Emerging Agency Roles in Financing Highway Improvements in Broward County, Florida

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A massive highway construction program has taken place in Broward County, Florida, in the 11 fiscal years spanning the 1980s. Changing agency responsibility for this program is described. Excluding expenditures for preliminary engineering and right-of-way, about $1 billion was spent to construct nearly 1,000 lane-mi of major highway improvements in the urbanized area of the county. This improvement program was the product of many factors, including the accumulated travel demand of an enormous population boom that started after World War II. The hypothesis of a national reversal of federal and state-local roles in financing transportation system improvements during the 1980s is tested in the unique setting of Broward County. A new set of highway players emerged in Broward during the 1980s, including municipal government, the Florida's Turnpike, the Broward County Expressway Authority, and the Port Everglades Authority. These groups joined the Florida Department of Transportation, Broward County, and developers active throughout the 1980s to undertake the construction program described. Revenues from local option gas taxes and tolls helped fund the emerging agency projects. Although Broward County remains a co-leader in lane-mile production with the Interstate program, factors exist that tend to counteract a projected role reversal with the federal government. These factors include the new Florida growth management requirements, which demand more county attention to capacity deficiencies in local road systems, leaving fewer resources for addressing problems on higher level systems. Also there is escalating demand on local transportation revenue to support transit operating costs because of the phaseout of federal transit aids. A ray of hope is the recent emergence of shared-responsibility (jointly funded) projects between the old and new sets of players in Broward highway construction. This activity might be viewed as support for more of a team approach to urban highway improvements compared with the expected federal downshifting of responsibility.

Over the past 11 years, nearly $1 billion from public and private sources has been spent in constructing almost 1,000 lane-mi of major highway improvements in Broward County, Florida. This amount excludes related expenditures for preliminary engineering and right-of-way acquisition. Because this massive highway construction program is reaching its peak and is projected to wind down, some observations can be made about changing agency roles in the program. A variety of agencies have been involved, including the Florida Department of Transportation (FDOT), county and municipal government, individual developers, the Florida's Turnpike, and the Broward County Expressway Authority (BCEA).

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Previous research has suggested the occurrence of a reversal of federal and state-local roles in financing transportation system improvements during the 1980s; a majority of funding now is contributed from state and local sources. It has also been predicted that this role reversal will continue into the 1990s, accompanied by an expected phasing out of major construction of a national highway system and a phasing in of an era of maintenance and rehabilitation. That hypothesis for road improvements in the unique sunbelt setting of Broward County is tested in the following paragraphs.

FACTORS AFFECTING BROWARD HIGHWAY DEVELOPMENT

Approximately 1.25 million people live in Broward County, between Palm Beach and Dade counties (Miami urbanized area) on the southeast Florida coast (see Figure 1). The largest city and the seat of county government is Fort Lauderdale, surrounded by about 400 mi^2 of developable area between the Everglades and the Atlantic Ocean. Almost 90 percent of the population resides within the municipal limits of Broward's 28 cities. Some 5,000 mi of urban streets and highways serve the urbanized area, including just over 100 mi of urban expressway. Broward expressway improvements during the 1980s have helped integrate the expressway system for the tri-county area.

Surface transportation from the outside world originated in 1896 when Henry M. Flagler extended his Florida East Coast Railroad Line south from Palm Beach to Fort Lauderdale, thus providing the initial impetus for development of the Broward County area. World War II resulted in the construction of numerous military bases and military airfields, which eventually became civilian airports, including the Fort Lauderdale/Hollywood International Airport. Commercial air travel made Broward County more accessible than ever, and many servicemen stationed in Broward County during the war chose to return with their families, starting an enormous population boom.

By 1960 the population was one-third of a million, making Broward County the fifth most populous county in Florida. Rapid county growth continued throughout the 1960s (at the rate of about 30,000 persons per year) and increased in the 1970s (at the rate of about 40,000 per year); by 1980 county population exceeded 1 million. Recent population trends indicate that Broward County is entering a period of slower growth, averaging about 25,000 persons a year.

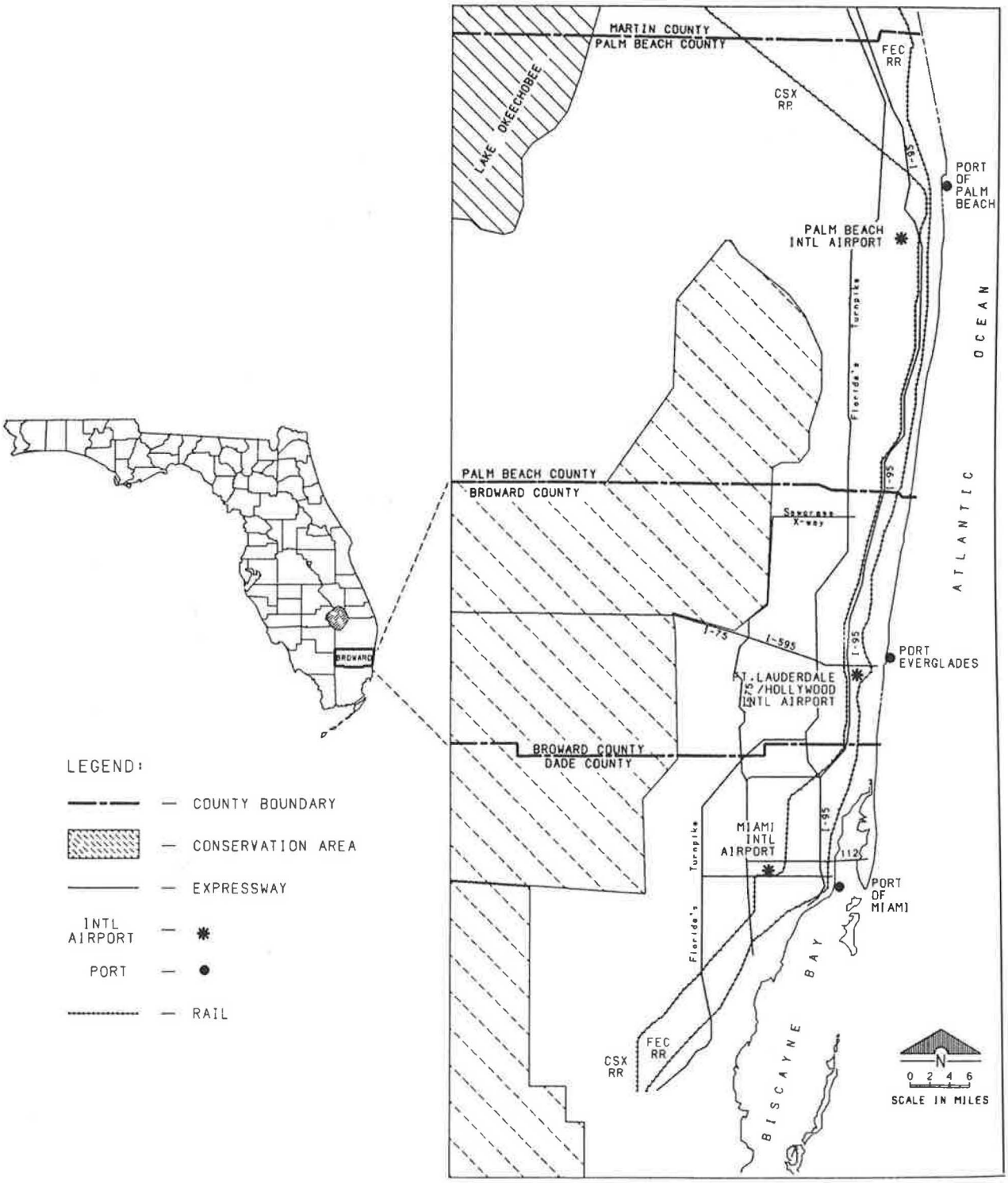

FIGURE 1 Location map of Broward County, Florida.

The context of the Broward County highway experience in the 1980s includes at least two significant factors, which originated at the state level.

First, a chronic backlog of unfunded improvement needs on the state highway system existed throughout the state, caused partly by the accumulating travel demand of locally approved land developments. The adopted 1991 Florida Transportation Plan identifies the 5-year unfunded statewide highway need as more than $7 billion.

Second, the enactment by the Florida legislature in 1985 of landmark growth management legislation culminated in the Local Government Comprehensive Planning and Land Development Regulation Act. The cornerstone of the new Florida growth management process is the concurrency princi-

ple—the requirement that the necessary infrastructure, including highway capacity, be in place concurrently with the impact of locally approved developments.

Because of the existing backlog, urban traffic concurrency deficiencies under the new growth management law occur principally on the state highway system. According to the most recent Florida transportation plan, about one-third of all state highways are in urban areas and about half of these urban state highways (both arterials and expressways) are congested. Determining state versus local responsibility for addressing these urban highway deficiencies is a significant issue in Florida today.

FEDERAL-AID CONTRIBUTIONS TO STATE CAPITAL OUTLAY FOR HIGHWAYS

The FHWA annual *Highway Statistics* reports for the 1980s provide a basic perspective on the changing importance of federal highway aid to the FDOT statewide construction program. Table 1 shows a cyclical pattern in the total state capital outlay for highways during the 1980s, which fluctuates from a low of $567 million in 1983 and to a high of $1,406 million in 1988. Table 1 also lists a composite total of the major FHWA payments to the state of Florida in this period that support highway construction: federal-aid primary (FAP), federal-aid secondary (FAS), federal-aid urban (FAU), federal-aid interstate (FAI), and bridge replacement (BRT). This pattern of federal construction reimbursements is more stable than that for state capital outlay but is characterized by less than average annual payments after 1988. The ratio of federal payments to state outlay shows a rather steady decline from 0.517 down to 0.306 during the 1980s if the 1983 low and 1988 high construction years in Florida are disregarded (see Figure 2).

Comparable financial statistics are not readily available for individual counties in Florida to pinpoint the annual federal contribution at this level. Therefore, the following analysis for Broward County is based primarily on construction cost data from highway agencies for completed highway projects.

BROWARD HIGHWAY IMPROVEMENTS IN THE 1980s

Table 2 presents the investment of public and private dollars in constructing completed highway improvements in Broward County over the most recent 11 fiscal years. Eight responsible highway agency types have been identified in the documents and records of the Broward County metropolitan planning organization (MPO). For this analysis, FDOT is subdivided into two categories:

- FDOT/I-SYS represents the urban Interstate highway program in Broward County, including the completion of two new Interstate highways. I-75 and I-595 are the closest approximation to a pure federal-aid system, with a 90/10 matching ratio for participating costs. The table does not contain data relating to the recently completed (fiscal year 1991) addition of 69.2 lane-mi to existing I-95, providing significant capacity improvements. Reconstruction of the last additional 8 lane-mi on I-95 is expected to begin in fiscal year 1992.
- FDOT/NON-I represents all other FDOT completed projects with state or federal funding. Federal participation in these projects ranges from 0 to 100 percent, and the historical records available to the MPO do not readily permit

TABLE 1 Federal Highway Reimbursements in Thousands of Dollars for State of Florida Capital Outlay (*1*)

CALENDAR YEAR	FEDERAL CONSTRUCTION REIMBURSEMENTS						TOTAL STATE CAPITAL OUTLAY	RATIO OF REIMBURSEMENTS TO OUTLAY
	FAP	FAS	FAU	FAI	BRIDGE	TOTAL		
1980	$ 41,985	4,384	30,539	323,672	19,377	$419,957	$811,813	0.517
1981	45,132	2,188	22,107	229,310	26,377	325,114	703,335	0.462
1982	59,351	5,101	22,895	143,213	24,550	255,110	608,078	0.420
1983	55,100	5,185	19,335	211,370	28,345	319,335	567,039	0.563
1984	53,004	7,910	29,283	153,371	22,684	266,252	647,403	0.411
1985	72,871	9,091	31,990	249,771	19,102	382,825	998,532	0.383
1986	78,515	11,792	29,676	217,006	21,728	358,717	1,016,476	0.353
1987	66,561	5,350	31,699	220,898	26,159	350,667	1,194,292	0.294
1988	70,744	3,795	28,692	237,025	29,045	369,301	1,405,645	0.263
1989	56,231	2,498	36,116	200,338	28,362	323,545	1,104,899	0.293
1990	48,933	4,772	28,465	157,025	49,952	289,147	946,156	0.306
	$648,427	62,066	310,797	2,342,999	295,681	$3,659,970	$10,003,668	0.366

Source: Annual "Highway Statistics" Reports, Federal Highway Administration, 1980 through 1990

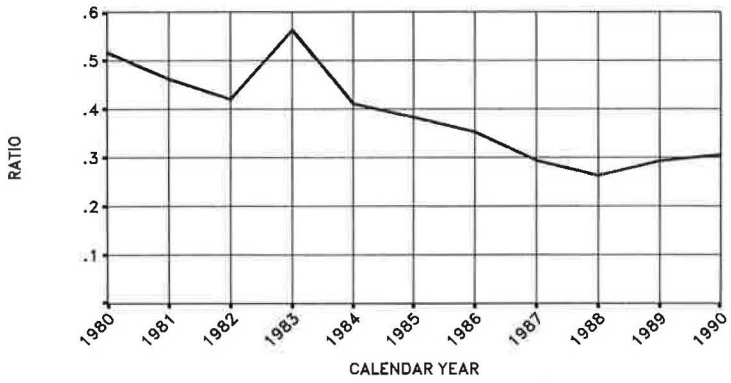

FIGURE 2 Ratio of federal reimbursements to state of Florida capital outlay for highways.

TABLE 2 Estimated Construction Costs of Urban Roadway Projects Completed in Broward County in the 1980s in Thousands of Dollars

	FISCAL YEAR IN WHICH PROJECT WAS COMPLETED											
RESPONSIBLE AGENCY	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	11-YEAR TOTAL
FDOT/I-SYS.	$ 4,988	N/A	N/A	21,366	30,250	18,480	12,430	N/A	38,045	120,124	189,609	435,292
FDOT/NON-I	8,033	1,870	9,099	23,452	N/A	10,276	1,640	2,512	9,379	10,476	33,373	110,110
COUNTY	429	14,060	26,850	1,978	47,632	5,309	13,567	7,132	20,734	4,690	17,401	159,782
MUNICIPAL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	900	500	2,400	1,982	5,782
DEVELOPER	N/A	400	2,250	N/A	1,012	1,400	8,563	3,950	4,256	2,758	29,401	53,990
FTPK	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7,868	27,920	7,205	16,648	59,641
XWAY AUTH.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	94,791	N/A	6,629	N/A	101,420
PORT AUTH.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,750	1,750
	$ 13,450	16,330	38,199	46,796	78,894	35,465	36,200	117,153	100,834	154,282	290,164	927,767

Notes:
- These Estimated Costs do not include Right-of-Way or Preliminary Engineering Costs.
- Roadway Projects Include Improvements to the Expressway, Arterial, and Collector Road Systems.
- The FY 1990 amount for FDOT/I-SYS. does not include the cost of reconstructing I-95, which was under construction but was not completed at this time.
- N/A means Not applicable.

Source: Transportation Planning Division, Broward County Office of Planning

an accurate estimate of the composite federal/state funding split for construction in a given fiscal year.

The Florida's Turnpike (FTPK) was an independent state agency until 1969 when it was consolidated into FDOT. BCEA (XWAY AUTH in the table) is an agency created by state statute to build the Sawgrass Toll Expressway and ancillary facilities in Broward County. The completed 23-mi expressway has been incorporated into the FTPK system. The Port Everglades Authority (PORT AUTH) is a statutory authority that owns and operates Port Everglades on the Atlantic Coast in east central Broward County.

The first observation that can be made from Table 2 is that one set of responsible agencies has been active throughout the 1980s:

- FDOT/I-SYS,
- FDOT/NON-I,
- Broward County, and
- Developers.

This set is joined by a new set of players in 1987:

- Municipal government,
- FTPK,
- XWAY AUTH, and
- PORT AUTH.

Some noteworthy departures from the predicted national role-reversal model are evident from examining Table 2. First, the Interstate highway program is still alive and well in Broward County and remains the major financial contributor to the highway construction program through fiscal year 1990. With the addition of 69.2 lane-mi on I-95, fiscal year 1991 will be the peak year for the Interstate program in Broward. The Broward County MPO, however, is currently program-

ming Interstate highway construction and resurfacing projects through fiscal year 1996.

Second, the next largest contributor after the Interstate program is the county road program. Although the national model would predict an increasingly higher rate of county participation, Broward County government was already making major financial contributions for highway construction at the beginning of the decade. In fact, as Table 2 shows, the county was the major road builder in the early 1980s. Almost $60 million, or about one-third of the county contribution over the 11-year period, was spent for constructing completed projects on the state highway system, a practice that was initiated by county bond issues in the late 1970s. Numerous public surveys conducted at that time identified better transportation as the county's most critical infrastructure need, in response to rapid growth and development. As opposed to the apparent national trend, the county is now spending less on the higher level state highway system and concentrating more on addressing traffic concurrency deficiencies on the county highway system in compliance with the state's new growth management law.

Several patterns of data in Table 2 do conform to the role-reversal model, for example, the recent emergence of municipal government as a contributor to the highway improvement program. This occurrence coincides with the sharing of the proceeds of the county's 6-cent local option gas tax, which is distributed on a 62.5 percent (county) versus 37.5 percent (municipal) basis. In Florida the jurisdictional responsibility for functionally classified arterials is currently limited to state and county government; therefore, the local urban highway program has traditionally been the county road program. City expenditures are now being made on both the collector and arterial system.

In addition, although developer participation in completed road construction has been evident throughout the 1980s, the level of participation is variable. In FY 1990, the $30 million developer contribution exceeds all other categories except FDOT/I-SYS and FDOT/NON-I. This significant increase can be attributed to major road improvements in western Broward, which were required of developers in conjunction with governmental approval of associated developments of regional impact (DRIs).

Table 2 clearly shows an expanding role for toll financing in road construction at both the state and county level. In the early 1980s, the turnpike construction program in Broward was dormant. Recent state legislation authorized up to $425 million in state transportation trust funds and the sale of $1.1 billion in revenue bonds to further expand the FTPK throughout the state. This has been accompanied by an upward adjustment in tolls. BCEA made a $100 million contribution to the overall road program in the late 1980s by building the Sawgrass Expressway around west Broward.

Table 3 also presents the emerging agency roles in Broward highway improvement by listing lane-miles of completed projects (excluding local streets) for the various agencies. Table 3 tends to parallel Table 2 but provides a clearer picture of the actual physical improvements completed in Broward County. Because higher levels of highway facilities are expected to cost more to construct per lane-mile, Table 3 is one way to normalize the described efforts of roadway agencies at various levels. The county is the overall leader in this type of comparison, followed by the Interstate highway program.

TABLE 3 New Lane-Miles of Urban Roadway Projects Completed in Broward County in the 1980s

	FISCAL YEAR IN WHICH PROJECT WAS COMPLETED										
RESPONSIBLE AGENCY	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
FDOT/I SYS.	16.4	N/A	N/A	28.8	34.4	17.6	14.4	N/A	14.4	38.6	58.2
FDOT/NON-I	13.8	0.6	16.6	30.0	N/A	13.8	2.0	7.4	2.8	9.3	26.4
COUNTY	7.5	27.4	53.4	6.0	87.1	13.6	25.8	20.0	34.9	22.2	22.7
MUNICIPAL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1	7.6	2.0
DEVELOPER	0.2	2.0	7.0	N/A	3.0	4.6	23.6	11.8	15.8	6.6	51.8
FTPK	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.6	14.6	3.2	15.0
XWAY AUTH.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	119.2	N/A	N/A	N/A
PORT AUTH.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0
	37.9	30.0	79.0	64.8	124.5	49.6	65.8	164.0	85.6	87.5	179.1

NOTES:
- Roadway Projects Include Improvements to the Expressway, Arterial and Collector Road Systems.
- The reconstruction of I-95 was underway in FY 1990, but the 69.2 additional lane-miles on I-95 were not completed until FY 1991.
- N/A means not applicable.

SOURCE: Transportation Planning Division, Broward County Office of Planning

Private developers rank third in lane-mile production, and a comparison of Tables 2 and 3 suggests they spend the least per lane-mile of roadway constructed.

The dip in lane-mile production for FDOT/NON-I projects in the mid to late 1980s is reflective of the previously mentioned severe funding shortfall at the state level. This change also appears to be caused in part by the channeling of available state funds to maintain the schedule of the Interstate program, including necessary state funding of nonparticipating Interstate system costs.

Table 4 presents a closer look at changing agency participation in the construction of new lane-miles of roadway. Indicated for each agency type are the number of lane-miles, the annual average lane-miles, and the percentage of total lane-miles added for two time periods:

- The entire 11-year period of observation (fiscal year 1980 through fiscal year 1990), and
- The most recent 5-year period of observation (fiscal year 1986 through fiscal year 1990).

For overall lane-mile production, the most recent 5 years were more productive on average (116.40 lane-mi/year) than the entire 11-year period (87.98 lane-mi/year). In terms of the relative importance of roadway agencies in lane-mile production, the following can be noted from Table 4:

- The burden of lane-mile production is spread more evenly in the most recent 5-year period, with developers and BCEA essentially equaling the effort of the Interstate highway program and the county. (These four agencies were each responsible for about 20 percent of the new lane-miles.)
- As previously discussed, the production of FDOT/NON-I lane-miles is down in the most recent 5 years because of the effects of the state shortfall and the need to provide necessary support for the massive Interstate program.
- Other players are emerging to help share the road construction responsibility in a modest but collectively significant way. Together, municipal government, the FTPK, and the Port Authority were responsible for about 10 percent of the new lane-miles in the recent 5-year period.

EMERGING ROLES IN BROWARD HIGHWAY IMPROVEMENTS

Evidence of emerging roles in financing Broward highway improvements exists at all levels of government and provides additional perspective for reviewing the Broward County data set. As with the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, some of these factors are not fully defined. For example, the county is attempting to determine the following:

- Is the Surface Transportation Program of the ISTEA actually a block grant of earmarked funds to MPOs with a population of over 200,000, or is it more like the previous FAU program in which the MPO sets some priorities and everything else is left to the state?
- Who will administer federally aided urban projects off the state highway system, what are the project development requirements, and whose design standards apply?
- What are the actual net increases in federal funding for the urbanized areas, and what is the schedule to make funds available for programming?

TABLE 4 Changing Agency Participation in Construction of New Lane-Miles of Urban Roadway in Broward County

RESPONSIBLE AGENCY	1980 THRU 1990 (11 YEARS)			1986 THRU 1990 (5 YEARS)		
	LANE-MILE	ANNUAL AVERAGE	PERCENTAGE OF TOTAL	LANE-MILE	ANNUAL AVERAGE	PERCENTAGE OF TOTAL
FDOT/I Sys.	222.8	20.25	23.0	125.6	25.12	21.6
FDOT/Non-I	122.7	11.15	12.7	47.9	9.58	8.2
COUNTY	322.6	29.29	33.3	125.6	25.12	21.6
MUNICIPAL	12.7	1.15	1.3	12.7	2.54	2.2
DEVELOPER	126.4	11.49	13.1	109.6	21.92	18.8
FTPK	38.4	3.49	4.0	38.4	7.68	6.6
XWAY AUTH.	119.2	10.84	12.3	119.2	23.84	20.5
PORT AUTH.	3.0	0.27	0.1	3.0	0.60	0.5
	967.8	87.98	99.8	582.0	116.40	100.0

Source: Transportation Planning Division
Broward County Office of Planning

At the state level, the Florida legislature is reexamining highway functional classification with an eye to focusing available state resources on certain higher order state interests (which are still in the process of being defined). An issue here has been an attempted capping of the size of the state highway system. (At present, the total public highway and street system in Florida consists of approximately 11,800 mi of state highways, 67,000 mi of county roads, and 28,000 mi of city streets.) As Broward County continues its pattern of urban growth westward from the Atlantic coastline, the Broward County MPO and the County Commission have taken the position that the state arterial system should expand accordingly or, at a minimum, the state should share the responsibility for maintaining and improving the extended arterial system. Mediation of a state-county dispute over who should have jurisdiction of 17 mi of new arterials in west Broward is pending.

In contrast to stated urban highway needs, major state highway expenditures in Florida will apparently be targeted in the foreseeable future onto a new statewide system of highways—the Intrastate Highway System—established by the 1990 Florida legislature. This high-speed, long-distance highway system, according to the 1991 Florida Transportation Plan, will be completed over the next 20 years, incorporating existing Interstate highways, the FTPK, new expressways, and selected arterial roads with highly controlled access. The projection of this policy direction is that FDOT will give lower priority to the nonexpressway portion of the county's existing urban arterial system (i.e., some 380 centerline miles).

On a somewhat more optimistic note, the state legislature has recently amended the FDOT Local Government Cooperative Assistance Program from a 20 percent state versus 80 percent local matching ratio up to a 50/50 ratio for off-system improvements. However, the program is currently unfunded. The MPO is urging the legislature to provide funds for the program, which can help to relieve pressure on the state highway system while taking advantage of local fund contributions to meet mutually agreed upon state and local needs.

Revenues for the Broward County road construction program during the 1980s have come from a variety of sources, including the following:

- State shared gas tax (80 percent of the state's 5th- and 6th-cent gas tax)
- 1976 county bond issue
- 1978 county bond issue ($125 million for 35 projects)
- Four-cent local option gas tax (commencing in fiscal year 1984)
- Bonding the local option gas tax
- State Department of Commerce grant
- County highway impact fees
- Increase to 6-cent local option gas tax (commencing in fiscal year 1986)
- Interest income

Referring back to Tables 2, 3, and 4, these county revenue sources have resulted in a construction budget averaging some $14.5 million/year over the 11 fiscal years spanning the 1980s, adding about 30 lane-mi/year to the public road system in Broward County. The cornerstone of the county road construction program is the local option gas tax, enacted by the 1983 Florida legislature. This tax was the beginning of a clear policy direction by the state of Florida to share responsibility for alleviating urban roadway congestion with local government. The Broward Board of County Commissioners voted in favor of the 4-cent tax permitted at that time. The tax became effective on September 1, 1983, and initially generated a total of about $20 million/year for county and city road and mass transit projects.

Of the local option gas tax proceeds, 37.5 percent is shared by the cities in Broward on the basis of their relative population size. This money must be used for a transportation purpose. By fiscal year 1987, Broward municipalities began their voluntary participation in major roadway construction, as presented in Table 2. Stated city needs also include reconstruction of streets, intersection improvements, road resurfacing, and drainage improvements.

By fiscal year 1986 the Florida legislature permitted an additional 2 cents, or a total of 6 cents, of local option gas tax to be levied. Broward County took immediate advantage of the full 6-cent option and continues to share that with the cities, using the original formula.

This local option tax now generates a total of about $35 million/year for county and city road and mass transit projects. However, Broward County must now use about half of its share of the local option gas tax proceeds, about $13 million annually, to help fund the operating costs of the county bus transit system, brought about in part by the federal government's phased reduction of its transit operating assistance program. Thus, actual role reversal in urban transit funding has been under way for some time and demands an increasing share of available local transportation user fees.

Another highway financing mechanism being made available to local governments in Florida is the toll-funded BCEA, established in 1983 to construct the 23-mi Sawgrass Expressway. A road of this magnitude usually takes from 4 to 7 years to complete, but BCEA accomplished the project in 2 years 10 months because of less cumbersome administrative requirements. To facilitate connecting traffic on and off the Sawgrass Expressway, several feeder roads were also improved by BCEA. BCEA produced 12.3 percent of the new lane-miles of major urban roadway in Broward County during the 1980s, as shown in Table 4. To make this expressway project feasible, the county had to dedicate 80 percent of its state shared gas tax revenue (5th and 6th cents) to help meet toll revenue bond payments in the early years of the project. The Sawgrass Expressway recently became part of the FTPK, and BCEA remains in existence with no current project activity.

Yet another state mechanism in Florida to shift the burden of road construction to the local level and responsible developers is the requirement for them to accommodate traffic impacts for developments that exceed specified thresholds of land use activity. These DRIs must provide a detailed assessment of transportation impacts and enforceable commitments to address those impacts as a condition of permit approval. In the Broward County area, this process is administered by the South Florida Regional Planning Council. The process was a major factor in the increasing developer participation in the Broward road program, which averaged almost 20 lane-mi/year in the most recent 5-year period, according to Table 4. Some Broward developers

also construct road improvements instead of making county highway impact fee payments.

SHARED PROJECTS

Table 5 presents some initial evidence of a trend toward the shared project approach. This is somewhat noteworthy in Florida, where the historical practice has been to centralize major road construction responsibilities under the jurisdiction and management of FDOT. Typically, FDOT matches available federal aid and manages the project in accordance with statutory guidelines.

The emergence of shared roadway projects in Broward County began in the early 1980s with developer participation in the western growing areas of the county. The unwritten policy of the County Commission is that the development community must assume a major responsibility in these areas because in-lying road needs far exceed available public financial resources. By 1987 shared projects became more prevalent. For example, BCEA was also working with developers and the county to complete the necessary approach road improvements to interchanges on the toll-funded Sawgrass Expressway.

By 1989 the city government became actively involved in shared projects, working both with the county and developers. Typically these shared projects serve multiple purposes, including satisfaction of developer requirements, improved city traffic circulation, and the filling of gaps in the countywide arterial grid. Working individually, the responsible agencies could only look forward to delayed, underfunded, or incomplete projects.

The pattern illustrated in Table 5 is continuing into the 1990s with the county and cities leading the way in completing and programming joint funded construction projects. The county's newest capital improvement program includes a separate listing of such projects.

CHANGES IN THE PRIORITY-SETTING PROCESS

The changing availability of funding from various levels and sources has been accompanied by adjustments in the Broward MPO's priority-setting process and the nature of projects at the top of the priority list.

For example, the pending completion of the Interstate system in Broward County has brought into focus the need for adequate approach roads and connections to that system. Interstate-system funding for these needed improvements has been supplemented by non-Interstate-system federal aid and state funds to help get this job done. Broward County has suggested to its congressional delegation that the Interstate system is not complete until it is properly connected to the arterial network.

Transportation system management (TSM) projects have received much more attention recently because of the previously discussed state funding shortfall in the mid to late 1980s and the escalating right-of-way costs in built-up areas. Therefore, the MPO has adopted high-ranking projects for accelerating the completion of the countywide computerized signal system, intersection improvements on congested roadways, and preliminary engineering for a reliever route to a state highway that was not feasible to widen. Even when the 1990 session of the Florida legislature enacted the additional 4 cent/gal gas tax to match the 6 cent/gal local option gas tax levied by urban counties, the Broward MPO took the position that available highway revenues should be increasingly targeted to TSM projects. Under growth management laws, the highly demanding traffic concurrency problems along built-up highway corridors in Broward particularly support a higher

TABLE 5 Shared Responsibility for Funding Urban Roadway Projects in Broward County

FISCAL YEAR COMPLETED	NO. OF COMPLETED PROJECTS	SHARED RESPONSIBILITY PROJECTS	MOST INVOLVED AGENCIES
1980	14	0	
1981	7	0	
1982	23	3	County/Private
1983	14	1	County/Federal
1984	18	0	
1985	9	0	
1986	12	1	Developer/County
1987	22	6	Developer/Xway Auth
1988	20	4	County/Developer
1989	21	5	County/City
1990	40	5	County/State

NOTE: Roadway Projects include improvements to the expressway, arterial and collector road systems.

Source: Transportation Planning Division
Broward County Office of Planning

priority for the TSM projects. Recently, the FDOT District Secretary has encouraged the county to take more of a lead role in identifying candidate projects.

The evolving interagency cooperative efforts to expand the highway and transportation network in and around Port Everglades, including contributions by the Port Authority itself, have resulted in a cluster of related projects at or near the top of recent MPO priority lists, some of which have already been funded. This cluster of projects includes Interstate approach road improvements, an Intracoastal Waterway bridge and tunnel replacement, surface arterial intersection improvements along the port boundary, and a study for a major connector road improvement through the port. Funding contributors listed in the Broward MPO's current transportation improvement plan (TIP) for port area roadway projects include FDOT, with federal and state funds, local government, and private developers. A new County Convention Center within the port boundaries has contributed to the urgency of these projects.

PRINCIPAL FINDINGS AND CONCLUSIONS

The following are some findings and conclusions from the Broward experience that may add perspective to the projected national downshifting of responsibility for highway and transportation improvements from the federal government to regional and local agencies (i.e., role reversal).

During the 1980s, the number of responsible highway agency types that completed projects on the collector, arterial, and expressway system in Broward County doubled from four to eight. The new set of players included municipal governments, the FTPK, BCEA, and the Port Everglades Authority. These new agency types joined FDOT (Interstate and non-Interstate), Broward County, and developers who were active through the 1980s to undertake the construction program described here. The new players were responsible for about 18 percent of the funding and new lane-miles constructed over the 11-year period. The applied revenues resulted from shared use of state and local option gas tax, toll funding, and the enlightened self-interest of the port. It is generally acknowledged by responsible highway officials in south Florida that the new players, particularly BCEA, accelerated necessary urban highway improvements in Broward County.

Somewhat deviating from the national role-reversal model, the Interstate highway program is still alive and well in Broward County, and the Broward County MPO is currently programming Interstate highway construction (8 lane-mi) and resurfacing projects through fiscal year 1996. Not examined here, but perhaps deserving further study, is the impact on the state budget to maintain the schedule of the Interstate program, including necessary state funding of nonparticipating Interstate-system costs.

Also deviating somewhat from the national model of the 1980s, Broward County began its significant local participation in the urban highway program in the late 1970s with bond issues to construct highway improvements on all systems, including $60 million of improvements to the state highway system. A variety of revenue sources have funded a county construction budget averaging some $14.5 million/year and adding about 30 lane-mi/year during the 1980s. Even through the peak of the Interstate program, the county remains a coleader in the lane-mile production.

The above findings might be hastily interpreted as documentation of the capability of local government to absorb a national policy to downshift the responsibility for highway and transportation improvements. Other factors need to be considered, however, before arriving at a conclusion. For example, the enactment by the Florida legislature in 1985 of landmark growth management legislation is severely testing the capability of local government to provide required infrastructure, including highway capacity, in a timely manner. Therefore, Broward County is now spending less on the higher level state highway system and focusing on capacity deficiencies on county roads, in compliance with the growth management law.

In addition, the sustaining revenue source for the county road construction program has been the local option gas tax, first enacted by the 1983 Florida legislature. Broward County now levies 6 cents of this gas tax and shares the proceeds with Broward cities in a 62.5 percent county versus 37.5 percent city split. Even though this tax now generates about $35 million annually, the county must use about half of its share to help fund the operating costs of the county bus transit system. This circumstance is mostly caused by the federal government's already implemented phasing out of its transit operating assistance program. The local option gas tax will not be able to accommodate additional county responsibilities for transit or major highway improvements.

A ray of hope that may be evidenced in the Broward County data set is the recent emergence of the shared-responsibility (jointly funded) projects between the old and new sets of players in the highway construction program. This activity appears to have occurred or evolved voluntarily and without mandate to address unique or pressing urban highway needs. It might be viewed as support for more of a team approach to urban highway improvements compared with the expected federal downshifting approach. Three team concepts appear worthy of some exploration from the Broward County experience.

One concept is the increased use of off-system funding approaches, particularly to facilitate adequate connections between various components of the urban highway system. A particular example of this issue in Broward County has been inadequate funding for improved crossroad approaches to the Interstate highway system. It appears that the Surface Transportation Program component of the new federal act may be able to address this problem if agencies can work together to steer the new dollars to these and other needed connections.

A second concept is increased reliance on shared funding sources for use on all key components of the urban highway system, including expressways, arterials, and major collectors. Some natural willingness to do this has already been evidenced in Broward. The state of Florida and Broward County already share their gas tax proceeds with counties and cities, respectively. However, the serious traffic concurrency deficiencies on the urban state highway system demand an intensified level of state-county cooperation. This cooperation might be achieved in a variety of ways, including adequate funding of FDOT's Local Government Cooperative Assistance Program and increased use of county highway impact fees to help fund state projects.

A third concept is federal encouragement and state policy direction to better enable alternate responsible agencies to manage the construction of federally aided roadways in urbanized areas. This process would also require changes to state legislation in Florida. Certainly, new, more locally oriented managers are emerging and would benefit from the substantial technical expertise that exists at the federal and state levels. In return, new local managers should be able to create more opportunities for innovative highway solutions and financing. TSM improvements along urban arterials appears to be one project category in which the county can and should take a lead role.

REFERENCE

1. Annual Highway Statistics Reports. FHWA, U.S. Department of Transportation, 1980–1990.

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