Orlando's traffic congestion and the need for a circumferential highway are multi-jurisdictional issues; the timing and location of facilities can best be coordinated through a single agency; a single agency with a larger toll revenue base also has greater funding and financing strength and flexibility; and lastly, a unified toll system allows the establishment of pricing policies which maximize efficient use.
THE ROLE OF THE OOCEA

Because of its past performance in expressway construction and financing, the OOCEA is highly regarded, and serves as a leading transportation agency for the region. OOCEA involvement is important to future plan implementation, particularly completion of a beltway.

Among the Authority's unique advantages as a transportation organization are its history as a highly efficient, well-managed agency, its (appointed) board's record of strong commitment to serving the public interest, its single-purpose focus, and its outstanding ability to raise funds. Fund-raising capability has special significance in a state where nearly half of the costs of implementing the State Comprehensive Plan -- $52.9 billion -- are transportation-related. OOCEA's reliance on toll financing has the advantage of encouraging both highly efficient investment and utilization.

OOCEA ALTERNATIVES

Because of the OOCEA's numerous and important strengths, the study team considered several alternatives for expanding its scope of activities. Land development, mass transit and other transportation modes were rejected because they created the potential for conflict of mission and interest and because the OOCEA does not possess the special expertise they require. The potential damage to the Authority's image and the fact that these functions are already being carried out by existing agencies also were factors influencing the study team to reject them.

However, a potentially larger role for the Authority exists in the construction, operation and maintenance of other roads and highways. The OOCEA may apply its experience and qualifications to other toll projects in the region such as the Western Beltway, to major arterials directly related to the expressway system and to Interstate 4. The study team believes that converting I-4 to a toll facility might defer, if not eliminate, the need for capacity expansion by encouraging more efficient travel. Further, it could supply the funding for such an expansion if and when it were necessary.
RECOMMENDATIONS

Because of the OOCEA's many strengths and the need for its services in the region for the foreseeable future, the study team recommends the OOCEA continue and enhance its role as the region's expressway provider. The OOCEA should pursue a mission to locate, design, construct, operate, maintain and rebuild toll expressways in Lake, Orange, Osceola and Seminole Counties, in accordance with the plans adopted by the Metropolitan Planning Organization. The Authority should continue to derive its primary revenue for construction and operation of facilities from tolls, investing in these facilities which will yield greater revenues than costs over their useful lives.

In support of this mission and MPO plans for an expanded toll expressway system in the Orlando area, it is recommended that the OOCEA merge with the Seminole County Expressway Authority. Because of the unique and controversial issues surrounding this merger, it is further recommended that Seminole and Orange Counties initiate a formal negotiation process to develop an equitable agreement.

While a regional organization is the most desirable and practical alternative to meet the region's transportation needs, a four-county organization as proposed in the Central Florida Expressway Authority legislation is inappropriate at this time. Projects in Lake and Osceola Counties may still be undertaken on a contractual basis.

To successfully pursue its mission, it is also recommended that the Authority strive to develop a complete tolled expressway system, ideally including I-4 as well as the OOCEA's current system and the beltway. The Authority should concentrate on construction of the Central Connector, the Eastern and Western Beltways, and operation of I-4 as a toll facility.

As the reconstituted Authority's asset base grows and diversifies, and its responsibilities expand, it should undertake systematic, ongoing strategic planning. Strategic planning would allow the ability to prepare for controversial decisions, to avoid unexpected crises, to evaluate performance against objectives, and to make the most efficient decisions over time. As part of such strategic management, the Authority should make a comprehensive assessment of its institutional and public relations.
II. INTRODUCTION AND STUDY OVERVIEW

STUDY PURPOSE

In March, 1987, the study team began work on its stated mission: to determine an appropriate future role for the Orlando-Orange County Expressway Authority (OOCEA), and how it can best serve the community after 1991. This report represents the conclusions of approximately six months of work by a core staff of four, and a group of six other specialists from universities and federal agencies around the nation.

Authority members and staff provided the study context by conveying the high degree of public dissatisfaction with ground transportation in the Orlando area. A recent attempt to gain public support for a regional transportation agency, the proposed Metropolitan Transportation Authority (MTA), had failed. The OOCEA itself, however, enjoys an excellent reputation. Highly praised by community leaders for its implementation ability, the OOCEA has succeeded in financing and constructing limited-access highways during a period when other public entities have been unable or unwilling to do so.

Given the current transportation situation in the Orlando area, and the OOCEA's public purpose, high visibility, and outstanding performance record, the study team sought to determine whether the public would be better served by the OOCEA carrying out a different or expanded role in improving accessibility in the Orlando area. The OOCEA directed the team to carry out an objective analysis, considering all the possibilities on their merits, including reducing the Authority's role in the future, if that were in the public's best interest.

STUDY DESIGN AND PROCESS

Philosophy

Two distinct approaches to this task were possible. The first, the comprehensive planning approach, was rejected for the second, the strategic planning approach. However, elements of the comprehensive planning process were retained and used to create a richer strategic planning process than might normally occur. This section describes the philosophy and implementation of the study.
The comprehensive planning process would have begun with an inventory of the population, economy and land uses of the Orlando region to create a base of information. Next, the team would have developed a land use plan, and finally a transportation plan consistent with the land use plan. Finally, it would have addressed the question of an appropriate role for OOCEA to play in planning, financing, and implementing transportation services and facilities in the region. The OOCEA itself engages in still another type of planning, long-range facility planning, which is not comprehensive, nor issue-oriented, but addresses the considerations involved in planning only the Authority's limited access toll expressways.

Unlike comprehensive planning, which attempts to set goals for an entire community and to plan means for carrying them out, strategic planning typically focuses on the goals of a single organization. It considers the environment within which the organization operates, though this inquiry is less than a comprehensive inventory. Strategic planning then asks what goals and objectives are most appropriate for the organization given its environment. The strategic planning process assesses strengths and weaknesses, and examines major changes or events occurring outside the organization. It concentrates on issues affecting the organization and ways to address them.

The study did not follow the comprehensive approach for three reasons. First, the team found the existing transportation planning process in the region to be sound. Second, the time and resources required just to replicate the existing plans would have been far greater than agreed to for this study. Finally, the strategic approach seemed more in keeping with the purpose of the study. Instead, the strategic, issue-oriented approach was adopted, but preceded by a fairly extensive inventory phase. The team felt that a determination of the Authority's future role ought to be based on:

- The most significant transportation problems or issues in the Orlando area.
- The OOCEA's current capabilities or potential for resolving the issues.
- The current capabilities of other potential actors for resolving the issues.
The study attempts to match the OOCEA's unique strengths to problems no other agency can address equally well. In the process, some issues are raised that the Authority cannot resolve. Some of these might appropriately be addressed by other entities or remain unaddressed. The process is depicted in Figure 1. It demonstrates how a comprehensive problem statement was followed by a strategic inquiry and set of recommendations.

**Approach**

The team included a four-person core staff consisting of Dr. David S. Sawicki, project director and Dr. Catherine Ross, both of Georgia Tech; and Mary Bosch and Amy Helling of Bosch & Associates. The core staff first developed what in strategic planning is called an "environmental scan," interviewing over 30 leaders in the Orlando area between March and June, and reviewing many important documents, (see Appendices A and B). From this information, the core staff developed several background papers about the OOCEA, the Orlando region and other transportation actors for reference throughout the project. The core staff and six specialists used this information to assess the most significant transportation issues in the region, and the capabilities of the OOCEA and others to address them. As part of this effort, the team drafted a series of briefing papers. Titles of the various written products appear in Appendix C.

The specialists on the team included two members of federal transportation agencies, a transportation engineer, an expert in transportation economics and finance, an urban planner with expertise in economic development and a transportation planner familiar with the Florida context. Consultant names and affiliations are provided in Appendix D.

The core staff focused the team's attention primarily on a four-county study area consisting of Orange, Seminole, Osceola and Lake Counties (Figure 2) for several reasons. It has been proposed that these four counties join in a regional expressway authority. All four are part of the East Central Florida Regional Planning Commission (ECFRPC) region, and relate to Orlando, rather than the coastal cities as their primary economic center. All four lie within the same Florida Department of Transportation District and have the potential to be directly affected by the next phase of expressway construction around Orlando.
ENVIRONMENTAL SCANNING

- Community interests & expectations
- OOCEA past performance and current capabilities
- Orlando's current transportation situation
- Projections of conditions
- Contingencies

ISSUE IDENTIFICATION: Threats, Weaknesses, Opportunities & Strengths

ALTERNATIVE RESPONSES

MISSION STATEMENT

STRATEGIES AND POLICIES

IMPLEMENTATION

Figure 1: THE STRATEGIC PLANNING PROCESS FOR OOCEA
Figure 2: The Four County Study Area

Source: E.C.F.R.P.C.
Once the core staff and specialists had shared papers with one another, the team assembled in Orlando in July for three days of working sessions. The team achieved the following at the three-day work session:

- Agreed upon the modified strategic planning process;
- Critically reviewed the region's transportation planning process and transportation plans and developed a position on them;
- Discussed a wide variety of roles that OOCEA might play in the future with respect to transportation policy-making and implementation, and agreed on preferred ones;
- Discussed and resolved differences on a variety of detailed recommendations to be made to OOCEA. Provided rationales for the team's positions on these matters;
- Developed a draft outline of the final report and assigned some of the specialists certain writing tasks.

The final report was initially drafted in August and early September. A second draft was developed for review by Authority members and staff in late September. This final report reflects their comments and insights.

Assumptions

During the course of the study, the team identified several important assumptions. The first assumption is that the growth management process, established by the Florida State and Regional Planning Act of 1984 (known as the Growth Management Act or GMA), should be the basis for planning in the region. This assumption stems from background research on the nature and quality of transportation planning in the Orlando region.

To be effective, the study team felt the OOCEA must rely on well-conceived plans that represent the consensus of the State, region, counties, and local governments. The GMA process has this potential. It is probably the foremost experiment in planning now underway in the United States. It is a top-down planning process which starts with a set of state-wide planning policies, develops regional policy plans and then county and local comprehensive plans. The Act requires that Orlando and Orange County's comprehensive plans be consistent with the ECFRPC's plan, which in turn must be consistent with the state plan. The determination of consistency is made by each higher level, with the Florida Department of Community Affairs providing the final approval.
Comprehensive planning is mandatory under the GMA. Such planning encompasses eleven elements -- including transportation -- under the 9J-5 rule that establishes minimum criteria for determining consistency. The rule states that there must be a future transportation plan, including a map, that is coordinated with the future land-use plan, identifying all planned roads, as well as port, aviation, and mass transit facilities. These must be consistent with all state, regional, and county plans. Furthermore, the capital improvements plan must be based upon the future transportation plan or public funds cannot be spent. This provision clearly applies to OOCEA as well as county and local governments.

The first assumption thus provides a framework for planning in Orlando, Orange County, and the surrounding area. The team assumes and recommends that the OOCEA be an active participant in the growth management program of Florida, which will provide a sound basis for expressway planning as part of an overall, comprehensive planning process.

The second assumption has to do with transportation planning for the region, which is carried out through the Metropolitan Planning Organization (MPO). The MPO is the group charged with planning to meet the coordinated, continuing, comprehensive planning requirements of the federal government for highway funding. It is selected by the Governor for this purpose, and staffed by the ECFRPC. The team assumes and recommends that the MPO continue to coordinate and define the overall transportation needs and options for meeting them in the study area.

The third and final assumption derives from the first two. The team assumes that all OOCEA projects will adhere to the consistency requirements of the GMA and in turn with the MPO recommendations. It is neither realistic nor desirable for the OOCEA to embark upon any activities that are inconsistent with the federal and state laws, rules, and regulations.

This final assumption is critical because it makes clear that the OOCEA is not, and should not be engaged in long-term, comprehensive planning. As noted earlier, the Authority’s planning is, and should be, limited to the functional planning necessary to build expressways that have been considered and endorsed through the GMA and the MPO processes. This also means that the regional questions of citizen participation, consensus-building, and conflict resolution can be resolved in a logical manner by the GMA process and the MPO.
STRUCTURE OF THE REPORT:

The six principal sections of this report examine the significant transportation issues in the Orlando region, future transportation facilities and policies for Orlando, the OOCEA’s characteristics and potential for dealing with transportation issues, alternative functions for OOCEA, and, finally, the study team’s conclusions and recommendations about the OOCEA’s future role and mission and strategies to help it succeed.
III. MAJOR ISSUES IN ORLANDO'S TRANSPORTATION FUTURE

This section examines transportation issues the team identified while preparing background and issue papers and during deliberations in Orlando. These issues -- both threats and opportunities -- are those we believe to be most critical to maintaining and improving accessibility in the Orlando area and defining the OOCEA's potential contribution to the transportation system in the future.

Four main subject areas are interwoven and fundamental to any discussion of Orlando's transportation future. They include:

- Orlando's growth and accessibility,
- Transportation facility problems and opportunities,
- The effectiveness of transportation planning and implementation in the region, and
- Funding and financing transportation improvements.

ORLANDO'S GROWTH AND ACCESSIBILITY

Three issues related to growth emerged as critical to Orlando's transportation future: (1) How does Orlando's growth rate and pattern compare with other cities in the United States? (2) How does the decentralization of the Orlando region, and the general orientation toward automobiles as the primary means of transportation, affect the region's future with respect to transportation, and is this likely to change? and, (3) How does accessibility, both overall and of specific sites in the region, affect the regional economy?

Orlando Compared to Other Metro Areas

The Orlando metropolitan area is among the fastest growing places in the United States. Salomon Brothers, the investment banking firm, reports that Orlando added employment faster than any other urban area in the United States from 1982 to 1987, at an astounding 8.2 percent annual rate. Population, estimated to be almost 580,000 in Orange County and approximately 1,032,000 in the four-county study area in 1986 by the University of Florida's Bureau of Economic and Business Research, is growing at a rate faster than for Florida as a whole. This
rate of growth alone makes it difficult for Orlando’s transportation system to keep pace. In addition, Orlando experiences major influxes of non-permanent residents and tourists each year (up to 10.4 million in 1986 from 6.5 million in 1980). The ECFRPC estimates that this averages out to an additional 55,000 vehicles per day on Orlando area roads.

Between 1980 and 1986 total employment in the four-county study area grew by 8.5 percent as compared to 5.2 percent in Florida as a whole. However, in 1983, of the four counties in the study area, only Seminole exceeded the United States per capita income. Lake County had less than 91 percent of the U.S. per capita income, and Osceola under 82 percent. Florida residents overall received better than 99 percent of the U.S. per capita income.

As indicated in Tables 1 and 2, average population densities in the four counties are forecast to fall short of the lowest density suburban development even in Seminole in 2005, which will continue to have the largest number of persons per square mile in 2005. Of course this measure of concentration is very gross. The regional land-use map, when it is completed, will show the existing and planned future spatial pattern of the region in great detail.

**Decentralization and Auto Orientation**

Orlando is growing in a highly decentralized fashion. Employment centers and desirable residential areas are often distant from one another. Already in 1980 the U.S. Census showed that the average travel time to work in Orlando, Osceola and Seminole Counties was over 20 minutes. This trip was longest for Seminole residents, many of whom commute daily into Orange.

Table 3, taken from the ECFRPC compilation and forecasts of resident and attendant employment in the study area indicates the differences between where workers lived (resident employment) and where they worked (attendant employment) in 1985. It is dramatically clear that Orange County imports workers, while Lake, Osceola and particularly Seminole, export them. For Osceola County this pattern is relatively recent. Figure 3 maps this information.
**TABLE 1**

Average Population Density Per Square Mile
In The Study Area

<table>
<thead>
<tr>
<th></th>
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<td>Orange</td>
<td></td>
<td>910</td>
<td>378</td>
<td>518</td>
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<tr>
<td>Seminole</td>
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<td>281</td>
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<tr>
<td>Osceola</td>
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<td>1,350</td>
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<tr>
<td>Lake</td>
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<td>954</td>
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### TABLE 2
Types of Development Characterized by Particular Densities

<table>
<thead>
<tr>
<th>Types of Development Characterized by Particular Densities</th>
<th>Density in Population Per Square Mile</th>
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<tr>
<td>Urban-High Density</td>
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<td>Urban Moderate Density (clustered)</td>
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<td>Urban Moderate Density (conventional)</td>
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<td>Suburban Medium Density (conventional)</td>
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<td>Suburban Low Density (clustered)</td>
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<tr>
<td>Exurban (clustered)</td>
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<tr>
<td>Exurban (conventional)</td>
<td>576</td>
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<tr>
<td>Rural (scattered)</td>
<td>27</td>
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</table>

## TABLE 3
Resident Versus Attendant Employment in the Four-County Study Area

<table>
<thead>
<tr>
<th>Planning Area</th>
<th>RESIDENT EMPLOYMENT</th>
<th>ATTENDANT EMPLOYMENT</th>
<th>ATTENDANT MINUS RESIDENT EMPLOYMENT</th>
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<td>70,515</td>
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<td>5</td>
<td>12,751</td>
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<td>40</td>
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<td>44,439</td>
<td>32,692</td>
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</table>

**SOURCE:** BCFRPC
Planning Areas Which Had More Attendant Employment Than Resident Employment In 1985

Figure 3: Planning Areas With More Attendant Employment (Jobs) Than Resident Employment (Resident Workers) in 1980

Source: E.C.F.R.P.C.
When resident and attendant employment are similar for a given area they represent the potential for individuals to work close to home, not the fact that they do. All the constraints imposed by the availability of desirable and affordable housing, and matching particular individuals with the jobs that suit them mean that many people commute out of their immediate neighborhood to work in spite of the availability of jobs close to home. But these estimates do crudely represent the potential for living and working in close proximity. Since the journey to work represents a very large proportion of all trips, and an even larger proportion of the peak hour trips which are the chief source of congestion, the strain on the transportation system when people must travel substantial distances to work is significant.

Because of these growth patterns, a person in the Orlando area will travel more miles by vehicle every year than someone who lives in a denser metro area, and/or a metro area where jobs and other destinations are closer to desirable, affordable residential areas. Add to this the fact that most methods of transit depend on many people beginning and ending their trips at the same point or along the same corridor to be efficient, and therefore feasible to provide at a reasonable cost, and it becomes clear that not only does Orlando's current development density and configuration cause individual people to make more trips, but it causes them to make them in their own automobiles. Current development patterns in the Orlando area are ensuring that vehicle miles of travel per person will be higher than in metro areas with different land use patterns. This means more cars, and the need for more roads to accommodate them.

The relationship also works in reverse. Reduced travel time, such as a new expressway might provide to an area fairly distant from existing development, encourages more dispersed development than would have happened otherwise. While travellers measure the cost of travel primarily according to the time it takes, providers measure it in terms of the cost of building facilities to accommodate these travellers. It will cost the public more to provide roads if development is low density and dispersed, and if common destinations are distant from one another. In fact, under the GMA, toll facility plans are required to take into account impacts on future land use patterns and urban sprawl, and are prohibited from constructing facilities which would promote non-contiguous development.
However, the primary responsibility for addressing these issues does not belong to the OOCEA. As the assumptions make clear, the regional comprehensive planning process is intended to deal with this, because making the region accessible to those who live and visit Orlando involves more than simply getting additional roads built. It is intimately involved with land use planning in the region.

Transportation and the Regional Economy

Impact studies generally conclude that transportation facilities have very little effect on the overall level of economic activity in a region. The exception is the exploitation of extensive undeveloped territory where transportation facilities provide access not previously available. Within the highly-developed United States transportation system, and in Orlando, transportation investments are not likely to create a growth stimulus. The inverse is also true. It is unlikely that the Orlando area's economy will suffer significant harm because of congestion on its surface arterials and limited access highways. This has been verified in studies of the locational behavior of traditional manufacturing firms and service industries.

On the other hand, these investments do influence the distribution of economic activity and population and development densities. For example, a study for the proposed Richmond, Virginia beltway in 1972 found that beltways in six different areas had no impact on the aggregate economic activity of their regions, but that retail sales in the central business districts declined faster in cities with beltways. Perhaps the most comprehensive recent study of this topic was sponsored by the Department of Housing and Urban Development and the U.S. Department of Transportation. This report, The Impact of Beltways on Central Business Districts, concluded that beltways seem to be an important influence on the distribution of population and economic activity, especially real estate development projects, but they support and reinforce market trends rather than creating new markets for development.

Congestion is an inconvenience in Orlando at present. That inconvenience may even be severe at times. But that alone will not dampen economic growth in the region. On the other hand, it probably will affect people's and firms' decisions about where they locate within the region, which has tremendously important implications for local governments, particularly those suffering most from congestion.
TRANSPORTATION FACILITY PROBLEMS AND OPPORTUNITIES

While the Orlando region's population and economy have burgeoned, the transportation system has experienced only limited expansion. The Florida Turnpike, developed by the Florida Turnpike Authority, was completed through the southern part of the Orlando area in 1964, and Interstate Route 4 (I-4), planned and implemented by the Florida Department of Transportation, was completed in 1965. The OOCEA has completed three major expressway projects in the region: a portion of the Bee Line Expressway, a 21.9-mile facility extending from Sand Lake Road through the southern part of Orange County to a point nine miles west of the Brevard County line in 1967; the East-West Expressway, a 13.8-mile facility in 1973; and an airport interchange at State Roads 436 and 538 and a three-mile connection between the interchange and the Bee Line and State Road 482 in 1983.

The absence of sufficient transportation development during a period of major growth is affecting travel conditions within the region detrimentally. Traffic congestion, which was once confined to the approaches to the Orlando Central Business District (CBD), now extends along much of Interstate 4 and is recorded on most of the major arterials. Although major highway improvements were identified in several regional transportation plans, no major new expressways, other than tollway projects, have been completed in the past 20 years.

The existing highway system within the Orlando urban area is composed of freeways, toll expressways, major and secondary arterial streets, and local collector facilities. The principal roadway system of the Orlando urban area, the major area of current congestion, is shown in Figure 4.

Freeways

Freeways and expressways have become an integral part of the structure of the communities within the Orlando area. They provide unencumbered, high-speed, movement of large volume of traffic within heavily traveled corridors. This has largely been accomplished by the use of access control and grade-separated interchanges. The location of these freeways and expressways has been a catalyst for stimulating development of the area.
Interstate 4 is the only major freeway within the Orlando urban area. This facility runs north/south and is part of the interstate system, connecting the Tampa Bay area on Florida's west coast to Daytona Beach on the east coast.

At its peak load points, I-4 carries over 140,000 vehicles per day (1986). These traffic volumes are composed of many local internal trips as well as the travel requirements of people moving completely through the region. Interstate 4 carries the influx of tourists from the north, as well as the residents commuting from the bedroom communities in the north Orlando area to the employment and recreational activities located southwest of the city.

One of the major symptoms of the growing traffic congestion in Orlando is the increasing congestion on I-4 during peak flow periods. Peaking now occurs for over two hours in the morning and two hours in the evening on I-4. Congestion on this freeway has been more apparent than on other Orlando highways in recent years and has created alarm in motorists because of its relative suddenness and seriousness.

Although congestion and delay are occurring on most arterials at peak hours as well, this has been true to some extent for many years. Most congestion on arterial streets occurs at intersections, where delays are inherent with at-grade traffic signal control of movement.

Members of the study team observed firsthand the congestion on I-4 and at other locations in Orlando. Their initial reactions were that the congestion and delays are not severe, as yet. Congestion and delay are far worse in many other cities in the U.S. of similar population. However, the recent increase in congestion indicates that it will worsen rapidly unless capacity is increased or vehicle trips, particularly at peak hours, are reduced.

**Toll Expressways**

The other roads built to freeway standards within the area are toll expressways. The most heavily used is the East-West Expressway, which parallels the east-west arterial roadway system and passes just to the south of downtown Orlando. This 13.8-mile roadway serves as a direct route to downtown from the east and west suburbs and at the same time allows through-traffic passing from
the east and west to bypass downtown road congestion. It also provides easy access to I-4. Currently, this facility carries approximately 70,000 vehicles a day on its downtown segment. The East-West Expressway volumes were growing at 15% per year before the recent toll increase, which has temporarily reduced traffic volumes.

The Bee Line Expressway, another east-west roadway located in the southern portion of the urban area, historically has served longer trips to and from the east coast and the Kennedy Space Center. However, with the growth of traffic at the Orlando International Airport and in the southwest corner of the region, the Bee Line is taking on a more important role as an urban expressway. It now serves as a convenient commuter route to the industrial activities southwest of Orlando and as a route to the airport for all of the urban area via its connection to I-4 and other north-south arterial routes. This facility carries approximately 30,000 vehicles a day just to the west of the newly constructed airport interchange.

The third major toll facility serving the Orlando urban area is the Florida Turnpike. This route primarily serves through-traffic and, because of its lack of interchanges within the urban area, plays a relatively minor role in Orlando's overall expressway system today.

Other Highway Facilities

Major arterials, collector and local streets provide substantial vehicular capacity with many of them having four lanes of two-way traffic. Traffic growth on these facilities also outstrips government's ability to expand the transportation system. Not only are the daily volumes of traffic increasing over time in the Orlando urban area, but the peak hours are extending considerably beyond their traditional bounds. Many arterials carry peak loads for several hours per day, often in the midday. These are early symptoms of a system becoming overstressed.

Colonial Drive and State Route 436 are the heaviest travelled east/west non-limited access facilities within the metropolitan area. Traffic volumes approach or exceed 50,000 vehicles per day at numerous locations. U.S. Route 441, U.S. Route 17-92, and Semoran Boulevard carry the most north/south traffic in the Orlando area. Again, volumes approaching or exceeding 50,000 vehicles per day are handled at several locations.
Mass Transit System

An estimated two percent of the total trips made in the Orlando urban area are made on public transportation. Though a very small proportion of the total, transit is an important element in the lives of many of its users, as it is the major source of mobility to them.

The development of an expanded mass transit system in the Orlando area is an issue of importance. Several of the Orlando urban area transportation studies evaluated the development of a fixed guideway system of some type. Such analysis generally agreed that the Orlando area would have to alter its low density development style to higher density in major new developments to make an extensive fixed guideway system feasible. To date this is not the case.

Further, even with such a change in density of new development, a fixed guideway system would carry only a small percentage of the total daily person trips and almost none of the goods trips. The substantial cost to construct such a system in the Orlando area -- even only in the I-4 corridor area where most agree it would have the greatest desirable impact -- makes it difficult to justify such an expense. Finding adequate funding for such a system would be a major problem.

Airports

Orlando International Airport, which serves the air transportation needs of the Orlando urban area, is one of the fastest growing airports in the nation. The number of passengers served has increased an average of 14.3 percent per year since 1971. In September, 1981, the airport began operating from the new airport terminal. The terminal has increased the airport's capacity to handle passengers and, as a result of airport expansion and the rapid growth within the area, it is presently exceeding earlier projections of travel.

EFFECTIVENESS OF TRANSPORTATION PLANNING AND IMPLEMENTATION IN THE REGION

Dissatisfaction with Orlando's progress in this area contributed to the rationale for undertaking this study. One of the important issues the team explored was how the process of planning and implementing transportation improvements works -- or doesn't work -- at present.
The Actors and Mechanisms

Federal guidelines require that the transportation planning process be continuous, cooperative and comprehensive. Accordingly, long-range transportation planning in the region is administered by the Orlando Metropolitan Planning Organization (MPO). The MPO planning process analyzes and forecasts study area conditions over a 20-year period. In so doing, it identifies critical transportation needs and deficiencies, develops and tests alternative responses, establishes a recommended action plan and defines and schedules the economically feasible program elements. Included in the region are all of Orange and Seminole Counties and the northern portion of Osceola County. Extension of the planning area to Lake County is imminent, as that county experiences increasing growth and development pressures. The first Orlando urban area transportation plan was completed in 1969, with major updates occurring in 1976, 1979, and 1985.

The MPO's "unified work program" is of critical importance for two reasons. First, only projects on the program can obtain federal assistance. Second, in many ways it is the most realistic statement of a consensus transportation plan for the region, expressing local priorities and transportation organizations' intentions. A much more ambitious program is contained in the MPO "needs plan."

However, as the agency responsible for these planning documents, the MPO has been the object of criticism. It is alleged that the process accommodates the parochial interests of the participating organizations too much, and that the "needs plan" is simply a wish list of its members. Even greater concern is expressed over the MPO's inability to stimulate plan implementation, identify responsible agencies and establish realistic timetables for program accomplishment -- in spite of the fact that MPOs were not intended to be implementors. Undoubtedly more can be done to link plans and programs, but the Orlando MPO and its planning process do provide a framework for sound regional transportation planning and the necessary intergovernmental coordination.

Within the Orlando metropolitan area local governments and other organizations are responsible for implementing the region's transportation plans. The responsibilities divide as follows:
State highway departments have traditionally played an important role in creating a balanced multi-modal transportation system and in coordinating transportation with non-transportation developments. The Florida Department of Transportation (FDOT) has a reputation for a slow and unresponsive approach to local transportation needs. Needless to say, this has frustrated area providers and local governments dependent on the agency for project funds, technical assistance or road maintenance. Expectations are high that under new state leadership, the FDOT will significantly streamline decision-making, decrease its bureaucracy and provide added autonomy to urban and district offices. In the meantime, local transportation organizations will continue to be dominant service providers in the Orlando region.

City and county governments play a traditional role in transportation in the region. They are responsible for all arterial, collector and local roads falling within their respective jurisdictions. Lake, Orange, Seminole Counties and the city of Orlando all have established transportation impact ordinances and collect fees for new developments. Fees collected from a specific development must be used to fund road improvements within the same defined district. The Growth Management Act stipulates that public facilities must be in place to meet new development. Thus, in the future, local governments may be under greater pressure to be timely and responsive in their delivery of transportation services.
Because of its record of accomplishment in expressway construction and financing, the OOCEA is perceived to be an important player in plan implementation, specifically in advancing completion of the beltway. The Seminole County Expressway Authority (SCEA) has become active recently, selecting an alignment for the Eastern Beltway. However, it still lacks a funding source and a track record, and thus its future role is uncertain.

Tri-County Transit is the sole provider of public transit services for the region. Established under an interlocal agreement with Orange, Osceola and Seminole Counties, the FDOT and the ECFRPC, the agency operates without benefit of a dedicated funding source, and outside the Orlando transportation mainstream. While Tri-County Transit possesses broad powers to carry out its function, it is not authorized to levy any tax or issue bonds. The organization serves a predominantly low wage, service work force and without increased funds -- which it is not likely to obtain -- will experience little growth or change as a transit provider.

Another special service agency, the Greater Orlando Airport Authority (GOAA), is the principal provider of air transportation services for the Orlando area. The Sanford Airport Authority in Seminole County serves primarily industrial needs. The GOAA has proven excellent in planning, operating, maintaining and financing the region’s growing air transportation needs, and has provided effective leadership in the airport’s development.

Because responsibility for implementing transportation plans for the region is fragmented, proposals for a multi-county expressway authority continue to be generated. Lacking a strong regional transportation management organization, successful completion of Orlando’s transportation system will rely heavily on single-purpose, single-mode transportation agencies. The dangers in this approach are that the most critical needs of the region may not be adequately addressed and insufficient consideration may be given to seeking the optimum balance. However, the study team found that even a single purpose organization could probably manage and resolve the region’s transportation problems more efficiently and effectively if it served the entire region.
Private/Public Leadership and Public Support

Any urban area must build and maintain a consensus among its varied special interests if its transportation goals and actions are to be effectively planned and implemented. In the absence of a regional transportation organization to manage and direct plan implementation, public and private leadership is imperative for timely and effective action.

In recent years, the involvement of Orlando's business community in transportation issues has ranged from public education to direct project support. Several private or public-private groups have organized to identify regional transportation needs and to pose solutions to problems. While the groups have successfully studied and communicated the issues, none has effectively rallied public support for major transportation initiatives. In fact, the failure of the one region-wide effort -- the Metropolitan Transit Authority (MTA), has been attributed in part to mishandling by the business leaders who initiated it. Still, private industry's positive contributions to Orlando's transportation system have been significant.

Among the accomplishments of individual business leaders has been the securing of scarce state and federal monies for specific Orlando highway needs. Their involvement in transportation is, no doubt, motivated as much by business interests as by concern for the regional or public good. Developers have donated right-of-way to spur expressway development and constructed frontage and other roads. The private sector has also taken the initiative in examining the feasibility of rapid transit systems, though no projects have materialized. The development community continues to be viewed as a source of support for a light rail system to connect the CBD with commercial activity centers to the north.

Without question, continued and increased private sector leadership and support are essential. There will be many opportunities for donations of land, private construction and donation of roads and other forms of assistance over the next decade of major highway additions in the region. The OOCEA, together with other public agencies, will want to seek every chance to work jointly with business leaders to expand their role in garnering appropriate public support for specific project elements and methods of funding.
Responsibility for regional responses to Orlando's transportation needs, however, ultimately rests with public officials. While private individuals may spur action or resolve isolated transportation problems, it is incumbent upon elected officials to establish priorities and solutions that serve the public good.

The Orlando area's elected leaders have been criticized for being ineffective policymakers and implementors on transportation issues. This may be due in part to the varied interests they serve. Elected officials must balance a variety of transportation constituencies with widely disparate objectives, such as the forces favoring local autonomy versus those seeking solutions to regional problems. Elected officials must respond to the conflicting desires of developers and conservationists, who hold different views of the best ultimate use for land—and consequently of the transportation facilities necessary to serve it. They must respond to resident voters, even though tourists and temporary residents have significant transportation needs and play an important part in the regional economy. Competition and animosity between some jurisdictions is also responsible for government officials' inability to devise or agree on cooperative solutions.

The Central Florida legislative delegation has also lacked leadership and a unified voice on transportation issues in the past, due in part to the high turnover among legislators—a chronic problem in the Florida Legislature—and a high degree of parochialism. These problems are manifest in the Central Florida Expressway Authority legislation, which reflects the views of a few legislators without the direct input or unified support from local elected officials, who would be responsible for its implementation.

Pressure on Orlando's public officials to develop solutions to transportation problems may be particularly great compared to other metropolitan areas because of weak leadership in the past at the Florida Department of Transportation. Nevertheless, a satisfactory resolution to the area's problems is unlikely without both activism and cooperation on the part of local officials.

Public support for transportation initiatives is mixed. The attitude of Orlando's public is not unlike that exhibited in communities across the nation—a recognition of the problem and an unwillingness to pay. Public opposition to an ad valorem tax increase was a primary reason for failure of the MTA referendum in 1986, despite opinion surveys indicating overwhelming support for the concept.
Recent public opposition to the eastern beltway in Seminole County may be an indication of problems ahead for other beltway segments which traverse developed areas. Upcoming referenda in both Orange and Seminole Counties asking approval for local sales tax increases to be spent on infrastructure improvements will reflect the public's degree of confidence in elected officials as well as its support for the facilities. Public resistance to major road and expressway improvements could be as significant as opposition to local tax increases.

**Orlando Compared to Other Metropolitan Areas**

The effectiveness of Orlando's transportation planning and delivery system is not easily compared to other U.S. cities. While the goals may be similar, each city's politics, funding options and land use configurations are unique. However, several urban areas are noteworthy for their success in transportation planning and implementation. A review of these cities revealed both common problems and factors important to their successes.

All the cities surveyed experienced problems with transportation funding and financing, politics, and matching transportation service provision with community development and growth. The sprawling auto-dependent cities of the West and the South which, like Orlando, have grown rapidly, have had the greatest recent difficulty with the proper timing of road construction. In areas of the country growing more slowly, congestion crises develop more gradually, allowing more time in which to act.

Although each city's transportation crisis relates to its historical experience, the responses of other urban areas facing transportation challenges similar to Orlando's may be instructive. Among the characteristics common to cities alleged to be successfully meeting area transportation needs are:

- Establishment of consensus-building organizations.
- Development of new institutional arrangements.
- Separation of policy-making and operations.
- Extensive private involvement and leadership.
- Use of varied and innovative traffic reduction mechanisms.
Consensus-Building Organizations. When faced with a large number of political jurisdictions, several cities have established separate transportation organizations to bring together key community leaders. Their primary goals have been to identify, analyze and act on the most pressing transportation problems.

Houston, Texas initiated the Regional Mobility Planning (RMP) process which has since become a model for the state. Houston’s RMP group involved public officials, business leaders and state and local transportation authorities in assessing critical transportation needs, developing a plan and designing a practical implementation program. The RMP plan was presented to the State Highway Department in order to help secure funding for transportation projects the group felt were critical.

Faced with several interjurisdictional transportation needs, (such as a third circumferential highway), the city of Dallas formed the Metroplex Mayor’s Committee, comprised of the CEOs of all urban and suburban cities and towns in the region. The group meets monthly to discuss common transportation concerns. A separate but affiliated group, the Executive Committee on Highway Finance, is charged with lobbying for increased state highway funds. Nearly identical to the Dallas plan is one in Orange County, California in which a "Super Committee" comprised of 16 mayors and council members from local governments in the county has been established. The group has been successful in rallying public support for major transportation projects.

By comparison to these communities, Orlando clearly suffers from the absence of a single leadership organization able to forge a unified vision and action plan for area transportation issues.

New Institutional Arrangements. Even more common than mechanisms to enable effective and participatory decision-making among area leaders is the creation of new groups or unconventional institutional structures. Such groups are frequently chartered to plan for and carry out specific transportation projects, as well as to hasten implementation activities. Denver, Colorado has created such a special purpose organization in the E-470 Authority. Like proposals for a regional expressway authority in Orlando, the E-470 Authority represents four local governments in Denver for the purpose of planning, funding and constructing the eastern half of a beltway for the city. A bill in the Colorado legislature would
allow this authority a number of unique financing capabilities including powers to levy development fees and employment taxes, establish local improvement districts and create value capture areas to levy property and sales taxes.

A less conventional transportation arrangement also initiated by Denver area governments is that of metro districts -- quasi-public entities authorized to issue bonds for capital improvements, and backed by property tax levies. The Joint Southeast Public Improvement Association is comprised of eight metro districts and will ultimately include over 50 million square feet of commercial development. Organized primarily by area developers to support developments like the Denver Technology Center, the association has made $28 million worth of road improvements since 1982. A critical benefit to this approach is that local business and development interests are both primary sponsors and beneficiaries of road improvements and are able to effect quick action on critical needs.

Serving the Minneapolis-St. Paul region is the Metropolitan Council of the Twin Cities Area, the area MPO, which is widely recognized as a model agency for linking regional transportation policy planning and state and local decision-making. It provides the policy umbrella under which the public transit authority and its private competitors function, and also plays the more common MPO role. In large part because of its strong links to the state legislature, the agency is regarded as highly effective at maintaining and expanding what was already an excellent and extensive transportation system.

Orange County, California provides an example of a radical departure from the usual decentralized transportation planning and implementation model. Established a decade ago, the Orange County Transportation Commission (OCTC) plans, develops, and coordinates all surface transportation for the 26 separate communities within Orange County. By law, all state and federal transportation funds available to Orange County must be budgeted by OCTC. The Commission has taken the lead in a large scale public education effort and in coordinating solutions that address the county's transportation problems. Among its accomplishments has been its ability to quadruple the return of state gas tax monies to the county.
Separation of Policy-Making and Operations. Several cities have found increased speed and effectiveness in transportation service delivery through the use or creation of separate planning organizations and service operators. Transit services are particularly conducive to this arrangement where operation of bus, train or ride-sharing systems can be implemented by a private organization. The public agency becomes in effect a purchaser of service in the marketplace. For instance, the Regional Transit Board in the Minneapolis-St. Paul area conducts transit planning in keeping with policy set by the Metro Council. The actual service providers include the public Metropolitan Transit Commission and various private operators. Dallas' and San Diego's transit agencies operate in a similar fashion. As public agencies, they plan and develop programs, but contract with public or private transit providers for operations.

Private Involvement and Leadership. A central theme in the transportation success stories of many cities is the active participation of the business community in developing and implementing solutions to problems. As transportation costs rise and federal funds shrink, public transportation organizations must rely increasingly on private industry and developers for their expertise and resources. Business community involvement ranges from aggressive lobbying for transportation funds to donation of engineering services and highway right-of-way. The benefits of these arrangements are, of course, mutual.

Texas state government has taken steps to encourage private participation in road development through formation of Texas Transportation Corporation(s), a mechanism which allows the donation of right-of-way in exchange for commensurate income tax deductions. The Texas legislature has also passed the Road Utility District Act allowing property owners to form special districts for financing (tax exempt) and building roads.

Joint public-private efforts and cooperation are most common of all, and frequently stem from mutual frustrations over inaction. The newly formed Transit Construction Authority serving southeast Denver is a manifestation of such a coalition. Through significant business leadership and public support, the Authority was established to construct a 13-mile fixed rail system. Construction capital will be derived largely from property assessments.
Innovative Traffic Reduction Measures. Lastly, efficient urban transportation systems use transportation management systems and techniques to reduce congestion. Many cities turn to demand management as an alternative to major construction projects which are far more costly, time-consuming and uncertain of success.

These techniques typically concentrate on providing various incentives and sanctions to reduce traffic peaks. Examples include ride-sharing activities, the use of high-occupancy-vehicle lanes, signalized entrance ramps and various other programs. While many of the concepts themselves are not new, the increasing cost of roadway construction has given them new importance where charging tolls does not have precedent. In Minnesota, for instance, Twin Cities planners intend to make freeway capacity expansion contingent on local government and private sector interests demonstrating their commitment to demand management mechanisms.

In southern California, developers and businesses are encouraged to use demand management techniques in exchange for incentives such as reduced impact fees. Orange County, California has also developed a model program, Super Streets, for applying traffic reduction methods to particular problem areas.

Another much publicized traffic management program is that of Oaklawn, a Dallas neighborhood which reduced traffic in residential and commercial developments. Through resident and business cooperation, a special district ordinance was passed requiring a variety of transportation management actions.

Overall, much can be learned from the experiences and successes of other communities in resolving their traffic problems. Orlando transportation plans and implementation measures have often kept pace with the trends and activities of other cities, as in the case of increasing private sector participation. Yet, the study team feels there is significant potential for Orlando to become a leader in this regard, applying non-traditional methods to meet its transportation goals.

FUNDING AND FINANCING TRANSPORTATION IMPROVEMENTS

The study team recognized that one of the OOCEA’s most striking advantages, particularly against the backdrop of Florida in the 1980s, is its ability to raise
enough funds through tolls to successfully back bonds to finance system expansions. That it could do this was readily evident. The more pressing questions soon became: (1) Is Orlando getting its fair share of transportation funds? (2) What are the advantages and disadvantages of the OOCEA's current methods of funding through tolls? (3) What are the alternatives or supplements to tolls as a revenue source for the OOCEA? (4) Finally, if the Authority is extremely successful at raising funds for transportation, ought these funds all be devoted to expressways, or should they be devoted to other purposes?

The Florida Context

The Final Report of the State Comprehensive Plan Committee states that, "The total cost to state and local governments of implementing the State Comprehensive Plan will be $52.9 billion...Nearly half of the total state and local costs of implementing the State Comprehensive Plan relate to transportation." Infrastructure of all kinds is underfunded in Florida. Given the tremendous pace of growth, and a prized reputation as a low-tax state, this is not surprising.

The Highway Users Federation found that Florida's state fuel tax of 9.7 cents per gallon on gasoline is below the average for all states of 13.3 cents per gallon as of January 1, 1987. Per capita revenues collected by the State of Florida between 1971 and 1984 and adjusted for inflation have hovered around the same amount for the entire period. Because many Florida taxes, like those on fuel, are based on consumption, they are regressive. Florida is one of the few states without a state income tax, and there seems to be general agreement that this is unlikely to change in the near future.

Taken together, Florida's rapid growth and demand for new capital facilities statewide, coupled with strong anti-tax sentiment and heavy reliance on regressive forms of taxation put Florida as a whole in a very difficult situation. Revenues are badly needed, and although the state's population is not poor, tax increases are very hard to get, as evidenced by the controversy over extending the state sales tax to services.

Orlando's Share of State Transportation Funds

All of Orlando's public transportation providers, with the possible exceptions of the FDOT and the Florida Turnpike, are short of funds. While increased transportation funding for the Orlando region as a whole is highly desirable, a
discussion of means for doing this is beyond the scope of this study. However, with respect to the four major sources of state funds for transportation which are forecast in Table 4, the study team noted several possible inequities that may systematically shortchange the Orlando region as a whole.

The state (retained) fuel sales tax of approximately 5.7 cents per gallon is retained by the FDOT in the State Transportation Trust Fund, and spent according to a well-publicized annual process of developing a five-year transportation plan based on existing MPO plans. The Toll Facilities Revolving Trust Fund from which the OOCEA received an $18 million loan in 1987 is funded by this source. Since the OOCEA will repay the loan, the Trust Fund is not permanently depleted by it. Table 4 also indicates that Orange County’s gasoline sales are about 6.2 percent of the Florida total. If State Transportation Trust Fund monies came back to counties in proportion to gasoline sales, as the local option gas tax does, this would entitle Orange County to about $24 million in 1987. This would, however, include all state spending on arterials and I-4 as well as expressway projects funded by grants, not loans.

Table 5 indicates that the OOCEA system represents about three-tenths of one percent of the total centerline miles in the State highway system in Florida, and carries slightly more than half of one percent of the total daily vehicle miles travelled on the State highway system at present. Orange County as a whole contains 2.9 percent of the centerline miles and 3.6 percent of the lane miles in the state system, and 5.6 percent of the vehicle miles travelled on the state system. So, at least in 1987, none of these measures would be as advantageous in a formula returning state transportation funds to the county as percent of gasoline sales statewide.

The state (shared) constitutional gas tax comes back to counties via a formula contained in the state constitution: one-fourth on the ratio of county area to state area, one-fourth on the ratio of county population to the total population of the state according to latest federal census, and one-half on the ratio of the second gas tax collected in each county to the total collected in the state during the previous fiscal year.
# TABLE 4

Total State Forecast Revenues from Four Sources
(Millions of dollars)

<table>
<thead>
<tr>
<th>FY</th>
<th>State Transp. Trust Fund(1)</th>
<th>Const. Gas Tax</th>
<th>County Gas Tax</th>
<th>Municipal Gas Tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>85-86</td>
<td>$398.2</td>
<td>$124.4</td>
<td>$62.2</td>
<td>$62.2</td>
</tr>
<tr>
<td>86-87</td>
<td>383.7</td>
<td>130.1</td>
<td>65.1</td>
<td>65.1</td>
</tr>
<tr>
<td>87-88</td>
<td>389.8</td>
<td>133.0</td>
<td>66.5</td>
<td>66.5</td>
</tr>
<tr>
<td>88-89</td>
<td>400.1</td>
<td>136.5</td>
<td>68.3</td>
<td>68.3</td>
</tr>
<tr>
<td>89-90</td>
<td>408.5</td>
<td>139.5</td>
<td>69.7</td>
<td>69.7</td>
</tr>
<tr>
<td>90-91</td>
<td>415.2</td>
<td>141.8</td>
<td>70.9</td>
<td>70.9</td>
</tr>
<tr>
<td>91-92</td>
<td>421.2</td>
<td>143.8</td>
<td>71.9</td>
<td>71.9</td>
</tr>
<tr>
<td>92-93</td>
<td>426.3</td>
<td>145.6</td>
<td>72.8</td>
<td>72.8</td>
</tr>
<tr>
<td>93-94</td>
<td>450.4</td>
<td>147.2</td>
<td>73.6</td>
<td>73.6</td>
</tr>
<tr>
<td>94-95</td>
<td>489.5</td>
<td>148.8</td>
<td>74.4</td>
<td>74.4</td>
</tr>
<tr>
<td>95-96</td>
<td>536.5</td>
<td>150.3</td>
<td>75.2</td>
<td>75.2</td>
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</table>

Gasoline Sales
(Millions of Gallons)

<table>
<thead>
<tr>
<th>FY</th>
<th>Lake</th>
<th>Orange</th>
<th>Osceola</th>
<th>Seminole</th>
<th>Four County Total</th>
<th>Florida</th>
</tr>
</thead>
<tbody>
<tr>
<td>85-86</td>
<td>62.3</td>
<td>308.6</td>
<td>50.1</td>
<td>94.4</td>
<td>515.4</td>
<td>4995.7</td>
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<tr>
<td>% of state total</td>
<td>1.2%</td>
<td>6.2%</td>
<td>1.0%</td>
<td>1.9%</td>
<td>10.3%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>


1) Less service charges, refunds and distributions to the Dept. of Natural Resources.
TABLE 5
Proportions of State System Mileage and Average Daily Vehicle Miles
Travelled on the State System in the Study Area

<table>
<thead>
<tr>
<th></th>
<th>Lake County</th>
<th>Orange County</th>
<th>Osceola County</th>
<th>Seminole County</th>
<th>4-County Total</th>
<th>Florida Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>State System Centerline Miles</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>228.4</td>
<td>334.8</td>
<td>198.2</td>
<td>100.4</td>
<td>861.8</td>
<td>11,492.0</td>
</tr>
<tr>
<td>% of State Total</td>
<td>2.0%</td>
<td>2.9%</td>
<td>1.7%</td>
<td>0.9%</td>
<td>7.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>State System Lane Miles</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>684.8</td>
<td>1,269.7</td>
<td>600.5</td>
<td>321.0</td>
<td>2,876.0</td>
<td>35,176.4</td>
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<tr>
<td>% of State Total</td>
<td>1.9%</td>
<td>3.6%</td>
<td>1.7%</td>
<td>0.9%</td>
<td>8.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>Daily Vehicle Miles Travelled on the State System</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total (Thousands)</td>
<td>2,669.5</td>
<td>9,580.0</td>
<td>2,494.2</td>
<td>2,956.0</td>
<td>17,699.7</td>
<td>170,794.9</td>
</tr>
<tr>
<td>% of State Total</td>
<td>1.6%</td>
<td>5.6%</td>
<td>1.5%</td>
<td>1.7%</td>
<td>10.4%</td>
<td>100.0%</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>Interstate</th>
<th>Fla. Turnpike</th>
<th>Other toll Roads(OCCEA)</th>
<th>Rest State System</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rural and Urban State System Centerline Mileage</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interstate</td>
<td>0.0</td>
<td>24.6</td>
<td>7.8</td>
<td>14.1</td>
<td>46.5</td>
</tr>
<tr>
<td>Fla. Turnpike</td>
<td>24.7</td>
<td>36.5</td>
<td>60.3</td>
<td>0.0</td>
<td>121.5</td>
</tr>
<tr>
<td>Other toll Roads(OCCEA)</td>
<td>0.0</td>
<td>38.3</td>
<td>0.0</td>
<td>0.0</td>
<td>38.3</td>
</tr>
<tr>
<td>Rest State System</td>
<td>203.7</td>
<td>235.3</td>
<td>130.0</td>
<td>86.3</td>
<td>655.3</td>
</tr>
<tr>
<td>Total</td>
<td>228.4</td>
<td>334.8</td>
<td>198.2</td>
<td>100.4</td>
<td>861.8</td>
</tr>
<tr>
<td>% of Fla. Total Rural &amp; Urban State System Centerline Mileage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11,491.9</td>
</tr>
<tr>
<td>Interstate</td>
<td>0.0%</td>
<td>0.2%</td>
<td>0.1%</td>
<td>0.1%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Fla. Turnpike</td>
<td>0.2%</td>
<td>0.3%</td>
<td>0.5%</td>
<td>0.0%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Other toll Roads(OCCEA)</td>
<td>0.0%</td>
<td>0.3%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Rest State System</td>
<td>1.8%</td>
<td>2.0%</td>
<td>1.1%</td>
<td>0.7%</td>
<td>5.7%</td>
</tr>
<tr>
<td>Total</td>
<td>2.0%</td>
<td>2.9%</td>
<td>1.7%</td>
<td>0.9%</td>
<td>7.5%</td>
</tr>
<tr>
<td><strong>Rural and Urban Daily Vehicle Miles Travelled on the State System (Thousands)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interstate</td>
<td>0.0</td>
<td>2,476.7</td>
<td>344.8</td>
<td>975.5</td>
<td>3,797.0</td>
</tr>
<tr>
<td>Fla. Turnpike</td>
<td>473.3</td>
<td>736.2</td>
<td>936.0</td>
<td>0.0</td>
<td>2,145.5</td>
</tr>
<tr>
<td>Other toll Roads(OCCEA)</td>
<td>0.0</td>
<td>931.5</td>
<td>0.0</td>
<td>0.0</td>
<td>931.5</td>
</tr>
<tr>
<td>Rest State System</td>
<td>2,196.3</td>
<td>5,435.6</td>
<td>1,213.4</td>
<td>1,980.6</td>
<td>10,825.9</td>
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<tr>
<td>Total</td>
<td>2,669.6</td>
<td>9,580.0</td>
<td>2,494.2</td>
<td>2,956.1</td>
<td>17,699.9</td>
</tr>
</tbody>
</table>
| % of Fla. Total Rural and Urban Daily Vehicle Miles Travelled on the State System (Thousands) | | | | | | 100.0%
| Interstate       | 0.0%        | 1.4%          | 0.2%                    | 0.6%              | 2.2%  |
| Fla. Turnpike    | 0.3%        | 0.4%          | 0.5%                    | 0.0%              | 1.3%  |
| Other toll Roads(OCCEA) | 0.0%      | 0.5%          | 0.0%                    | 0.0%              | 0.5%  |
| Rest State System| 1.3%        | 3.2%          | 0.7%                    | 1.2%              | 6.3%  |
| Total            | 1.6%        | 5.6%          | 1.5%                    | 1.7%              | 10.4% |

Source: Florida Department of Transportation, Division of Planning and Programming, Bureau of Transportation Statistics, Office of Roadway Inventory, Dec. 31, 1986.
Note that even assuming that the formula is a fair method of apportioning these monies, a county growing faster than the average -- as Orlando is -- would lose over the course of the decade as its proportion of the total population from the previous census gets more and more out of date. We can say with confidence that Orange County is being short-changed on this account, as its population grew 22.7% between 1980 and 1986 according to estimates prepared by the Bureau of Economic and Business Research at the University of Florida at Gainesville, whereas the population of the state as a whole grew by only 19.5%.

The state (shared) county gas tax comes back according to the same formula as the constitutional gas tax, and suffers from the same problem with the formula. Table 4 also shows revenue forecasts of this tax for the entire state.

In summary, at least one term in the state formulas may work slightly to the Orlando area's disadvantage, while its need for expenditures, as in all rapidly growing areas, is higher than average. Orlando missed out on a toll-free Interstate system beltway built with largely Federal funds by not growing sufficiently early. The State Sketch Plan map shows a high concentration of projects in East Central Florida, suggesting that the Orlando area may be coming into a time when it catches up with other metropolitan areas in terms of capturing state retained fuel sales tax or Turnpike funds in the form of construction projects. This will depend, however, on several factors -- the effectiveness of the Orlando area in working with the legislature and the state bureaucracy, Florida's ability to raise and collect the funds necessary to carry out the Sketch Plan, and the ability of the FDOT to implement the projects, and spend the funds. Reliable state funding sources like the various gas taxes are especially valuable simply because of their predictability. If the region can capture more of them, it would be a distinct advantage.

Advantages and Disadvantages of a Toll System

The Florida public's willingness to accept user fees and the scarcity of federal highway funds for new interstate construction are among the reasons for the Orlando urban area's heavy dependence on toll funding of expressways. Because of its current and anticipated future reliance on tolls, the benefits and shortcomings of this financial mechanism deserve special consideration.
Two principles inform a discussion of investment in urban expressways -- economic efficiency and equity. Economic efficiency means that a specific policy action actually makes society better off. For example, if increased carrying capacity and travel time savings to expressway users create benefits that exceed the costs of building and operating an expressway, it is an efficient investment. Equity is concerned with the fairness with which costs and benefits are distributed among members of the population.

**Efficient Investment.** A principal advantage of toll facilities is that they encourage highly efficient investment. A highway is worth building if the discounted value of user benefits over the lifetime of the facility exceeds its discounted capital and operating costs. User benefits occur in the form of time savings, operating cost savings, and accident cost reductions, relative to whatever the users would have done in the absence of the facility. For public sector investment, benefit-cost analysis is the approach used to try to estimate the worth of a proposed project.

Because highway benefits are captured directly by users (and some of the benefits passed on indirectly to shippers and consumers), the correct measure of the value of benefits is the collective willingness-to-pay of users. For a service such as highway travel, whose consumers can be charged for the service according to the amount consumed, it is possible to test willingness-to-pay directly, through tolls.

The OOCEA's capital facility investment decisions are based on efficiency. If the forecast toll revenues are not sufficient to retire the bonds needed to pay for a facility, the Authority does not build it. This cautious practice is highly efficient. The benefits, as measured by user willingness to pay (demand), would be less than the cost, signalling that the facility should not be built.

**Efficient Utilization.** A second major advantage of toll financing is that it encourages efficient utilization of transportation facilities. Many factors influence how well a facility is utilized, but pricing, or the toll structure, can be used explicitly to help adjust traffic flow patterns. So long as the facility is uncongested, it is desirable that the tolls be low. When and where congestion occurs, tolls should be just high enough to ration the (now scarce) capacity to the greatest benefit of users. Hence, ideally, the toll fee structure should incorporate
demand as well as costs. Demand-based pricing is used in numerous sectors, such as telephones, hotels, airlines, and parking. The major components of efficiency gains from correct pricing follow:

(1) **Underutilized Links.** Where an uncongested expressway segment has the capability of relieving congestion on a high-demand segment, the tolls can be set so as to encourage traffic to shift from the congested facility to the underutilized one. This might mean additional distance or even additional time for some users, but the diversion reduces delay in the traffic stream as a whole. The diversion can be accomplished by offering bargain prices on the underutilized segment.

It is an unfortunate characteristic of revenue bond financing that the tolls required to retire the bonds in the initial years are high in real terms when they ought to be low, and low by the time the facility becomes congested. Planning and foresight can alleviate this inherent bias.

(2) **Vehicle Occupancy.** A major and almost unique benefit of highway tolls is that they encourage travellers to share the same vehicle when it is worthwhile for society that they do so. The greater the congestion, the more valuable is the space occupied by each vehicle, and the greater the benefits from increased occupancy. Efficient tolls encourage higher occupancy.

The feasibility of carpooling or other arrangements varies with individuals and their circumstances, so some people may adjust their behavior in response to a given toll level while others will not. By and large, commuters are the main source of peak congestion. They also present the greatest opportunity for change, since they start with the lowest vehicle occupancies, and their travel is so regular. Shared trips for other purposes are also common, if perhaps less price-elastic.

(3) **Off-Peak Shift.** To the extent that peaking occurs, efficient tolls will vary by time of day. A surcharge might be levied, for example, during peak periods. This serves to encourage drivers to consider shifting to an off-peak period, to an uncongested route, or to an off-peak direction. Obviously, some of these shifts can only be accomplished over the long term, such as by shifting residential location, by changing employment location, or by real estate development that takes advantage of underutilized facilities.
(4) **Trip Consolidation.** While tolls will cause some trips to be foregone, the effect is more one of consolidating trips into a smaller total number that achieve the same purpose. A shopping purchase may be deferred until another purpose can be combined with it, or impulsive and unplanned trips may be foregone in favor of planned ones.

**Inefficiencies of Toll Collection.** Weighed against these efficiency gains are the costs of toll collection. The major disadvantage of toll collection is delay imposed on users while slowing down and waiting to pay tolls. As traffic volumes on certain OOCEA expressways increase, the costs of delays will also grow substantially. These user costs can be reduced using the existing barrier toll-booth technology and applying certain improvements.

Readily available collection methods include exact change or self-service toll gates and passes. Coin collection machines improve vehicle flows over human-serviced toll booths, but they still require that vehicles come to a full or almost full stop. They also require users to carry coins. Regular users could make some advantage of coin-operated gates, but Orlando traffic will always have a sizable share of transients who frequently will need change from bills. As a long-term solution, coin-operated gates probably will not be capable of preventing queues.

A promising method for reducing toll-paying delays for regular users of OOCEA expressways is automated toll collection technology. At present, no fully automated highway user charge collection system is found in the U.S., and only one system is operational in the world. Hong Kong has installed a limited system and conducted successful pilot tests, but so far has not taken the step to achieve full implementation.

An automated toll collection system would consist of an identifier on the vehicle and interrogators positioned at the collection point. The vehicle identifier could be read electronically. An advanced system would involve a small transponder in the vehicle, antennas buried in the pavement, and a data processing system that could verify identification and calculate tolls, if necessary. Vehicle transponders are small devices that would cost under $50. The interrogators could be located in a toll collection lane, preferably one that is separate from other lanes. A desirable
characteristic of automated toll collection is that local residents, particularly commuters, could avoid delays at collection points.

**Equity.** In addition to delays caused by toll collections, another drawback of toll facilities relates to horizontal equity: Do similar users pay the same cost? Ideally, each expressway user should pay his or her full cost. Practically speaking, however, some degree of cross subsidization is inevitable. It is useful to briefly examine the nature of under- and over-payment by expressway users.

1. **Time of Day.** The absolute capacity required for an urban expressway system is dictated by peak-hour demand. If peak-hour traffic volumes never exceeded those observed during off-peak periods, fewer lanes and lower maintenance expenditures almost always would be possible. Full-cost pricing principles suggest that among expressway users, only peak-hour travelers should be asked to pay for the additional capacity they require.

2. **Vehicle Size and Weight.** It is widely recognized that larger vehicles impose delays, especially during peak periods, by occupying more roadway and by maneuvering less effectively. More importantly, heavier vehicles occasion higher costs by wearing out pavement at a far greater rate than lighter vehicles. The American Association of State Highway and Transportation Officials has concluded that damage to pavement increases at the fourth power of axle weight. This confirms that the OOCEA’s current practice of making vehicle weight an important consideration in assigning charges to various expressway users is justified.

Vertical equity, on the other hand, considers the extent to which some potential users may find travel on toll roads an economic hardship. With OOCEA tolls rising to $0.75 on the East-West Expressway and a dollar on the Bee Line by 1990, it is conceivable that persons with low incomes will find the cost of expressway travel prohibitive, particularly if they must travel far to work.

Enterprises such as Disney World depend upon a large pool of relatively low-wage workers, who may not be able to afford housing close to their places of employment. A toll system assumes that people can pay, and that this cost imposes no serious hardship. As discussed in the recommendations, the study team felt that in spite of the potential importance of this concern, the OOCEA was not the proper agency to address it.
Funding and Financing Alternatives

While tolls are clearly an effective revenue generator for Orlando's expressways, there is growing interest nationally in relatively new financing approaches. Generally they are intended to pass the cost of transportation facilities on to those benefiting from or imposing costs on them. The major approaches are special benefit districts, impact fees and joint development financing.

Special Benefit Districts. Land near transportation facilities, especially at intersections, tends to acquire an increased value due to its superior accessibility. Because transportation facilities can increase the development potential of a given geographic area, special benefit districts occasionally are formed. In Houston, for example, land owners within a defined area may petition for the establishment of a district. Special property tax assessments are levied within the district to repay bonds that are issued to finance street and highway improvements.

Special benefit districts are not an appropriate means for financing toll expressways, per se, but they are an excellent approach for defraying the capital costs of frontage roads and other facilities that could tie into OOCEA expressways. The key to their successful implementation is a willingness on the part of affected landowners to make the improvements and be taxed accordingly. Special benefit districts, of course, have the best potential where the benefits of a particular improvement would accrue predominantly to businesses located within a specific area. It is important that such a street or road improvement be consistent with the overall transportation and circulation plan for the area.

Impact Fees. Rather than focusing on the benefit side of development, impact fees are based on the costs imposed. Costs of development may exist in the form of time delays to express travelers and in the construction of additional facilities required to serve the additional traffic that is generated. Impact fees are intended to charge new developments so as to recover some or all of these costs. They are seeing widespread application in rapidly growing areas, and Florida is already considered a national leader in the use of impact fees. Orlando, Orange County, and Seminole County all have adopted impact fee ordinances affecting new development.
Applying impact fees directly to finance toll expressways where congestion is not a problem is inappropriate. If expressways were approaching capacity and new development would generate sufficient traffic to induce serious congestion, the argument for impact fees would be stronger.

A more appropriate use of impact fees in the Orlando area is to finance necessary improvements in collector streets, arterials, frontage roads, interchanges, traffic management activities, and paratransit services. Effective, adequately funded provision of these is of major importance to the OOCEA, since they allow proper access to expressways and reduce the number of short trips made on expressways.

**Joint Development Financing.** For certain private sector development projects, improved accessibility is vital. If the needed improvements would be beneficial to the general public as well, joint financing of the project may be appropriate. The OOCEA has had some experience with negotiating with private developers to obtain contributions in the form of land, services, and/or financial resources.

It is noteworthy that the 1987 federal highway bill allows more flexibility in the acceptance of donated right-of-way land. In fact, the donated land can now be credited fully toward the local match for federal funds. While this new federal policy probably will not benefit the OOCEA, it does show the increased acceptability of donated land.

Joint development financing involving contributions from private developers must be carried out cautiously. It is imperative that the offering of land or other resources not skew the expressway design and construction process. Nonoptimal alignments, interchanges, and other design features as a condition of receiving a contribution should be strictly avoided.

**Motor Fuel Tax Revenue.** Another possible revenue source for the OOCEA is the gas tax. At present, the OOCEA makes no direct claim on the motor fuel taxes paid by users of its expressways. Taking a narrow view, one could contend that users of the Authority’s expressways cross subsidize users of other roads. A more appropriate interpretation is to view the roads within the county as part of a system.
Viewing the road and highway network as a system, arterial segments and collector streets are as vital as the OOCEA's expressways themselves. It would be shortsighted, however, to suggest that the Authority should attempt to divert motor fuel taxes to help finance its expressway capital or operating costs. Tolls are almost certain to be adequate to accomplish that, and the need for collector streets and arterials is growing.

Instead, the OOCEA should encourage Orange County to apply all forms of the motor fuel tax revenue to the construction and operation of connecting facilities. An extensive collector street and arterial system tying into OOCEA expressways is the only sure way to meet the access needs of the Orlando area. Motor fuel taxes are the best single source of revenue to finance these vital elements of the transportation system.
IV. FUTURE TRANSPORTATION FACILITIES AND POLICIES

The study team carefully reviewed MPO studies and updates from previous years, with particular emphasis on the 2005 Highway Needs Plan shown in Figure 5. Plans were examined for their consistency and overall soundness. This section presents our conclusions and insights about Orlando's proposed transportation facilities.

HIGHWAY PLANS

Over the years, MPO plans have recommended: major improvements to I-4 to increase capacity in congested areas; extensions of the East-West Expressway; construction of a central connector between the Bee Line Expressway and the downtown area of Orlando; and eastern and western beltways.

The 1986 Project - Capital Improvement Program of OOCEA

Four expressway sections comprise OOCEA's current program:

- the north section of the Eastern Beltway (north section in Orange County),
- the eastern extension of the East-West Expressway,
- the south section of the Eastern Beltway (south section in Orange County), and
- the western extension of the East-West Expressway.

These four expressway sections have been included in virtually every surface transportation plan made in the Orlando area in recent years. They undoubtedly are needed badly, will be of considerable benefit to the community, and are desired by the community. Figure 6 shows the location of these facilities, expected to be planned and constructed during the period 1986-1990. The four facilities will provide great transportation service to Orlando and vicinity, even if the Eastern Beltway is not completed, and/or the Western Beltway is never built.
2005 HIGHWAY NEEDS PLAN

FIGURE 5
The Central Connector

This proposed expressway between the central section of Orlando and the Bee Line Expressway by all estimates will be the heaviest travelled of all facilities proposed to be built. It will relieve heavy congestion on parallel but inadequate facilities and greatly improve travel between the Orlando Airport and the Central Business District. It will also improve access to the new industrial and residential growth area southwest of the Orlando Airport, and should allow more balanced use of I-4 and other arterials in the area.

All indications are that this centrally located facility in Orlando would be of great value to the community, would have very heavy use, thus relieving other congested facilities, and could be financially feasible. Planning should continue to the construction stage.

The Eastern Beltway

Several engineering studies have been made of the proposed Eastern Beltway or portions of it. The portions of it in Orange County are, in fact, scheduled to be completed by early 1989. Traffic on this section, as noted earlier, will be very heavy and the section is justified.

The remainder of the beltway is in Seminole County and several engineering studies have also been made of the corridor through which it will travel. Relief of congested travel on some highways would result from the extension north to I-4, and future benefit will be to development still to occur in this area. In fact, the projected volume of traffic on the north end of the Eastern Beltway in 2005 is projected at 26,000 to 54,000 vehicles per day. Heavy volumes of traffic in the range of 40,000 to 60,000 vehicles per day are projected to be on the beltway from the Orange County line to State Road (S.R.) 434, or on about the southern half of the beltway in Seminole County.

Virtually all studies of the Eastern Beltway have recommended its development. To prevent severe problems construction should be undertaken within the next five years. Planning must of course begin soon and right-of-way reserved, if it is to be built.

The Eastern Beltway will also cause some environmental impacts which may be difficult to mitigate. A considerable area of wetlands will be impacted adversely and will present problems of construction as well.
The Western Beltway

The Western Beltway will also provide substantial benefit to many motorists, with volumes in 2015 projected to range from 70,000 vehicles per day on the central section to 54,000 and 39,600 on the north and south sections, respectively. Environmental issues may also be difficult to overcome on some parts of this route.

The Florida Turnpike Authority may assist in planning and developing the Western Beltway to improve its interchange connections with Orlando and to construct an Orlando to Tampa extension of the Turnpike. The FDOT has expressed interest in making the Western Beltway part of a connection between north I-4, the existing Florida Turnpike, and I-4 near Disney World. If adequate provisions were made for interchanges to serve the Orlando urban area and major tourist areas near it, this might be an excellent way to accomplish the early financing and construction of the Western Beltway and provide needed relief to I-4 through Orlando. The OOCEA could join with the Turnpike Authority in such a project.

Interstate-4

Adding lanes is possible on some sections of I-4, but in some areas right-of-way restrictions, adjacent development, or the freeway's elevation as it passes through the city would make additional lanes very expensive and cause adverse impact to existing developments. The Eastern and Western Beltways would provide some traffic relief to I-4.

Additional relief of the congestion on I-4 could be obtained by applying modern operational techniques. For example, much morning congestion results from permitting excessive volumes of traffic to enter I-4 from Lee Road, Maitland Boulevard, and Altamonte Avenue. Controlling access in the peak morning hours using modern traffic signal techniques on the entrance ramps could be of significant value. The study of I-4 now underway will undoubtedly evaluate suggestions like this.

As mentioned earlier, tolls, particularly when charged at higher rates during daily peaks, are extremely effective at reducing congestion and maximizing efficient use of existing facilities. This is especially important for I-4, since widening would prove costly or impossible in spots, and use of current high-occupancy vehicle lanes would be very expensive to enforce.
MASS TRANSIT

The people who live and work in low density development, such as is common in Orlando, will continue to use the convenient transportation provided by personal cars. Only where very large numbers of trips originate in the same place and seek the same destination, usually over short distances, will fixed route transit become feasible.

One such area where a fixed guideway system has been studied is between the airport and downtown Orlando, the International Drive hotel area and Disney World. Certainly there will be large movements of people, both employees and tourists, between these locations. The study team generally found that transit service using buses was already provided privately in some of these corridors, and would likely continue to be the most efficient and flexible means of serving this transportation need.

A fixed guideway system for Orlando probably will not be sufficiently used to warrant development. Significant improvement of the public bus system and the availability of other commercial transportation, taxi, charter services, and limousine service, will be needed, however.

EARLY TRANSPORTATION SITE RESERVATION

Long-term planning would result in the design of a transportation system which is not totally needed at present or in the near future. A highway system capable of serving Orlando for the next 20 to 30 years would anticipate where desirable major developments are likely to occur. Obviously, the only good time to acquire right-of-way for such transportation facilities is long before they are actually built. This requires sound planning, funds for such acquisition, and the legal authority to reserve right-of-way.
In addition to identifying important transportation issues, the study team’s environmental scanning and analysis focused on strengths and weaknesses of the OOCEA. An understanding of the Authority’s unique advantages and shortcomings is essential to appraising its potential contributions to and role in Orlando’s transportation future.

PUBLIC PERCEPTION

The public perception of the OOCEA is one of its greatest strengths and vulnerabilities. Judging from personal interviews with Orlando community leaders and from newspaper coverage, the Authority is viewed as a highly efficient, well managed agency. The organization is often praised as one of the few to have made significant recent contributions and improvements to Orlando’s transportation system. This reputation can be attributed to the OOCEA’s accelerated construction program, ability to capture state transportation funds, and track record of accomplishments. Further, the Authority has been recognized for its ability to work cooperatively with key special interests, such as environmentalists. In general, confidence in the OOCEA’s leadership and management abilities is extremely high.

While the OOCEA is praised for its businesslike approach to transportation problems, this same characteristic creates anxiety in some observers. Local governments and other transportation organizations have expressed concern that the OOCEA may act too independently of other agencies and actors and without sufficient sensitivity to public or community interests related to construction. For instance, the OOCEA has no established relationship with Tri-County Transit, whose goals and objectives should support those of the Authority.

Some local government officials believe the Authority may have achieved its success at the expense of other community interests. For instance, it has been characterized as unresponsive and indifferent to local plans and development activities when setting alignments or identifying interchanges. There is fear in Seminole County and elsewhere, that a regional body heavily weighted with Orange County and Orlando representatives and managed by OOCEA staff would diminish local control over beltway construction.
The independent, rough and ready image of the OOCEA may also work against it in future construction projects of its own, particularly if the recent public opposition demonstrated against the Eastern Beltway is indicative of public sentiment regarding other segments. At issue will be the relocation of numerous businesses and hundreds of homes, along with encroachment on acres of wetlands. In order to avoid the potential lengthy delays and negative public relations of organized voter opposition, it is in the Authority's best interest to pursue all possible methods of cooperating with the community and special interest groups. These risks are another reason to participate fully in the consensus-building GMA and MPO processes.

STRENGTHS AND WEAKNESSES OF NON-ELECTED AUTHORITIES

Because the OOCEA is comprised primarily of non-elected officials, a natural tension exists over its functioning as a public organization. Thus, while it does its specific job very well, its structure has both advantages and disadvantages.

Non-elected officials are not subject to recall by voters. As a result, Authority members may be insulated from special interest groups and political pressure as they carry out their tasks. A danger is always present that too much work is left to the staff, as the board members' private interests are typically their primary priority. Consequently, non-elected authorities are always vulnerable to decision-making without the fullest perspective on the repercussions involved. For the OOCEA, this has not been a problem in the past owing to the deep involvement of recent chairmen. As a whole, the Authority has been exceptionally well-informed on pertinent issues.

Three of the five positions on the OOCEA board are filled through gubernatorial appointment, and two are ex officio members, the Chairman of the Orange County Commission and a member of the FDOT Board. Research on such appointments reveals that they are frequently made as a function of a "spoils" system. While a confirmation process exists, legislative disapproval is rare. The gubernatorial appointment system has other risks. The law suggests integrity, responsibility and business acumen as primary criteria to be used in selecting appointees. But this does not assist in selecting between a financial expert -- who may have a very narrow focus -- and a community leader, both of whom might possess all three desired qualities.
An additional potential pitfall lies in the fact that those business people with the greatest knowledge of city planning, government, and transportation are likely to be real estate and development leaders. As noted, the OOCEA is perceived as tremendously successful in relieving Orlando's traffic congestion. As more and more roads are built, however, there is a risk that the public will perceive the Authority as encouraging development. Historically, OOCEA members have put their personal interests aside to consider the general good of the region. This has been critical to the Authority's reputation and success, and represents a much more rigorous ethical standard than merely avoiding the existence or appearance of conflict of interest.

The non-elected nature of the OOCEA has at least one very significant advantage; it frees Authority members from conflicting constituent demands. The OOCEA is not responsible to voters. Rather, its constituencies are its bondholders and the users of its facilities.

Many of the possible future roles for the OOCEA would require greater responsiveness to special and conflicting interests. This may include making special provisions for disadvantaged groups and dealing with conflicts between developers and conservationists or various local governments. The study team views the Authority's successful track record of building needed facilities as due in part to its insulation from these competing perspectives. Any changes to increase its responsiveness -- generally considered a positive attribute in a public entity -- would have to be weighed against the possibility of serious political or philosophical division within the Authority, threatening one of its most valued characteristics, the ability to act.

THE ABSENCE OF STRATEGIC PLANNING

Since its inception, the OOCEA has prided itself on its small, entrepreneurial organization and the informality of its operations. This unstructured, independent style is credited with helping the OOCEA succeed in efficient accomplishment of its projects and has been important for building credibility and generating public confidence. However, as the organization now looks to the possibility of an expanded role in the region's transportation future, more consideration must be given to the conduct of its affairs, not only to maintain efficient and expedient operations, but also to satisfy the public's legitimate interest.
In order for the Authority to have the fullest perspective on the needs of Orlando in the future, it may well benefit from a more methodical, structured planning process. The Authority has had effective input into the MPO planning process in the past through having done its own analysis first. Naturally, OOCEA projects must meet the rather stringent cost-to-revenue tests necessary to successful financing. Continuing to do a good job at identifying and completing such projects, caring for the efficient functioning of a growing regional expressway system and the concerns of its users and neighbors, suggests the need for a formal planning process. This will be true regardless of whether or not the OOCEA evolves into a regional agency because of the following:

- Greater pressure to justify the need for construction of future expressway segments where the demand is less apparent, at least in the short-run than, for previous projects;
- Growing competition for transportation dollars at the state and local levels;
- The need to examine the implications of alternative transportation solutions, including demand management, on current and future OOCEA toll facilities;
- Increased tension between interests favoring and opposing further development in the region, with consequences for the location and use of transportation facilities;
- The growing importance of early right-of-way reservation to enhance the economic feasibility of expressway construction; and
- Escalating responsibility for the maintenance and operation of a growing network of expressways in the 1990s and beyond.

A strategic planning process would establish a routine of monitoring various factors and developments -- internal and external to the organization -- which could influence short and long term operations or project activity. These may range from demand factors -- such as population and migration trends and fuel prices -- to operational factors such as changes in supplies or costs affecting system maintenance and replacement.
In spite of all the excellent information gathered in the Orlando region on trends, no one but the Authority will be considering the implications a change might have for toll revenues on a specific expressway segment already under construction, or for altering the priorities assigned to Authority projects not yet underway. Changes occur. Some create problems, and others create opportunities. But without a systematic method of observing these changes, the Authority may not notice them, or may not notice them sufficiently early to act.

ADVANTAGES AND DISADVANTAGES OF SINGLE-PURPOSE AGENCIES

The most important disadvantage of single-purpose public agencies such as the Authority is that they cannot respond with comprehensive policy solutions to the problems they face. The Authority’s enabling legislation permits it to expand its mission considerably. Certainly the Authority could legitimately plan and construct any facilities related to the expressways. Considering that all facets of a transportation system are interrelated, this would provide substantial flexibility. But, as noted in the introduction, the connection with land use plans, for example, could not be made by the Authority itself, but only through the regional planning process and in cooperation with local governments.

Single purpose agencies have the advantage of being focused on one particular activity, and as a consequence are able to develop and refine capabilities related to provision of that service or function. Because of their narrow focus, the organizational structure, public relations and decision-making of single purpose organizations are a great deal simpler than for multi-functional agencies or general purpose governments. These advantages have undoubtedly contributed to OOCEA’s good implementation record and favorable reputation. However, the team did not rule out the possibility of a multi-functional mission for the Authority on this basis. Rather, a variety of specific functions were evaluated, and ultimately rejected, because of drawbacks particular to each of them. These alternatives are presented and discussed in Section VI.

REVENUE COLLECTION AND FINANCING

The Authority’s ability to raise funds, both directly, from tolls on its facilities and other sources and indirectly, through borrowing, is arguably its greatest and most unique strength.
Summary

The OOCEA has the potential for obtaining revenues from the following sources:

1. Direct user fees for its facilities and services (tolls).
2. Orange County constitutional gas taxes (Interlocal Agreement payments).
3. Legislative appropriations, passed along by the FDOT.
4. Grants or loans from federal, state or local governments.
5. Investments, including acquired land.

All of the existing and planned Authority system is made up of toll roads, and it is the tolls that they generate that are the principal source of revenue for the Authority. Although the tolls are actually collected by the FDOT, the lease-purchase agreement with the FDOT entitles the Authority to all of these toll revenues, which "constitute the rentals and purchase payments for the system by the Department" (FDOT). Once all these rentals have been paid, FDOT will obtain title to the Authority system. Rentals will continue until all debt, both outstanding (including refunded) bonds and that owed to the FDOT itself for operation, maintenance and any loans it may have made toward system completion, are repaid. In fact, if the Authority had no clear mission toward which its future revenues were to be applied, it seems likely that the FDOT would try to obtain possession earlier, in order to make the excess toll revenues available for other transportation projects.

The other major source of funds for the OOCEA is the Interlocal Agreement payments. These monies have been pledged by the Orange County Commission, out of the Orange County second (constitutional) gas tax monies. Under the Florida Constitution, the State collects two cents per gallon of constitutional gas tax and the Orange County Commission has pledged to the Authority in an Interlocal Agreement the portion of its constitutional gas tax revenues not obligated by a prior lien.
Though these amounts are pledged and available for the Authority to use for debt service if necessary, they will never be required if toll revenues grow as projected. The Orange County constitutional gas tax monies pledged in the Interlocal Agreement provide additional coverage for the Authority’s bondholders, and are evidence of Orange County’s willingness to support the Authority, which made the 1986 bond issue that much more attractive to the bond rating agencies and investors. Orange County is committed to this guarantee as long as any part of the 1985 or 1986 bond issues remain outstanding, and can amend it to cover refunding or new issues. The OOCEA is bound to repay monies obtained under the Interlocal Agreement, but the terms are generous; "Any gasoline tax funds so disbursed shall be repaid when the Authority deems it practicable, together with interest at the highest rate applicable to any obligations of the Authority."

The net toll revenues, together with Interlocal Agreement payments and interest income, provide the only funds pledged to debt service on the outstanding 1985 issue and $280,000,000 senior and $153,000,000 junior lien revenue bonds issued in 1986. The Authority has covenanted to collect revenues in an amount sufficient to pay at least 125% of the annual debt service requirements on the 1985 and 1986 issues, and 100% of operation, administration and maintenance in every fiscal year. Actual toll revenues need make up only 115% of these requirements if the Interlocal Agreement payments make up the difference.

Contingencies

Several contingencies which might affect the OOCEA’s future revenues were considered by the team. These include the cost of fuel, the rates of future population and employment growth in the region, the possibility of reaching or exceeding the carrying capacity of the region, the possibility of eventual construction or improvement of competing free or lower-cost limited access highways, and the likelihood of recession.
The team found the likelihood of continued growth of the area and of traffic on OOCEA facilities to be very high. As the Orlando economy becomes more diversified, and less dependent on tourism, the traffic-reducing effects of a recession are less threatening. Similarly, even a sharp increase in fuel prices would not cut into traffic as much as it did in the late 1970s, given the increased usage of more fuel-efficient cars.

Population and employment growth in the Orlando area will not be constrained by the region's carrying capacity for some time. So much of the traffic on Orlando's expressways is local, that even if a proposed limited access highway connecting Jacksonville with I-4 west of Orlando took some of the through traffic off I-4 or the beltway after the year 2000, it would hardly be noticed, since external to external trips are forecast to represent only two percent of all trips in the area in 2005.

Effect on Project Selection

The Authority's dependence on bonding to finance its construction program may have drawbacks in terms of the resulting effects on project selection. The study team was concerned that the method utilized for selecting projects be appropriate to the Authority's role and responsibilities as a public agency. First, the selection process should reflect the fact that the OOCEA is an authority of the state, given the freedom from taxation because it is carrying out a public purpose. Second, projects should be evaluated for their costs and benefits over their useful life, in order to make the best decision from the public's perspective.

Maximizing Public Benefits. The Authority's constituents, as mentioned before, are its bondholders, and those who use its facilities. In addition, it does have special relationships with Orange County and the FDOT, both creditors who have on occasion forgiven debts. The relationship with bondholders is the one spelled out most rigidly, and it is that relationship which currently plays the greatest role in defining how the Authority selects projects to undertake.

Yet the bondholders' interests conflict with the OOCEA's public purpose in several ways. First, the bondholders' primary interest is in protecting their investment. This means that there are many pressures on the Authority to be
conservative in its investment decisions. Chief among these is the fact that the
OOCEA is required to maintain a 1.25 coverage ratio at all times. Projections of
traffic and earnings are key to determining whether a project will be selected in
the first place, and since a traffic and earnings consultant has a great stake in
making very conservative (low) projections of traffic and earnings, they are
likely to underestimate. Overestimating revenues could lead to default.
Underestimating would only mean the Authority would be prevented from bonding
for projects which are, in fact, feasible. Traffic projections by Vollmer
Associates, the Authority’s traffic and earnings consultant, for the January 1987
toll increase are already proving to be conservative, as revenue was forecast to
fall by 14% after the increase. As early as March, collections showed that tolls on
the airport interchange were up 4%, on the Bee Line up 7%, and on the East-West
Expressway down only 9%.

Secondly, the bondholder’s interests are purely monetary. The ratio of anticipated
revenues to costs is assumed to adequately summarize all the factors of concern
in making the decision for or against investing in a project. Yet the Authority, in
keeping with its public purpose, must have some responsibility for considering
non-monetarizable costs and benefits from these projects.

The concerns that the project selection process take non-monetarizable costs and
benefits into account can be satisfied by an adequate MPO planning process. The
MPO’s role is to suggest to the Authority which transportation needs are greatest
in the region. The OOCEA can then evaluate them for financial feasibility.
Similarly, the MPO is the appropriate place to consider whether the total costs to
society might outweigh the public benefits of projects that the Authority proposes
as feasible. The OOCEA logically is more capable of making the comparison of
costs (to the Authority) versus revenues.

Concern about conservative investment decisions is equally troublesome. In fact,
when the inability to sell bonds because of excessive avoidance of risk prevents
an otherwise worthy project from being built, the public loses. While this does not
appear to have been a problem in the past, the study team raises it as a potential
concern and indicates the considerable flexibility the Authority has in making
investment decisions.
The requirement that the Authority have a coverage factor of 125%, for example, is less stringent than it appears. The Authority is required to conduct an annual review in order to estimate whether the required coverage ratio will be met. If toll revenues appear to be falling below projections, the OOCEA's traffic and earnings consultant must prepare a recommendation of what schedule of tolls would remedy the problem, and the Authority is required to adopt and implement it. However, if the traffic and earnings consultant is of the opinion that tolls high enough to meet the coverage would be impractical (i.e. would reduce traffic, proving counterproductive) and the Authority therefore cannot comply, the Authority has only to adopt and put in place the toll schedule recommended by the consultant, and it will not be considered to be in default.

Thus, if the Authority complies with the requirement to have its traffic engineers study the toll schedule, and sets the tolls so as to collect as much money as possible, it is not in default, even if it cannot meet the coverage ratio. Whether it defaulted or not, failing to live up to the requirements would probably have a bad effect on its future ability to borrow.

It might also at first appear that the Authority is extremely limited by the bond resolutions on what it can spend its toll revenues on. The 1986 resolutions spell out the purposes to which the 1986 series borrowed funds can be put: repaying the outstanding (1985) debt, paying the expenses incurred in floating the 1986 series, and constructing the 1986 project.

Figure 7 shows the succession of claims against the net system revenues of the OOCEA. Should the OOCEA desire to pursue other projects or functions than those listed in the paragraph above, it could finance these in two ways. First, it could do further borrowing as it becomes clearer that it will have greater toll revenues than required to repay current debt, either refinancing the existing debt at that time as well, or floating a new and separate issue for the new purpose. In either case, it is the projected revenues that determine the amount of debt the Authority could incur, and their traffic and earnings consultant is the official source of this information.
Figure 7: Claims Against OOCEA NEW SYSTEM REVENUES

Dev Following Receipt Of Same

Interest Account  Principal Account  Debt Service Reserve Account  Bond Redemption Account  Renewal And Replacement Fund  Special Projects Fund  General Reserve Fund

Interest And Investment Income

Airport Tolls  Beeline Tours

1/12 Of Annual Budget

Cost Of Operation  15th

OM&A Reserve

Cost Of Maintenance

Administrative Expense

1/12 Of Annual Budget

1/6 Of Interest Due In next Semi-Annual Interest Payment

Interest Of Any Par Passau Variable Rate Bonds

1/6 Of Semi-Annual Bond Principal Payment

1/12 Of Annual Bond Principal Payment

For Purchase Of Term Bonds As Required

1/12 Of 20% of Difference Of Balance In This Account And Maximum Annual Debt Service

1/4 Of Sum Of Cost Of Operation, Cost Of Maintenance, And Administrative Expenses Per Annual Budget

For Payment Of Any Subordinated Obligations

1/12 Of Amount Certified By The Consulting Engineer As The Estimate of These Costs

Renewal And Replacement

Special Projects

1/12 Of Amount Certified By Consulting Engineer As The Cost Necessary To Finance Such Special Projects.

Reimbursement To The Dept. For All Monies Expended Or Committed For System

Reimbursement To The Dept. Of Orange County For Gas Tax Funds Plus Interest

Reimbursement To The Dept. For The Cost Of Maintenance And Cost Of Operation

Any Lawful Purpose Of The Authority

Source: OOCEA
The other alternative would be to choose a project schedule that could be financed by a pay-as-you-go system, with the excess of net revenues over those pledged being the determinant of the cash flow for the new undertakings. There is no formal test anywhere in the bond resolution or elsewhere that would tell the OOCEA what kind of improvement is or is not sufficiently beneficial to the system to undertake. The Authority is free to define their own criteria for selecting projects.

Table 6 shows our estimate of the amount available each year for these other purposes. It is clear that even under the extremely conservative assumption that pledged revenues would not grow beyond their 1994 level, the Authority would still have excess revenues of over $20 million annually. This is assuming administration, operation and maintenance expenses of approximately $3.1 million annually. These expenses may grow beyond this level in the future.

Should the Authority change its mind about some aspect of the 1986 Project, or should the 1986 Project cost substantially less than projected and the Authority wish to spend the borrowed funds for something else, it might have to change the covenant. This could be accomplished without refunding by getting 51% of the bondholders to agree or by getting a bond insurer to insure the bonds and to agree to the changes.

It is also possible for the Authority to structure subordinate debt (new debt with a new security structure) so as to segregate particular revenues (Seminole County gas tax under a regional authority, for example) and dedicate them to particular projects. It might be necessary to "lock up" the first lien, in order to pay the same interest on the new junior lien bonds.

In summary, the OOCEA has more flexibility than it might at first appear. It can press forward with projects that are only barely forecast to meet the 125% coverage ratio knowing both that the traffic and earnings forecasts are probably low, and that failing to meet the coverage ratio does not automatically mean default. It can pursue projects other than those stipulated by the bond resolution after debt service is paid, has methods available to change even such things as the nature of the bonded 1986 project, and could segregate revenues so as to devote them solely to particular projects to preserve local harmony.
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<th>Fiscal Year</th>
<th>Existing Expressway System</th>
<th>Proposed 1986 Project</th>
<th>Interloc. Agreement Payments</th>
<th>Interest Earnings</th>
<th>Pledged Revenues</th>
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We have assumed that neither gross tolls nor expenses increase after 1994. This is conservative with respect to tolls, not with respect to expenses. Whether the assumption that interest would continue at the same rate after 1994 is conservative or not is not clear.

Evaluating Projects Over Their Useful Lives. It is a generally accepted principle that the costs and benefits of capital improvement projects should be evaluated over the period of their useful lives. This leads to the selection of projects which have the highest net present value, or ratio of total discounted benefits to total discounted costs. At present, the fact that the Authority does not have ultimate responsibility for the facilities it constructs, which become the property of the FDOT when the debt on them has been repaid, may somewhat distort investment decisions.

Projection of toll revenues by the Authority’s traffic and earnings consultant is sufficient to ensure that bondholders are protected against default, but insufficient to ensure that the public tax monies that will be foregone in support of the Authority’s public purpose, and those that ultimately will be spent by the FDOT in operation and maintenance, will be spent most wisely. For example, is the true future cost of operation, maintenance and eventual replacement of the Authority system to Florida taxpayers properly evaluated? This possibly significant part of the analysis and investment decision might receive closer attention if the Authority did not expect to turn the facilities over to the state in the long run.

In sum, the methods currently available to the Authority for raising revenues constrain it somewhat and may inadvertently affect its project selection process to the detriment of the public. However, revenue raising remains one of the greatest, if not the greatest, of its assets.
VI. FUNCTIONAL ALTERNATIVES FOR THE OOCEA

The study team considered several alternatives for expanding the functional scope of the OOCEA beyond that of building and operating toll expressways. One major area for possible expansion is into the construction and/or operation and maintenance of other functional classes of highways. Another major area is related to land that is benefited by expressway construction. A third is the operation of other transportation modes. This section evaluates each activity in light of OOCEA's characteristics and the Orlando transportation context.

OTHER TYPES OF HIGHWAYS

A natural extension of OOCEA's current responsibilities is the construction, operation and maintenance of other roads and highways. Not only is OOCEA inherently qualified to deal with roads that are directly related to expressways, but it may have a vested interest if the roads have significant impacts on the design and operation of the expressways. For this reason, the interest of the Authority may extend to other expressways and freeways, as well as major arterials. OOCEA's involvement depends primarily on whether the agencies currently responsible for these segments will manage them in a way that is consistent with the region's transportation goals, and whether it is feasible or productive for the Authority to participate in the management of these segments.

Interstate 4

The portion of I-4 that passes through the Orlando metropolitan area constitutes one of the major components of the area's expressway network. It is both a through facility and a commuter facility, but it is the latter purpose that currently causes congestion and will increasingly in the future. Two rationales suggest that the Authority might devote its attention to this facility.

Capacity expansion of I-4 may be justified at some future date, and state priorities would quite possibly defer this expansion, to the detriment of the region. Because the congestion is the result of local commuting, the FDOT has less reason to invest in additional capacity, and more reason to pass some responsibility to the local community. To date, the FDOT has made no effort to
manage the facility to improve its efficiency. A local transportation organization like the OOCEA would have greater incentive and be more responsive locally in implementing improvements.

On the other hand, expanding I-4's capacity may be difficult, expensive or impossible in places. If it continues to operate as a free interstate highway, the increased capacity will almost surely be necessary, whereas if it were operated as a toll road, particularly if time-of-day pricing were used to reduce the peaks, the need for capacity expansion might be at least deferred, if not eliminated.

Toll prices charged on other expressways tend to divert traffic to untolled facilities, including freeways and arterials. Consequently, the effect of retaining I-4 as a freeway will be to distribute traffic demand disproportionately onto I-4, even after the (toll) Eastern and Western Beltways are completed. Efficient management of the regional expressway network urges that all segments be tolled, and that management be lodged in a single organization.

The rationale for transferring management of the relevant portion of I-4 (between the northern and southern intersections with the Beltway) to the Authority is strengthened by the concept that toll revenues would provide both a valid signal of user benefits that would justify capacity expansion, and the revenues with which to do so. Additionally, they would provide needed incentives to individual travellers to carpool, avoid peaks and combine trips.

Standing in the way of this transfer is the prohibition against charging tolls on interstate highways constructed with federal funds. The trend in thinking at present is toward relaxing this limitation to some degree, and there are several conceivable arrangements by which the facility could be "repurchased" by the Authority, to the mutual benefit of all concerned.

Other Toll Roads

Two upcoming toll construction projects are significant to Orlando's transportation system and could benefit from OOCEA's knowhow and expertise.

New Interchanges. A portion of the existing Florida Turnpike passes through the Orlando area, but carries relatively little local traffic. The reasons for this are the paucity of interchanges, their locations, the alignment of the facility, and the tolls charged. The major cost of the toll to the user is not the money paid, but the time and effort required to enter and exit.
Current plans call for increasing the number of interchanges and switching to barrier tolls, both of which will allow the facility, even as now aligned, to make an important contribution to the area's expressway system. Whether this project is carried out by the FDOT, the OOCEA, or some combination, toll rate structures, toll collection methods, and interchange locations should be coordinated with local transportation agencies and local plans.

**Western Beltway.** A portion of the Western Beltway lies in Orange and Seminole Counties. Segments could be constructed by the FDOT, the Turnpike Authority or by the OOCEA. In any case, the facility would and should be tolled. An advantage of having the state implement the project is its ability to acquire land without respect to local political jurisdiction. A disadvantage is that the construction schedule might lag or lead the preferred schedule from the standpoint of the Orlando area. As noted earlier, the tolled Western Beltway should be operated as a system with the other area toll roads, to ensure that pricing policy and other considerations are coordinated.

**Other Highways**

The entire street and highway network is a feeder system to expressways. If the two systems are not in balance, too much or too little traffic may be channeled onto expressways. While the OOCEA's qualifications and experience may be well-suited to assisting local governments with the feeder road system, it should consider whether incremental investment in that system will improve capacity at a higher rate than investment in expressways, and whether there might not be other more suitable sources of revenue available to local governments for these purposes.

There are a number of alternative revenue sources for financing the construction or improvement of state and local feeder roads, ranging from impact fees, collections from special benefit districts, local option, municipal or state retained gas tax, local option sales tax, bonding of existing local gas tax revenues, gift donations and grants, and the property tax. With all these options, the study team felt the OOCEA should in most cases be able to coordinate local governments' funding of the construction of needed non-expressway projects, even possibly contracting to manage the construction, without diverting its revenues to this purpose.
LAND DEVELOPMENT

Construction of expressways enhances the value of land when accessibility is increased by the transportation improvement. This is especially true of raw land that has been previously unserved by high-capacity transportation. Arguments can be made that the Authority should seek to recover some of the increased value it generates. This could range from the acquisition and resale of small amounts of land immediately adjacent to a facility, to large scale multi-use real estate development. The reasons why the Authority should avoid any such undertakings follow.

Most major transportation facilities are priced to their users at far below their real cost and far below their economically efficient prices. Thus at least some portion of the increase in the value of adjacent property is due to traveller savings that are capitalized into land values. If a single agency builds the transportation facilities and also develops the land (or buys and sells land so as to recapture the windfall gain), the travel benefits pass into land values and are returned to the investor. Such a process has been called "value capture."

The essential difference in this case is that users of the facilities pay for them directly through the tolls. In principle, the prices could be set high enough that there would be no increase in value to the adjacent land, except to the extent that development itself added value. Such prices would not be efficient, of course, from the standpoint of the utilization of the highways. In essence the rationale for value capture is largely eliminated when the transportation facilities are fully self-supporting. Whatever profits are left to land speculators and developers are normal profits that can be extracted from any profitable market activity, and there is no cause for the Authority to seek to extract them.

Conflict of Mission

For a public agency that has been granted the power of eminent domain and the exclusive right to impose charges on selected highway users, broadening the mission to include land speculation or development creates an undesirable opportunity for conflict of mission. There are few, if any, roads that are worth building for land development reasons yet which cannot be supported by user charges alone. For all practical purposes, an economically or socially valuable road is one that generates user benefits more than adequate to pay its long run costs. Missed opportunities are likely to be negligible.
The potential for bad transportation investments in the name of land development is high. Even if the objective is no more than to gain a small share of the increase in land values stimulated by the highway, the possibility for distorted transportation investment decisions exceeds the likely gains.

Vulnerability to Abuse

Without impugning the honesty or motives of any individuals or groups, allowing the Authority the right to engage in land development is an invitation to conflict of interest. With a preponderance of appointed board members, and the presence of public subsidies in the form of tax-exempt borrowing and forgiven loans, the possibilities for less-than-arms-length transactions or clouded judgment are too great to chance.

At least as dangerous as the potential for actual abuse is the setup for the appearance of abuse. Perfectly above-board dealings are still subject to a suspect interpretation when transportation and land development are jointly undertaken by a public authority.

Excess Condemnation

In the narrow legal sense, excess condemnation is the acquisition of leftover parcels from right-of-way acquisition that are too small to leave their owners any real options for their use. It has thus become accepted practice to acquire these parcels and absorb or resell them to adjacent landowners. Such transactions may routinely be undertaken by the OOCEA without jeopardizing its principal responsibilities for expressway development.

Acquisition of right-of-way in excess of immediate needs, for purposes of likely future expansion of lanes or addition of interchanges, is also an acceptable practice. Whatever choice will minimize long run cost is a valid action for the Authority to take, so long as the purpose is limited strictly to transportation.

Land Donations

Perhaps the most difficult area to address is how the Authority should respond to offers to donate land for future right-of-way. From one perspective, the region's
need and priorities for transportation facilities are not altered by the willingness of a property owner to donate land. From another perspective, the Authority's ability to provide transportation is increased to the extent it can lower the costs of supplying it. It is difficult to propose any hard and fast rules for either rejecting donations, accepting them but without deviating from previous plans, or accepting donations without making any commitment in response. What is important is that each offer be evaluated carefully as to what impact, if any, the donation might have on the sequence and timing of investment decisions. Further, all commitments, as well as the lack of them, should be articulated with the utmost clarity.

OTHER TRANSPORTATION MODES

The basis for staying out of areas such as airports, rail passenger transportation, and mass transit includes most of the arguments expressed above for refraining from land development: conflict of purpose, lack of related experience or skills, and potential damage to the OOCEA's image. Additionally, existing agencies are already serving the community's needs satisfactorily.

Self-Supporting Paratransit

Attention is focused here on shared-ride highway transportation modes that are potentially self-supporting from fares charged to users. These modes include carpool services, vanpooling, express or subscription bus service, traffic management plans, high-occupancy vehicle (HOV) lanes, jitneys, taxicabs, and other activities. They can be supplied by a wide variety of public and private means.

Whether the paratransit modes of interest are profitable, barely self-supporting, or require slight subsidies, they are justified in the typical urban transportation system as substitutes for efficient road pricing. HOV lanes, for example, are an attempt to increase vehicle occupancies by offering a higher speed service to persons willing to travel together in the same vehicle. Properly designed tolls, however, produce the same effect without having to offer a special service. If the Authority sets vehicle tolls in congested peak circumstances so as to maintain vehicle flows at a near capacity, there are no benefits from actions designed to indirectly induce travelers to reduce the total number of vehicles.
Moreover, in circumstances where highway tolls are working so as to efficiently utilize highway capacity, carpooling, vanpooling, special bus service, and other shared ride modes will normally occur without public intervention. Under such conditions, the Authority would simply be competing with private providers for no public purpose.

Subsidized Transit

The inappropriateness of the OOCEA's involvement with subsidized transit is not as easily explained as it is for other functions unrelated to expressways. Citizens and elected officials may perceive that the Authority has a powerful revenue source that could be tapped to pay for public transit, and that the strengths of the organization are more than adequate to accomplish the task. There are two primary reasons for not imposing this function on the OOCEA. First, there is no good rationale for saying that those individuals who travel on the expressways should be singled out to pay for all or part of a regional transit system. If transit is a regional priority, the costs ought to be more fairly distributed. Second, although the Authority may be capable of operating a public transit system, it is the wrong organization to be doing so because an agency already exists for the purpose, and because operating public transit, in which individual users typically do not pay their full cost, conflicts somewhat with constructing and operating toll expressways, on which they do.
VII. CONCLUSIONS & RECOMMENDATIONS

Orlando's transportation needs are significant. Congestion is worsening as the region's population and economy continue to expand at phenomenal rates. Many problems will only be resolved by adding new capacity and building new expressways. Funding and financing of these improvements will be a concern.

The OOCEA possesses the necessary characteristics to move the community forward in resolving its transportation challenges. It has repeatedly demonstrated its expressway construction and management capabilities. It has excellent revenue sources. Its experience, single purpose focus, excellent reputation and fund-raising capability qualify the OOCEA to continue to play a strong leadership role in Orlando's transportation future.

The scope of the OOCEA's role should be based on its inherent strengths and skills. While the study team considered numerous alternate roles and functions for the Authority -- from land developer to transit provider -- these were rejected. The team found that fulfilling a somewhat broadened version of its basic charter is appropriate for the OOCEA. Diversification would likely reduce the efficiency and effectiveness of the Authority's contribution to the community.

For these reasons and because of the substantial need for its services today and in the future, the study team recommends the following strategic direction for OOCEA to continue and enhance its mission as the region's toll expressway provider.

MISSION STATEMENT

"Locate, design, construct, operate, maintain, and rebuild toll expressways."

In addition, the team felt the mission should specify the following conditions.
Location of Facilities

The expressways constructed by the Authority may be located anywhere in Lake, Orange, Osceola or Seminole Counties. General locations and alignments are coordinated through the local land use and transportation planning process, represented in plans adopted by the Metropolitan Planning Organization. The Authority may participate in these location decisions, and may select among the approved expressways those facilities it wishes to construct.

Design and Construction

Engineering and construction activities associated with expressways may be undertaken directly by the Authority or contracted for with others. Design standards must meet those imposed by the Florida Department of Transportation (FDOT).

Operation and Maintenance

The Authority should continue to have long-term policy and fiscal responsibility for operating the facilities it constructs, and may acquire and operate previously constructed facilities as well. The actual operation may be performed by the FDOT under contract to the Authority.

Reconstruction of Facilities

When an expressway owned by the Authority reaches the end of its functional life, the Authority may rebuild the facility, if future travel demand and the facility's contribution to the regional transportation system warrant the reinvestment.

Tolls

The Authority should continue to derive its primary revenue for design, construction, and operation of the expressways from tolls levied on the users of those facilities.

Expressways and Related Facilities

The Authority's attention should be focused primarily on limited-access multilane tollways, although the mission can be extended to closely related functional classes of highways, such as interstates and arterials.
Continuity

Although title to the system will belong to the State when all debt is repaid, the Authority's investment decisions should be based on the useful lives of the facilities, as if it anticipated continuing its mission indefinitely, until that mission is no longer needed.

Responsibility and Execution

Fulfillment of the Authority's mission may be accomplished through any combination of in-house resources, contracted suppliers, and in-kind contributions. The Authority has responsibility only to see that its mission is being carried out in a satisfactory manner. It may provide services under contract or agreement to other public agencies, and it may contract for the acquisition of services with other private and public agencies.

Planning

The recommended mission for the Authority assumes, and is dependent upon, a regional comprehensive land use planning process that serves the community's best interests. To give a public agency the power of eminent domain, and the authority to levy charges on highway users, requires assurance that the agency will operate in the public interest. To further give the agency a good measure of freedom from direct and continual political oversight requires that the agency's interests do not conflict with those of the community at large. Thus the powers and independent status granted to the Authority are justified only if the projects it selects to implement are derived from an accepted regional transportation plan.

ORGANIZATIONAL RECOMMENDATIONS

Team Consensus Recommendation

The study team recommends that the OOCEA merge with the Seminole County Expressway Authority. This recommendation stems from the team's conclusion that completion of an expanded toll expressway system in the Orlando area, including at least significant portions of a circumferential beltway, is of high priority. This goal is most likely to be accomplished by a single organization. A single organization also provides the most efficient and effective way to finance and operate a regional toll expressway system.
Structure. The new organization will be comprised of the Orange County Commission Chairman, the Seminole County Commission Chairman and five area citizens, appointed by the governor -- three residents of Orange County and two residents of Seminole County. The organization will have title to, authority over and responsibility for liabilities and operations of the existing Orlando-Orange and Seminole County Expressway Authorities, and contract to serve the other metro counties of Osceola and Lake, as needed. Its mission will be that stated in the preceding section.

There are a number of unique advantages in having a single regional agency responsible for expressways throughout the Orlando area. Chief among these are:

- Coordination of construction timing and facility location;
- Consistency of system-wide pricing policy in order to achieve greatest efficiency of use;
- Avoidance of duplication of effort by staff and board or competition in lobbying and citizen involvement;
- Greater toll revenue base on which to borrow for needed future construction; and
- Ability to concentrate the best human resources in a single organization.

The new Authority will benefit the region's citizens by providing needed expressways quickly and efficiently. Orange County will benefit specifically through alleviation of congestion on I-4 and major arterials. Failure to relieve congestion will eventually affect individual's and firm's location decisions, influencing them to locate their businesses closer to where they live, and contributing to the increasing growth of distant suburbs, along with the decline of Orlando's CBD and other established commercial centers. Because Orlando's transit options are extremely limited, a regional expressway authority which improves access to the center of the region from existing suburbs is crucial to Orlando's continued vitality.
Seminole County will benefit directly from a regional authority by assurance that the northern portion of the Eastern Beltway will be built in the near future, something that is otherwise highly unlikely. This facility will make Seminole County much more attractive by reducing travel time to a variety of employment sites around the region, the airport and the Orlando CBD.

**Issues of Concern.** Both counties have reason for concern about how three important issues will be handled in the new authority: selection of alignments for new facilities, setting priorities for project construction, and determining whether either county's taxpayers will bear a disproportionate share of the cost.

The selection of alignments is always difficult. Except in unusual circumstances it should be the philosophy of the Authority to give very strong weight to the commission chairman of the affected county in making location decisions, particularly when community opinion is divided. One possible compromise might be to allow local governments to choose alignments other than those preferred by the Authority if they could compensate for any disadvantages. For example, a local government could offer to pay the difference in cost between the most preferred and second best alternative if local sentiment favored the second best.

The question of fiscal equity is both simple and complex. Users of the system provide the primary funding through the tolls they pay. As tolls are based on use and not county of residence, no county has a legitimate complaint about the geographic fairness of this arrangement. However, to the degree that Orlando and Orange County have in the past subsidized the OOCEA, Seminole should be required to do the same.

As Orange County's only tax monies committed to the OOCEA are dedicated constitutional gas tax revenues, a similar dedication by Seminole County seems fair. Other than this, Orange County and Orlando have made, and in cases forgiven, some reasonably small loans to the OOCEA in the past. Seminole County's contribution to future Authority projects should be comparable to Orange County's.
Compensating Orange County for its previous investments is more complicated. The merger agreement must recognize the leadership and financing capability already established by the OOCEA and the investment in expressways already made by Orange County in the form of dedicated constitutional gas tax receipts. Seminole brings the promise of future toll revenues, but only after its segment of the beltway is completed.

Given the weight of the OOCEA's contribution to the proposed merger, the team felt it was reasonable and equitable that Seminole County compensate Orange County in some manner. The compensation could take many forms:

- Incentives, grants or loans from the state to the new Authority for beltway construction in Seminole County's name;
- Dedication of Seminole County's constitutional gas tax, and/or another stable revenue source to the new Authority;
- Donations of right-of-way and/or engineering studies by Seminole County.

Next Steps. In order to allow the merger of the two authorities to succeed, both Seminole and Orange Counties must work openly and cooperatively to develop an equitable agreement. Negotiating the specific details of the proposed regional expressway authority is critical. Because of the controversial nature and complexity of the many issues to be resolved, the team recommends that the authorities contract with a professional public mediator to develop mutually agreeable solutions to key issues. Among the issues for negotiation are: major project priorities, their timing and financing; forms of compensation to Orange County to balance the initial contributions of the two existing authorities; and specific organizational structure. An outside mediator will offer objectivity and an orderly, neutral process and forum for discussion. All major stakeholders will be involved during negotiations: the Orange and Seminole County boards, Orlando's Council and Mayor and the OOCEA and SCEA, as well as the Orange and Seminole state legislative delegations.
The negotiation process includes three phases:

1. Conflict Assessment - identifies common interests and goals as well as areas of conflict.

2. Conflict Resolution - examines alternative responses to major conflicts and identifies solutions acceptable to all parties.

3. Implementation - develops detailed action program, including monitoring and evaluation, to successfully implement the agreed-upon solution.

The negotiation process should not be hurried, although the study team would urge the State legislature to prevent either county from refusing to negotiate. No critical deadlines will be passed if the deliberations extend, for example, for twelve or fifteen months. Quite the opposite, any organizational solution that is imposed from outside may have the effect of merely reducing the effectiveness of the current OOCEA.

The ideal outcome would be an organization whose members have the confidence and cooperation of their respective jurisdictions (one of the current OOCEA and SCEA's strengths), yet are expected by their local constituencies to act in the best interests of the region. An organization in which individual member's votes on routine business reflect parochial concerns is unlikely to succeed in the mission the study team proposes.

Alternative Recommendations

If the team's consensus recommendation cannot be achieved immediately, the OOCEA itself should adopt the revised mission statement previously described.

Under this structure, the Authority can continue to be effective at building and maintaining new toll roads. This can be accomplished through voluntary interlocal agreements or contracts with the FDOT, local governments, other authorities and private organizations. The drawbacks to this approach are as follows:

- Construction of a regional system is unlikely to be balanced and orderly;
- OOCEA and SCEA and counties will be competing for state monies;
- Parochial interests and perspectives will be reinforced; and
Political realities suggest the OOCEA will be unable to pursue the complete development of a regional system.

Another major organizational alternative considered by the study team was the four-county Central Florida Expressway Authority proposed in the most recent Florida legislative session. A four-county organization might be desirable some time after the year 2000, as Lake and Osceola Counties become more developed. Throughout the next decade, however, their roles in expressway system development will be limited. The bill in its present form is undesirable for a number of other reasons as well:

- Orange County's role and influence in selecting, siting and prioritizing expressway projects for construction could be significantly diminished;

- The bill does not assure equitable representation among the counties--Lake and Osceola's representation could be disproportionate to their stake in road construction and their contributions;

- The proposed board is heavily weighted with elected officials who could block action and slow beltway progress;

- Support for the bill is generally weak; there is no local political consensus in favor of implementation;

- The major questions of project priorities, alignment, financial equity, and staffing structure are not addressed by the legislation; and

- The study team felt the organization created by this bill could be deeply divided, and fail miserably as a result.

Assuming everyone's objective is to improve the regional transportation system, the study team believes a regional authority is the most desirable organizational alternative. However, a four-county agency is inappropriate at this time and should not be supported by the OOCEA. A two-county authority may not be ideal, but it is clearly the outstanding option given the current conditions and alternatives.
FUNDING AND FINANCING RECOMMENDATIONS

Tolls

The study team's most important funding recommendation is expressed as part of the new mission statement: the region should strive to develop a completely tolled expressway system, ideally including I-4 as well as the OOCEA's current system and the beltway. A single authority could operate such a system at maximum efficiency, implementing time-of-day pricing, differential pricing of segments based on usage and automated toll collection systems as necessary to reduce congestion and encourage more efficient individual use of the system.

Next Steps. The possibility of I-4's management by the Authority is a critical issue which should be addressed during merger negotiations. At that time, a consensus should be developed regarding interest and willingness of the Authority to operate and maintain I-4 and that project's priority among all others.

Regardless of whether a new expressway organization is formed, the OOCEA should begin discussions with the FDOT and USDOT in the next six months about the possible transference of operations. Exploration of the concept during the course of FDOT's I-4 study, scheduled for completion next summer, may affect its conclusions and recommendations. Simultaneously, the OOCEA should examine the experiences of other communities where local governments have taken responsibility for management of portions of the interstate highway system. Congress' attitudes and actions toward the issue of tolling interstates should also be closely monitored.

Bonding

The OOCEA or its successor should adopt a policy to continue the current practice of acting decisively when opportunities arise. Though outstanding debt somewhat constrains opportunistic actions, the Authority still has flexibility far exceeding that of many public agencies, and should take advantage of it to pursue its mission. In other words, the Authority should evaluate potential projects on their merits, not considering financing as a constraint. It can then explore whether financing can be obtained for the worthiest projects.
Bonding for expressway facilities over their useful life is desirable for its own sake, and should not be viewed as a necessary evil. Paying for facilities on a pay-as-you-go basis, or financing over too short a period causes early users of the system to pay disproportionately, and later users to use it without charge. This is particularly counterproductive when considering tolls as both a means of repaying debt and a demand management technique, since congestion is likely to worsen over time.

TRANSPORTATION SYSTEM RECOMMENDATIONS

The Authority will play a crucial role throughout the 1990s and beyond in carrying out the regional transportation plan. Assuming the successful implementation of the 1986 Project, the Authority should begin to concentrate on construction of the Central Connector, and the Eastern and Western Beltways. In addition, it should pursue opportunities to provide expertise and leadership to stimulate completion of critical transportation improvements on other roads and highways, including I-4.

Although funds may not be available for construction of other facilities until the mid-1990s and beyond, early site reservation will reduce the overall costs and help ensure that needed facilities are ultimately constructed. In the near term, emphasis should be on the Central Connector and proposed Eastern and Western Beltways. By monitoring growth trends in cooperation with the MPO and the Regional Planning Council, the Authority will be able to evaluate the relative importance of other potential expressway links, including a southern beltway proposed to lie south of the Bee Line.

PLANNING AND OPERATIONS RECOMMENDATIONS

Strategic Planning

An in-house strategic planning capability will be essential if the Authority broadens its scope of responsibility -- either functionally or geographically.
The Authority's responsibilities, including planning, construction, operation, maintenance and replacement of facilities, require a systematic strategic planning process. This process would link critical issues and decisions to the organization's policies, performance measures, and overall objectives. For instance, the OOCEA might develop criteria to guide its location of interchanges, its assessment of financing alternatives, and other important and recurring activities. Other metropolitan areas have found that interlocal consensus can be achieved to design criteria and decision-making tools, while open negotiation over specific issues (such as the location of a particular interchange) may be fruitless, or worse, divisive.

For the Authority, development of a strategic planning process allows many benefits:

- The ability to evaluate performance against some clearly defined measures or objectives;
- Enhanced ability to make the most efficient decisions over time and to manage a growing and diversified asset base;
- The ability to monitor important factors or contingencies which could affect their revenue stream, project priorities and management;
- The ability to prepare for controversial decisions and to avoid unexpected crises;
- The avoidance of any appearance of impropriety in establishing and implementing a work program which may arise from relations with private individuals/developers or within the political arena; and
- Elevation of public confidence and possible improvement in working relations with public agencies.

**Next Steps.** Elements of a permanent strategic planning process can be developed in the immediate future, even prior to the formation of a new organization. The mission statement outlined in this report will serve as the underlying aim and direction for the Authority. However several other steps are fundamental to creating a framework for ongoing planning.
In support of the mission, specific objectives need to be developed in each of the Authority's functional areas—project planning, financing, operations and marketing or external relations. Existing policies, procedures and responsibilities must first be reviewed and past successes and weaknesses in each area examined. Objectives should be sensitive to those issues and seek to improve or reinforce past experience and performance.

The next step in the planning sequence is to develop program strategies to achieve the identified goals. The strategies might focus on current and planned projects as well as specify new procedures or approaches to doing business. For instance, if a financial objective is to evaluate the costs and benefits of new construction over the life of the project, strategies may indicate the process for doing so as well as suggest actions to be taken regarding evaluation of beltway segments.

Finally, ways to establish and implement an ongoing strategic management process must be devised. These will likely include the creation of a planning cycle (one, three and five years for various elements), the development of an in-house scanning function to track factors, issues, and contingencies which may affect plans and operations, and the formation of performance evaluation measures to examine achievement of objectives.

External Relations

A comprehensive assessment of the Authority's institutional and public relations is essential to maintaining and expanding its current positive image and good relations with key agencies and organizations. The Authority's relations with the general public will be tried and tested on numerous occasions over the course of the next decade. The 1990 toll increase, selection of alignments, construction of beltway segments and construction of the Central Connector through a highly urbanized area will all require thorough planning, with great sensitivity to the various constituencies affected.

In order to clearly understand and carry out its responsibility in the public interest of the region, the Authority can also benefit by improving its working relations with other public agencies. For instance, as the elements of the Growth Management Act are put into place, it will want to work closely with the Regional Planning Council to understand specific implications for transportation system planning and development. Coordination of objectives and some aspects of project planning with Tri-County Transit could be mutually beneficial to both agencies.
Of all public and external relations issues which the Authority must face, the most immediate and critical is its dealings with Seminole County. The recommended negotiation process with the SCEA will test those relations and will have long term implications for their success -- regardless of the outcome. If the mediation efforts do not result in a merger of the authorities, the study team urges the OOCEA to develop both formal and informal communication channels with the SCEA to share information and discuss common concerns and issues.

Lastly, the OOCEA should work to avoid the perception of conflict or wrongdoing in its dealings with the business community and private developers. A starting point may be to review and codify current standards of ethics for Authority members and staff in light of the expanding mission and construction program.

*Next Steps.* The Authority should conduct a formal review or inventory of its past, present and anticipated future dealings with stakeholders or constituents, other transportation agencies and players, the media, special interest groups, and the general public. The review should examine characteristics, evaluate current relations, identify problems or opportunities for reinforcing positive relations and develop strategies, a timetable and accountabilities for dealing with individuals and groups. The strategies may relate to educational activities, communications and public relations.

This external affairs review is integrally linked to the Authority's strategic planning activities. Ideally, it should be conducted after strategic objectives have been established in this area. However, in this case, objectives may be developed simultaneously.

**ISSUES THE OOCEA CANNOT RESOLVE**

**Serving the Transportation Disadvantaged**

The mission of the Authority, and the methods for achieving it conflict with the provision of subsidized transportation services. This does not mean, however, that serving the transportation disadvantaged in general, and using Authority facilities, specifically, may not be important.
While it is inappropriate that expressway users alone subsidize those who cannot afford to pay tolls, general purpose local governments in the area, or the state could provide a cash subsidy from general fund revenues to low income persons needing access to the expressway system.

The Authority should press for subsidies, to forestall criticism that a fully tolled expressway system is inequitable and that the upcoming toll increase will adversely affect Orlando's poor population.

Absence of Regional Leadership in Transportation

The Authority should urge the establishment of a regional transportation forum where state and local public officials and private sector leaders can discuss and resolve transportation issues. This group should have a recognized focus on transportation, but have no powers or duties except to provide a forum for education and negotiation, and to lead the region toward cooperative solutions.

Additional Funding for Other Major Streets and Roads

A major concern for the Authority in future years will be collector streets and arterials that link expressways with origins and destinations within the region. Gas tax revenues are the primary source of funding for local roads, and as such their availability indirectly affects the smooth functioning of the expressway system. Without making direct claims on motor fuel tax revenue, the Authority should work to maximize the amount of these monies coming to the Orlando urban area. One means of doing this is to promote increases in state and local gas taxes.

The Authority may also encourage local officials to bond available gas tax revenues, designate special benefit districts, institute local sales taxes devoted to infrastructure and apply impact fees and other possible sources of revenue to improving streets and roads connecting to Authority expressways. These methods are increasingly used in other cities, and should be regarded as possible revenue alternatives for meeting transportation challenges.
CONCLUSION

The study team recommends the consolidation of the Seminole and Orange County Expressway Authorities into a regional entity. Its mission should be to locate, design, construct, operate, maintain and rebuild toll expressways of Lake, Orange, Osceola and Seminole Counties. This organization should be formed by negotiation among the affected parties and should seek to preserve the OOCEA's existing strengths. The negotiations should begin soon, and continue until they succeed. If necessary, the State of Florida should provide incentives and sanctions to ensure that a regional expressway authority is formed.

The new Authority should seek to construct and operate a fully tolled regional expressway system, and should finance its facilities with revenue bonds backed by these tolls. It should add a strategic planning function and increase its awareness of external relations of all kinds.

Until the new organization is in place, the team recommends that the current OOCEA adopt the recommended mission statement. This Authority, and any successor organization, should carry out its public responsibilities fully by advocating that state or local governments subsidize those who cannot afford to use its facilities, urging the creation of a regional transportation forum of public and private interests, and campaigning for more money for transportation infrastructure in the Orlando area and state-wide.

The Orlando region can become a leader in transportation if it can accomplish these goals. The study team is confident it can succeed.
APPENDIX A

PERSONAL INTERVIEWS

Mr. James L. Bacchus, Chairman, Greater Orlando Project 2000
Mr. Jerry Brinton, Executive Director, Seminole County Expressway Authority
Mr. Allen Chase, Osceola County Planning Department
Mr. Red Cleveland, Executive Director, Sanford Airport Authority
Mr. J. Fenimore Cooper, Attorney, OOCEA legal advisor
Mr. Richard T. Crotty, State Representative
Mr. Keith T. Denton, Vice President, Paine Webber, OOCEA financial advisor
Mr. Nacho Diaz, Director of Transportation Planning, Metropolitan Council of
the Twin-Cities Area, St. Paul, MN
Dr. Henry H. Fishkind, President, M. G. Lewis Econometrics, Inc.
Mr. Bill Frederick, Mayor of Orlando
Mr. Stephan Fregger, District Director, Orlando Urban Area Office, Florida
Department of Transportation
Mr. Jim Greene, Past Chairman of OOCEA
Mr. Art Grindle, State Representative
Mr. David L. Grovdahl, Director, Transportation Planning, East Central Florida
Regional Planning Council
Mr. Clifford Guillet, Director, East Central Florida Regional Planning Council
Mr. D. W. Gwynn, Executive Director, Orlando-Orange County Expressway Authority
Mr. Roy Harris, Director, Mid-Central Florida Industrial Development Commission
Ms. Jane Healy, Associate Editor, Orlando Sentinel
Mr. Tim Jackson, Partner, Glating, Lopez, Kercher, Anglin
Mr. Walter T. Jones, Executive Director, Greater Orlando Airport Authority
Mr. David Koski, Barton-Aschman Associates, Minneapolis, MN
Mr. David Marsh, Principal Planner, Orange County Planning Department
Mr. Woody Price, former Deputy County Administrator, Seminole County
Mr. Phil Reece, Chairman, Orlando-Orange County Expressway Authority
Mr. Manny Rodriquez, Acting Director, Orlando Chamber of Commerce
Mr. Hal Scott, Past President, Florida Audubon Society
Mr. Fred Streetman, Chairman, Seminole County Commission
Mr. Michael Szunyog, Planning Director, Lake County
Mr. Lou Treadway, Chairman, Orange County Commission
Mr. David A. Twiddy, Regional Manager, Post, Buckley, Schuh and Jernigan
Mr. Ben G. Watts, Deputy Assistant Secretary, District Five, Florida Department
of Transportation,
Mr. Richard D. Wiedenbeck, Disney Enterprises

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TELEPHONE INTERVIEWS

Ms. Catalina Alvarado, Metropolitan Transportation Commission, Oakland, CA
Mr. Jerry Church, Urban Land Institute, Panel Advisory Service, Washington, DC
Mr. Ken Cooke, Chief Economist, Transportation Research Board, Washington, DC
Ms. Mildred Cox, Transportation Planner, City of Dallas, TX
Mr. Aaron Dowling, East Central Florida Regional Planning Council
Mr. Peter Fielding, University of California, Irvine, CA
Mr. Tom Fortune, Director of Public Affairs, Orange County Transportation Commission, Orange County, CA
Mr. Dick Glaze, Florida Department of Transportation
Mr. Chuck Green, Transportation Planner, Denver Regional Council of Governments
Mr. Garland Hagan, CALTRANS, Sacramento, CA
Mr. D. Hensening, American Association of State Highway & Transportation Officials, Washington, DC
Mr. David Hitchcock, Rice Center, Houston, TX
Mr. Mark Hopkins, Manager, Economic Analysis Section, Florida Department of Transportation
Ms. Mary Hough, Assistant General Manager, Tri-County Transit
Ms. Lynne Judd, Wisconsin Department of Transportation, Madison, WI
Mr. Mark Menchik, Advisory Council on Intergovernmental Relations, Washington, DC
Ms. Susan Morris, Greater Orlando Project 2000
Mr. Larry O'Dell, Executive Director, Florida Association of Turnpike and Expressway Authorities
Mr. Dave Runyan, Florida Department of Transportation
Ms. Becky Rust, Florida Department of Labor and Employment
Mr. Neil Shuster, International Bridge, Tunnel and Turnpike Association, Washington, DC
Mr. Jim Scott, Transportation Research Board, Washington, DC
Mr. Gordon Shunk, Transportation Planner, North Texas Council of Governments
Mr. Phil Sieber, Planning Director, Arapahoe County Planning Department, Denver, CO
Mr. Charles Smith, Florida High Speed Rail Commission, Tallahassee
Mr. Stan Smith, Bureau of Economic & Business Research, University of Florida, Gainesville
Mr. Bill Tilley, American Road and Transportation Builders Association, Washington, DC
Mr. Sam Venera, Orlando Parking Authority
Mr. George Wallace, President, Denver Technology Center and Transit Construction Authority, Denver, CO
Ms. Ann Marie Walsh, President, Institute of Public Administration, New York, NY
APPENDIX B

BIBLIOGRAPHY


Advisory Commission on Intergovernmental Relations. Regional Decisionmaking -- New Strategies for Substate Districts. (V.I., #843) Washington D.C.


Central Florida Expressway Authority Law. (A bill proposed by State Representative Crotty.)


Denver Regional Council of Governments. The 2010 Regional Transportation Plan.


Doig, Jameson W. "If I See a Murderous Fellow Sharpening a Knife Cleverly...The Wilsonian Dichotomy and the Public Authority Tradition." Public Administration Review. 43, No. 4 (July/Aug. 1983) pp. 292-304.


Florida Administrative Code. Miscellaneous portions.


Florida DOT. "History and Current Organization Charts."


Florida Statutes. Miscellaneous portions.


Greater Orlando Aviation Authority. Comprehensive Annual Financial Plan for FY Ended September 30, 1986. (Also legislation, policy and procedures, by-laws, and capital plan 4-10-87).


Greater Orlando Transportation Study Committee. Findings and Recommendations of the Greater Orlando Transportation Study Committee. Winter Park: Greater Orlando Transportation Study Committee, 1985.

Greiner Engineering Sciences, Inc. Draft Environmental Assessment for the Western Beltway. (Preliminary draft.) Prepared for the Orlando-Orange County Expressway Authority. March 1987. Pages are not numbered sequentially.


B-5
Lake County Road Impact Fee Ordinance.


Orange County Impact Fee Information Guide.


Orlando Sentinel. Miscellaneous clippings. (Stored in Clipping file.)


Orlando-Orange County Expressway Authority. "Official Statement, 1986 Revenue Bonds." (Includes Appendix G.) Pages are not numbered sequentially.


Seminole County Expressway Authority. Scope of Services, Eastern Beltway Alignment and Environmental Study. (Typewritten, no date.)

Seminole County Road Impact Fee Ordinance.


APPENDIX C

BACKGROUND REPORTS


Organizational Background Paper: Characteristics of Authorities and Special Districts, Dr. Catherine L. Ross, June 1987.

ISSUE REPORTS


Transportation Opportunities in the Orlando Area, Dr. Harold L. Michael, P.E., June 30, 1987.
APPENDIX D
TEAM PERSONNEL

Dr. David S. Sawicki, the Principal Investigator, is the Director of the City Planning Program at Georgia Tech. He has extensive experience in working with governments on infrastructure (sewer, water, transportation), housing, and service delivery problems. Dr. Sawicki is the current President of the Association of Collegiate Schools of Planning, the national organization of 1400 planning faculty.

Dr. Catherine Ross is an Associate Professor in Georgia Tech’s City Planning Program. She is a specialist in transportation planning, and has authored numerous reports and publications on various aspects of transportation administration. She has held grants from the U. S. Department of Transportation and the Urban Mass Transit Administration.

Dr. David Forkenbrock is a Professor of City and Regional Planning at the University of Iowa. He has a national reputation as an expert on transportation administration and pricing policies. He is the author of many articles and reports, including a number as a consultant to local governments.

Dr. Hal Michael is a Professor and Head of the School of Civil Engineering at Purdue University. Dr. Michael is a national expert on transportation systems planning. He has done research and consulting for numerous federal, state and local government agencies.

Dr. Emil Malizia is a Professor of City and Regional Planning at the University of North Carolina at Chapel Hill. He is a nationally recognized regional planner/economist, and author of articles and books on regional input/output and econometric models. He has also served as a consultant to local governments in developing local strategic economic development plans. Dr. Malizia currently focuses his work on local economies in the Southeast.

Dr. Tony Catanese is Dean of the College of Architecture, University of Florida. He is widely known for his academic leadership in the urban planning profession. He has published numerous books and articles with emphasis on the politics and practice of planning.

Dr. Doug Lee, Jr. is Transportation Planner for the Transportation Systems Center, U.S. Department of Transportation. His expertise is in transportation economics and policy. He has managed numerous projects for the Federal Highway Administration and the Urban Mass Transit Administration. Dr. Lee is considered one of the most influential transportation planners/economists in the U.S.

Mr. Sam Rea, Jr. is the Chief of the Planning Operations Branch, Planning Programs Division in the Federal Highway Administration’s Office of Planning. In this capacity, he manages the Highway Planning & Research and the Metropolitan Planning Programs and oversees legislative and regulatory changes related to these programs. Mr. Rea has also served in the Urban Mass Transportation Administration in various management positions.

Ms. Mary Bosch is a professional planner experienced with the strategic planning process and plan development for both business and government. She has also taught strategic planning as an adjunct faculty member at Georgia Tech.

Ms. Amy Helling is a professional planner with experience as a manager of strategic planning for a multi-billion dollar sewer improvements program, and as a planning consultant. She has also developed microcomputer projection models, and staffed citizen committees on infrastructure (sewer, mass transit).