FINAL REPORT

ECONOMIC IMPACT OF PARKING POLICY OPTIONS

Prepared for:
Miami Downtown Development Authority/
Parking Task Force

Zuchelli, Hunter & Associates, Inc
Annapolis, Maryland

October 1986

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I. INTRODUCTION

A. PURPOSE

The purpose of this report is to present a summary evaluation of the economic impact of recommended parking policy alternatives for downtown Miami.

This report is based upon the economic impact analysis methodology described in our previous (April 17/May 27, 1986) reports to the Downtown Development Authority (DDA). The evaluation has been applied to selected parking alternatives as presented and evaluated by K.T. Analytics, Inc., in their August, 1986 memorandum to the DDA. The report represents an expansion of the previous round one evaluation of parking alternatives (July 16, 1986). Preliminary report findings were presented to the Parking Task Force and the Parking Task Force Technical Committee in August, 1986. Comments received from this review are reflected in this final report.

In addition to reviewing the material presented to the Authority, Zuchelli, Hunter & Associates, Inc. (ZHA), has had extensive discussions with the DDA representatives, selected members of the Parking Task Force Technical Committee and K.T. Analytics, Inc., representatives.

The analysis measures the economic impact of 12 parking policy options identified by the transportation consultant. For each option ZHA has evaluated the economic impact, concentrating on quantifying potential impacts of alternative policies primarily as they relate to downtown in terms of: office square footage; retail sales/square footage; hotel rooms; and employment. Transportation impacts, impacts upon parking revenues and public sector tax revenues are evaluated in the transportation consultant's report.

B. METHODOLOGY

The economic impact evaluation is based upon the methodology described in the May 27th methodology report. The economic impact evaluation relies upon: the empirical evidence and published data concerning the implication that transit and access improvements have had upon downtown development (Armstrong 1972, 1979; Black 1978, 1982; Charles River Associates 1981; Ludwig 1977; Peat Marwick 1975; Schwartz 1979; Vernon and Hoover

1959); in-depth key leadership interviews of public and private sector representatives in the Miami area; an evaluation of past development trends and the development outlook in greater Miami and the downtown area; and a review of the experience in other cities, based upon prior and ongoing ZHA assignments, as well as interviews with key public and private sector representatives in selected communities.

1. Empirical Evidence

The empirical evidence of the impact of parking and transportation policies on downtown development is extremely limited. In general, the literature indicates that parking availability, in and of itself, is of relatively limited importance in downtown office selection (Black 1978; Charles River Associates 1981). Businesses who will locate and operate in the downtown are primarily there because of the concentration and agglomeration of other office space users (Schwartz 1979; Vernon and Hoover 1959). They are located in the downtown area because of this agglomeration, not because of the availability or non-availability of parking.

Those firms for which parking is more critical than proximity to other office users are generally located in suburban locations (Black 1982). Hence, the downtown area contains those firms for which parking, in and of itself, is not a critical location factor. Those firms to whom parking is a critical factor have already relocated. The downtown and Brickell areas of Miami, for example, are only capturing approximately one-third of office demand generally consisting of those users who require proximity to other office activities not those to whom cheap and readily available parking is the most important factor (Hammer, Siler, George 1986).

In summary, empirical evidence tends to indicate that only from 10 to 30 percent of the reasons for locating downtown relates to availability and price of parking (Black 1982).

2. Interviews

ZHA conducted a series of interviews with public and private leaders in the greater Miami area. In-depth interviews of private sector leaders in downtown Miami expressed a strong belief that parking is generally in balance and that the market should be allowed to determine the number and price of parking spaces. Respondents indicated that downtown Miami is in a

very competitive market and any changes or restrictions in parking in the downtown could have a significant adverse impact on competitive market position.

In addition, interviewees expressed the belief that the downtown is most oriented to transit. Pro-active public policies, aimed at encouraging additional development in the downtown area could have the most positive benefit upon transit ridership. Policies that would restrict or make it more expensive would adversely impact upon growth in downtown and, in turn, have a negative impact upon potential transit ridership.

3. Experience in Other Cities

ZHA's experience in other cities (Boston, Washington, etc.), as well as interviews with private sector representatives in other major southeastern communities (Jacksonville, Tampa, Charlotte, Richmond, Louisville, etc.), have indicated that price and availability of parking generally does not play a major role in the determination of office location. Once again, those users desiring a downtown location are generally quite distinct from suburban users. Even tight restrictions on the total number of spaces (Boston), and prices over twice as high as Miami (Boston, Washington), have not had an appreciable impact on downtown users who require the center city activities available only in the downtown. Significant changes, however, in the price and/or availability of parking can reduce the competitive position of the downtown in the overall marketplace and result in selected establishments choosing alternative space locations outside the downtown (Richmond, Charlotte).

The consensus opinion of the private sector investment community is that there is a threshold in changes in prices of parking which tends to have negative market implications. It is believed that approximately a 25-percent increase in the price of parking generally represents a "break point" at which adverse market implications begin to be felt. This appears true in both relatively high-price locations such as Boston, and relatively low parking price locations such as Richmond.

Thus, while parking cost is not a major site selection criteria; radical changes in availability or price can cause changes in market perception and adversely impact downtown markets. However, regardless of parking price and/or availability, there appears to be firms that must, or desire to, remain in the downtown. However, the degree to which these

firms will expand and/or establish suburban branches and/or new firms will move into a downtown area can very much be impacted by the price and availability of parking.

4. Office Development

In measuring the impact of alternative parking policies on office development, ZHA evaluated the downtown area's competitive ability to attract office uses with respect to the entire metropolitan area. This resulted in an estimation of the anticipated downtown share of office growth and potential changes in that share as a result of alternative parking policies.

Competitive factors such as occupancy costs, parking costs and pre-conceived market image were factored into the analysis. Particular attention was paid to the percent changes in parking costs generated as a result of various parking options. ZHA assumes that changes in parking costs represent between 15 and 35 percent of the office locational decision factor.

The combination of changes in costs and the 15 to 35 percent of the decision factor contributed by this change was utilized to estimate the change in capture rates. For example, a 10-percent change in parking costs is assumed to generate a 1.5- to 3.5-percent change in market capture rates. The change in market capture rates, as a result of the changing parking costs, in turn determined the amount of net new office space captured in the downtown over the near term (1986 through 1990) and long term (through 2005).

5. Retail Development

Parking policies are primarily aimed at restricting availability of long-term parking. ZHA assumes that no specific restrictions would be made in the availability or price for short-term parking. Hence, the prime impact upon downtown retail development was the reduction in downtown office segment of demand as a result of reduced downtown office employees. Based upon evaluations completed for the Downtown Master Plan it is estimated that approximately 45 percent of the growth in downtown retail sales is generated by downtown employees (Hammer, Siler, George 1986). Thus, changes in downtown employment, generated primarily by the reduction in office space, impacts that 45-percent component in downtown retail sales derived from employees.

6. Hotel Development

The impact upon hotel development is measured in terms of the number of supportable rooms in the downtown. The number of supportable hotel rooms in the downtown is predominantly determined by the relative level of office space activity within the downtown. Based upon studies prepared for the Downtown Master Plan, approximately 80 percent of the downtown hotel demand is generated by business visitors, with the remaining portion of demand derived from convention and other visitors (Hammer, Siler, George 1986). Overall supportable rooms were determined as a function of the estimated proportion (80 percent) of rooms derived from commercial-related businesses. Changes in downtown employment as a result of the public policy options, therefore, account for 80 percent of the rooms.

7. Employment

The impact of alternative parking policies on downtown employment is calculated based upon ZHA's estimates of the number of employees for office, retail, hotel and other development. The number of office employees is based upon projected occupied office space and an estimated one person per 250 square feet of occupied office space. The number of downtown retail employees is based upon an estimate of one full-time retail employee per 500 square feet of retail space. Hotel development is based upon the number of hotel rooms and 1.5 employees per hotel room. Based upon occupied office space, retail space and downtown hotel rooms and the estimated downtown employee census, approximately 50 percent of total downtown employment is in other categories. In order to project future employment it is estimated that approximately 50 percent of total downtown employment will remain in the miscellaneous category.

8. Other

Other impacts of alternative parking policies, relate to revenue implications upon the Department of Off-Street Parking (DOSP) and potential public sector revenues generated from parking revenue taxes. These factors have been calculated by the transportation consultant and are contained in his report. Later in this report, brief commentary is provided on other potential economic impacts such as impact on: existing property owners; downtown visitors; suburban development; and miscellaneous indirect impacts.

C. ORGANIZATION

This report is organized into six sections. Following this brief introduction is a brief executive summary of study findings and conclusions. The subsequent section contains a discussion of parking policy options and the first-round screening. The fourth portion of the report contains an evaluation of employee and parking impacts of policy options. The following section contains the estimated economic impact of public policy options. The report concludes with a summary discussion of economic impacts and a comparison of economic and transit ridership impacts of policy options.

II. EXECUTIVE SUMMARY

The key findings and conclusions of the evaluation of the economic impact of parking policy options for downtown Miami are summarized below, with the key findings illustrative in the accompanying charts:

- Zuchelli, Hunter and Associates, Inc. (ZHA), has evaluated the potential economic impact of selective parking alternatives developed by K. T. Analytics, Inc., and the Downtown Development Authority.

- A series of 12 parking policy options dealing with modifications in employee parking subsidies and downtown parking rates were evaluated.

- The evaluation methodology was based upon: empirical evidence and a search of the literature concerning developmental impacts of parking price and availability; in-depth interviews with public and private sector representatives in the Miami area; and an evaluation of the experience in other similar communities.

- The economic impact evaluation examined the potential impact of policy options in terms of office space development, retail space development, hotel development and employment in downtown Miami over a 1986 to 1990 and 1990 to 2005 time period. The analysis compared the probable economic impact of policy options for these factors when compared to trend line projections.

- A series of 12 public policy options were evaluated as follows:

  - Option A-1--Voluntarily reduce employee parking subsidies from approximately 50 to 40 percent.

  - Option A-2--Voluntarily reduce employee subsidies to 25 percent.

  - Option A-3--Voluntarily reduce employee subsidies to zero percent.

- Option B-1--Increase Department of Off-Street Parking (DOSP) long-term rates by approximately 20 percent.

- Option B-2--Increase DOSP long-term rates by approximately 50 percent.

- Option C-1--Implement a downtown parking revenue tax on long-term parkers of approximately 20 percent.

- Option C-2--Implement a downtown parking revenue tax on long-term parkers of approximately 50 percent.

- Option A-1'/B-1--Voluntarily reduce employee parking subsidies in DOSP facilities to 40 percent and increase DOSP long-term rates by approximately 20 percent.

- Option A-2'/B-1--Voluntarily reduce employee parking subsidies in DOSP facilities to approximately 40 percent and increase DOSP long-term rates by approximately 20 percent.

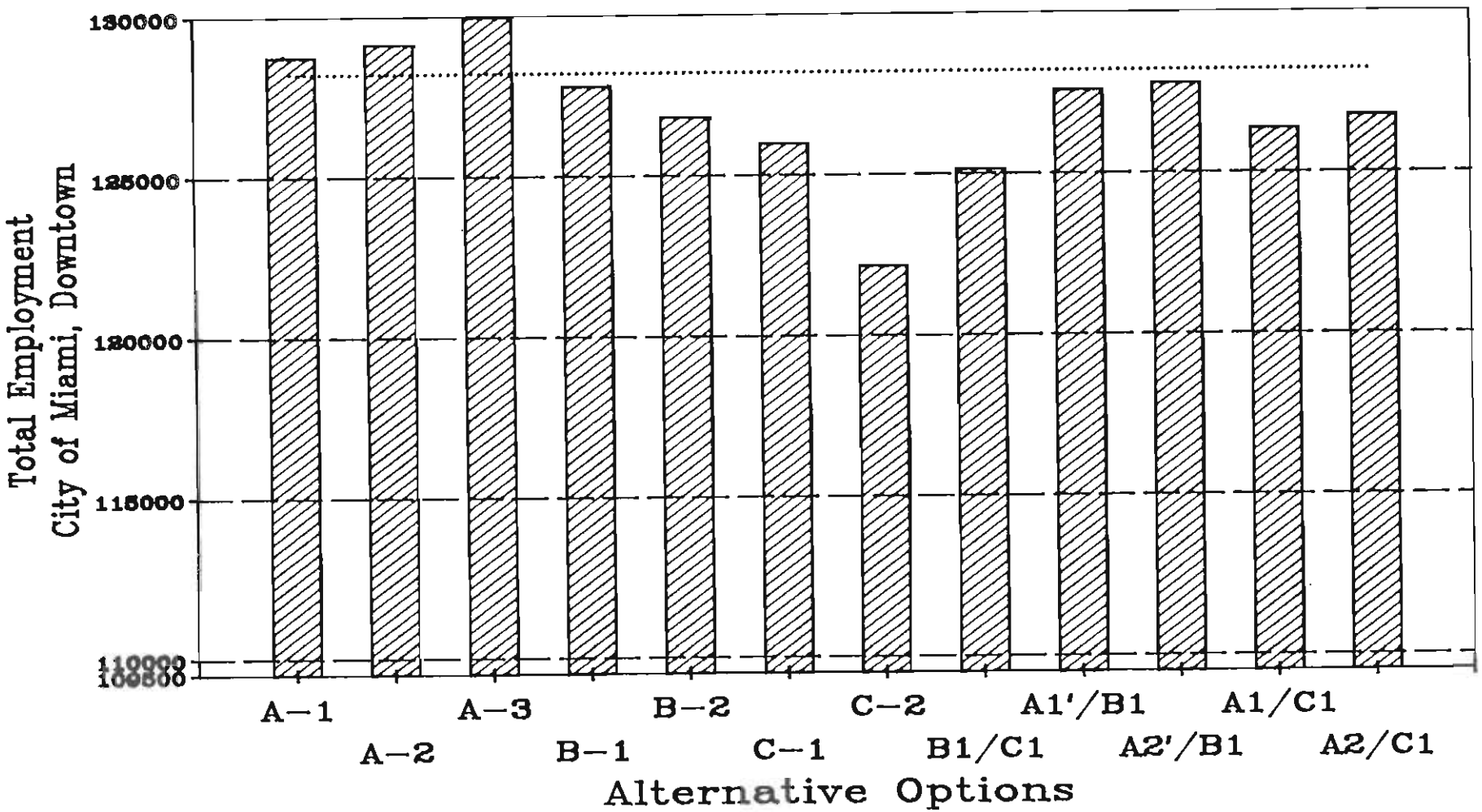
- Option A-1/C-1--Voluntarily reduce employee parking subsidies to approximately 40 percent and institute a long-term parking tax of 20 percent.

- Option A-2/C-1--Voluntarily reduce employee parking subsidies to approximately 25 percent and implement a downtown parking revenue tax on long-term parkers of approximately 20 percent.

- Charts 1 through 4 display the long-term and short-term economic impacts of the various public policy options in terms of downtown Miami employment and occupied office space.

- As displayed in the charts, the most positive economic impacts are created by options emphasizing voluntary reductions in employee subsidies (Options A-1, A-2 and A-3). These options result in modest increases in downtown employees and occupied office space above trend line projects. Concomitantly, options involving significant voluntary reduction in

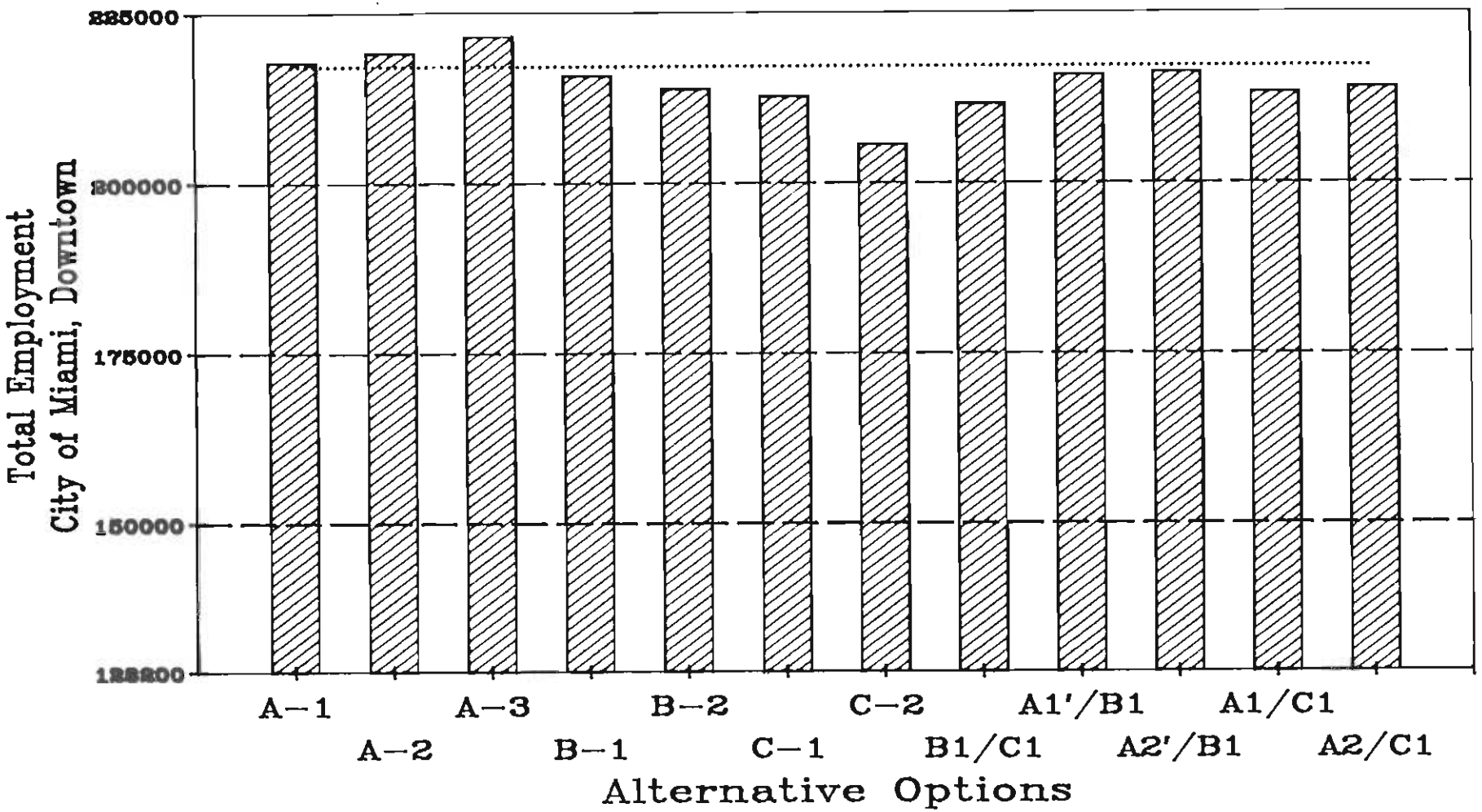
Chart I
Summary of Parking Policy Options
Employment Impact
1986–1990



Source: Zuchelli, Hunter & Associates, Inc.

.... *1990 Trend*

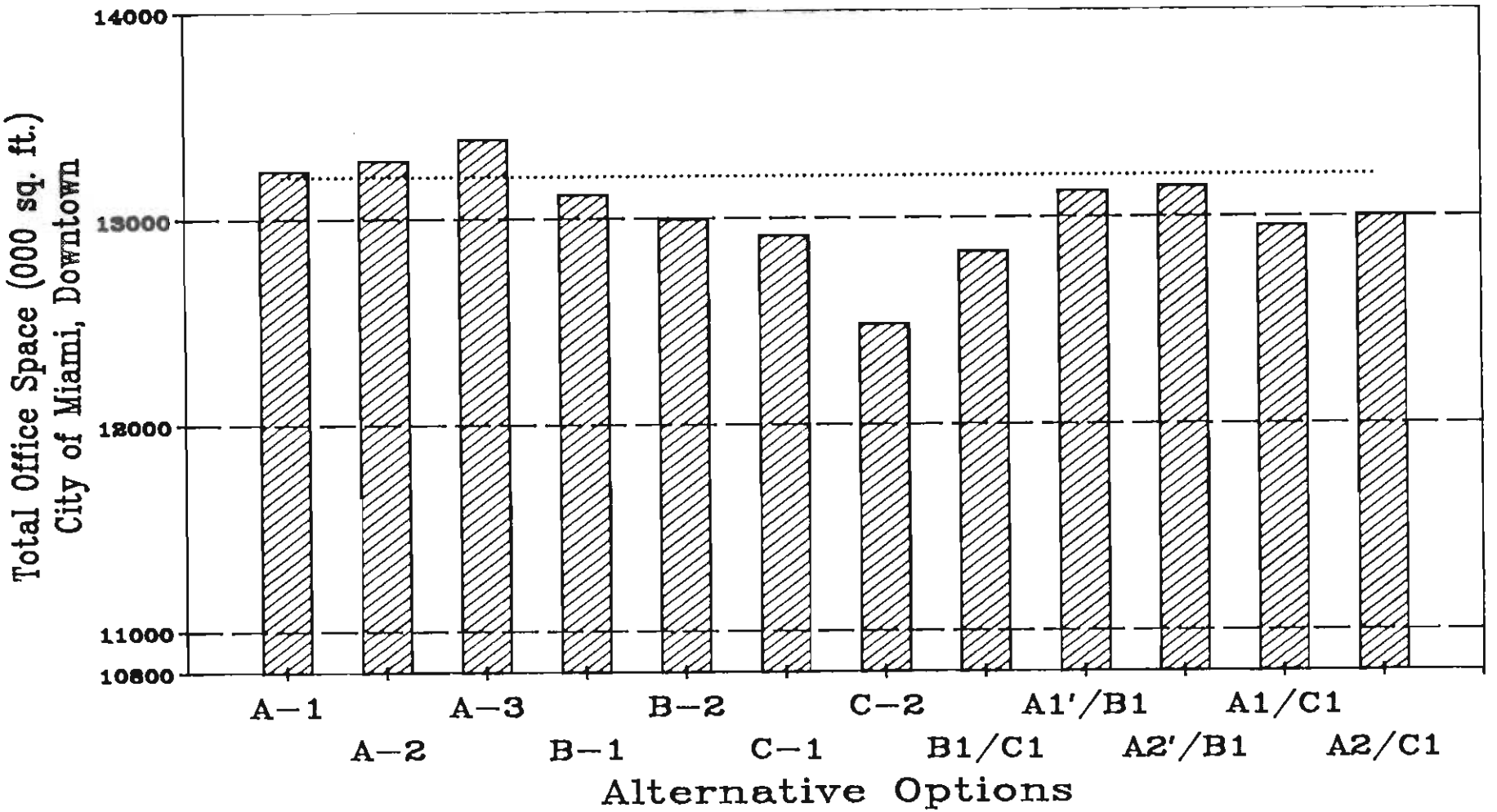
Chart II
Summary of Parking Policy Options
Employment Impact
1990–2005



Source: Zuchelli, Hunter & Associates, Inc.

.... *2005 Trend*

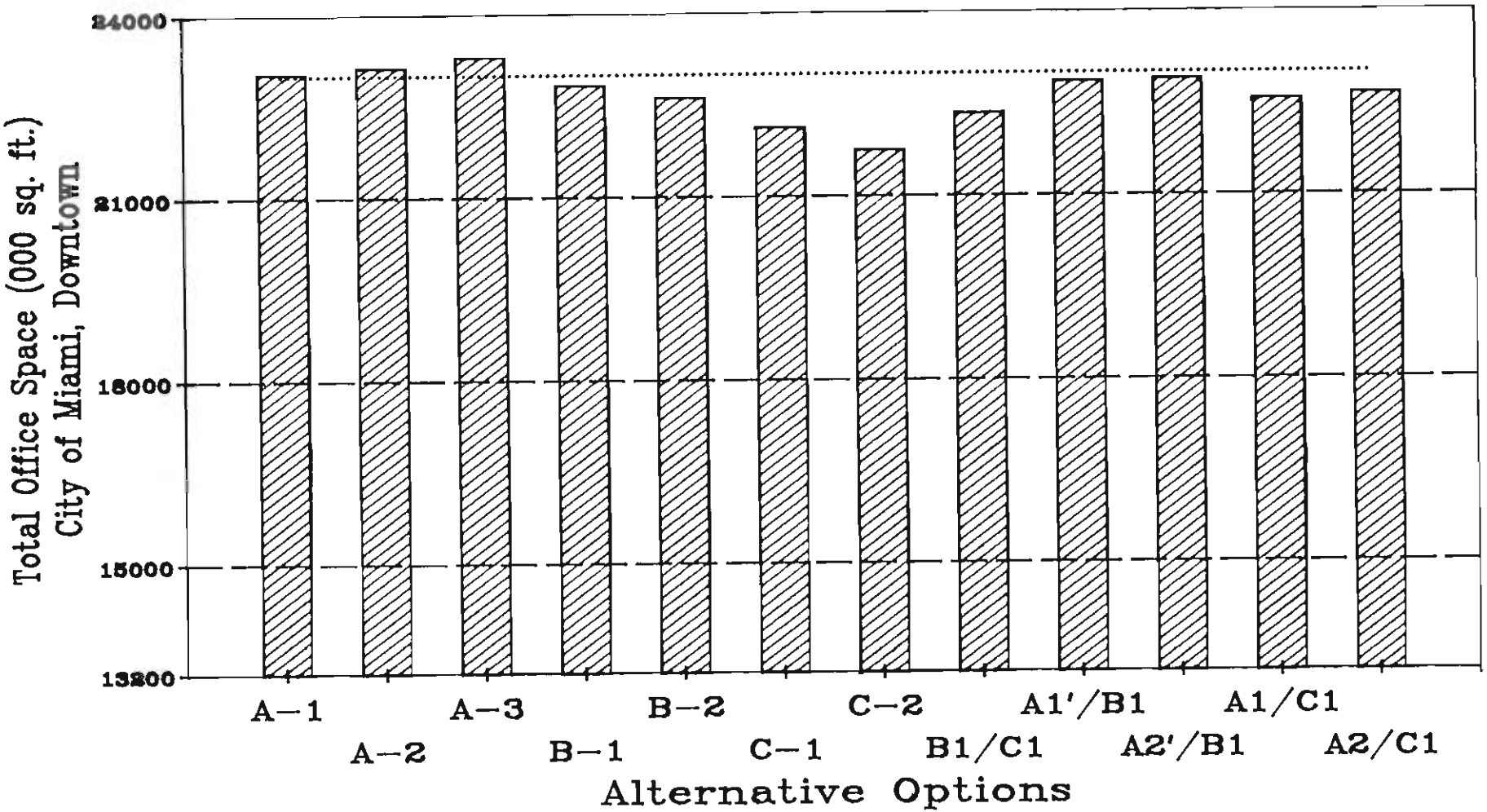
Chart III
Summary of Parking Policy Options
Office Space Impact
1986–1990



Source: Zuchelli, Hunter & Associates, Inc.

.... *1990 Trend*

Chart IV
Summary of Parking Policy Options
Office Space Impact
1990–2005



Source: Zuchelli, Hunter & Associates, Inc.

.... *2005 Trend*

employee parking subsidies generate significant number of employees shifting toward transit. Options generating the greatest reduction in parking subsidies generate the highest positive economic impact and largest numbers of additional transit riders.

- Options involving institution of a parking tax (Options C-1 and C-2) create the greatest negative economic impacts and concomitantly generate relatively modest numbers of employees shifting to transit.

- Increasing long-term parking rates at the Department of Off-Street Parking facilities (Options B-1 and B-2) creates economic impacts generally in the mid-range of the options evaluated. These options, however, generate extremely modest shifts of employees to transit.

- Policies combining voluntary reductions in employee parking subsidies with increases in Department of Off-Street Parking rates or long-term parking taxes, tend to ameliorate the negative economic impacts of the various parking price options. Combining parking taxes with increases in DOSP rates tends to accelerate any negative impacts.

- Over time the economic impacts of various parking policy options tend to be less pronounced in relative terms. The overall ranking by policy options, however, remains unchanged.

- Based upon the economic impact evaluation of policy options, emphasis should be placed upon voluntary programs to reduce employee subsidies. Increases in parking rates, particularly through parking taxes should be carefully evaluated because of potentially significant negative economic development impacts. Combining selected parking price increases with voluntary reductions in employee parking subsidies may also be appropriate, but will cause modest negative economic impacts.

III. FIRST ROUND SCREENING

This portion of the report contains a discussion of the options evaluated in the first-round screening, and refinements made in the public policy formulation process.

A. INITIAL PUBLIC POLICY OPTIONS

The July transportation report resulted in the formulation of differential parking policy options. ZHA conducted a preliminary qualitative screen of the policy options in order to "test" for any critical flaws and narrow the number of options to be subjected to more detailed quantitative analysis. Parking options aimed at reducing employee subsidies, pricing changes, creating "bundles" of employees subsidy reductions and pricing changes and dealing with parking availability.

The 12 options subject to preliminary screening were as follows:

- Option A-1--Reduce employee parking subsidies from approximately 50 percent to 40 percent.
- Option A-2--Reduce employee subsidies to 25 percent.
- Option A-3--Reduce employee subsidies to 0 percent.
- Option B-1--Increase Department of Off-Street Parking (DOSP) long-term rates by approximately 20 percent.
- Option B-2--Increased DOSP parking long-term rates by approximately 50 percent.
- Option C-1--Implement downtown parking revenue tax of approximately 20 percent on long-term parkers.
- Option C-2--Implement downtown parking revenue tax of approximately 50 percent on long-term parkers.
- Option A-1/B-1--Reduce employee subsidies to approximately 40 percent and increase DOSP long-term rates by approximately 20 percent.
- Option A-2/B-1--Reduce employee subsidies to approximately 25 percent and increase DOSP parking long-term rates by approximately 20 percent.

- Option D--Increase enforcement primarily to prevent/ prohibit "meter feeding".

- Option E--Set aside downtown parking spaces to meet short-term parking needs/utilization.

- Option F--Revise parking requirements for new downtown development to approximately a minimum of two spaces per 1,000 square feet of development and a maximum of three spaces per 1,000 square feet of development.

B. RESULTS

ZHA examined each of the 12 options according to evaluation criteria and impact area factors identified in previous memoranda. Basic criteria were evaluated for short-term and long-term periods. A series of ten factors were evaluated for each six criteria, in each of three geographic areas.

In general, it was noted that economic impact was directly related to the degree of change in parking availability or price. Those options providing for relatively small changes in availability or price of parking would result in generally minimal impacts. Those policy options creating significant change in employee subsidies or parking price would cause more significant impact. Likewise, options which combine reduction in employee subsidies with increases in parking costs could cause moderate to severe impacts. Policies related to increasing enforcement, setting aside short-term parking and revising parking requirements, were believed to have relatively minimal impact.

More specifically: reducing employee parking subsidies from 50 to 40 percent (Option A-1); increasing DOSP parking long-term rates by 20 percent (Option B-1); implementing a parking revenue tax of approximately 20 percent on long-term parkers (Option C-1); increasing enforcement (Option D); setting aside short-term parking spaces (Option E); and revising parking requirements (Option F) were estimated to have minimal economic impacts. Reducing employee subsidies to 25 percent (Option A-2); increasing DOSP parking long-term rates by approximately 50 percent (Option B-2); and reducing employee subsidies to approximately 40 percent while increasing the DOSP parking rates by approximately 20 percent (Option A-1/B-1),

were all assumed to have relatively modest impact. Finally, reducing employee subsidies to 0 percent (Option A-3); implementing parking revenue tax of approximately 50 percent on long-term parkers (Option C-2); and reducing employee subsidies to approximately 25 percent, while increasing DOSP long-term parking rates by approximately 20 percent (Option A-2/B-1) were all assumed to have severe impact.

As a result of review and evaluation of the initial transportation and economic analysis, limited changes were made to the public policy options. Although it was realized that implementation of major reductions in employee subsidies or significant increases in parking rates were difficult, if not impossible to implement, it was determined that it is desirable to evaluate the potential impacts of these policy options to get a full understanding of the range of impacts that may result.

While it was determined that a broad range of public policy options should be evaluated to determine differential parking and economic impacts, a strong desire was expressed to have definitive and specific estimates of parking, transit and economic impacts. Although it was realized that a broad range of consumer responses may result from the various parking policy options and limited empirical evidence exists to create definitive conclusions, the Parking Committee instructed the transportation and economic consultants to make specific "best estimates" of the most probable parking, transit and economic implications of various policy options.

As a result of their initial review of the parking, transit and economic impact evaluation, the number of policy options was not reduced but in fact increased. Option A-1/B-1, reduce employee subsidies to approximately 40 percent and increasing DOSP parking long-term rates by approximately 20 percent, was refined into Option A-1'/B-1, with reduction in employee subsidies in DOSP spaces to approximately 40 percent and increasing DOSP long-term parking rates by approximately 20 percent. Likewise Option A-2/B-1, reduced employee subsidies to approximately 25 percent and increase DOSP parking long-term rates by approximately 20 percent, was replaced by Option A-2'/B-1. This option assumed reducing employee subsidies in DOSP parking facilities to approximately 25 percent and increasing DOSP parking long-term rates by approximately 20 percent. Two additional options of reducing employee subsidies and increasing parking rates were included for evaluation. Option A-1/C-1 assumed reducing employee subsidies to

40 percent while implementing a parking revenue tax of 20 percent. Option A-2/C-1 assumed reducing employee subsidies to 25 percent and implementing a 20 percent parking revenue tax.

Based upon review by the Parking Task Force Technical Committee, major assumptions were modified regarding policies aimed at reducing employee parking subsidies. It was assumed that policies could be instituted in which employees and employers would voluntarily prefer transit subsidies/transit passes to parking subsidies. It was, therefore, assummed that the employee was economically indifferent to the replacement of a parking subsidy by a transit subsidy. Hence, there is no measurable economic impact or effect upon downtown employees as a result of institution of these voluntary reductions in employee parking subsidies.

Furthermore, the employer was assumed to receive a direct economic gain as a result of voluntarily substituting transit passes for subsidized parking. The economic benefit derives from the reduced costs on a monthly per-employee basis of an average of $32.50 per employee for transit passes versus $37.50 per employee for subsidized parking (assuming that 50 percent of the employees currently receive subsidized parking). Thus, there is a monthly savings of $5.00 for each employee voluntarily switching from subsidized parking to a transit pass. This creates a direct and measurable economic benefit to the employer of reduced occupancy costs. This positively affects the competitive market position of the downtown and, hence, the projected absorption rate.

IV. EMPLOYEE/PARKING IMPACTS

In order to place the economic impacts in perspective, this section of the report contains a brief summary of the impacts of policy options, both on employees, parking costs and transit impacts.

A. PARKING/TRANSIT IMPACTS

Table 1 contains a summary of the economic impacts of policy options. The 12 pricing and employee subsidy options are presented. Options dealing with enforcement, short-term parking set aside, and revised parking requirements are not subject to quantitative evaluation of traffic or economic impact and are discussed elsewhere in the text.

Based upon the analysis conducted by both K.T. Analytics and ZHA, information was provided on the number of vehicles affected by each option, the reduced number of parking spaces and the employees shifting to transit. In addition to the numerical impacts, information is provided concerning the proportion of employees affected. A normative rating is also supplied comparing the various options relative to the options producing the highest impact. This normative scale assumes the option with the largest impact has a normative value of one and other policy options have proportional impacts.

In terms of employees affected, the largest impacts are produced by options combining voluntarily reduced employee subsidies with a parking revenue tax. Voluntarily reducing employee subsidies to 25 percent and instituting a parking tax of 20 percent will impact approximately 46 percent of the downtown employees. Relatively moderate employee impact (56 percent of the highest option) is produced by options voluntarily reducing employee subsidies to 0 percent (Option A-3), instituting a parking tax of 20 or 50 percent (Options C-1 and C-2) and increasing DOSP rates 20 percent with a parking tax of 20 percent (Option B-1/C-1).

While the option of voluntarily reducing employee subsidies 25 percent and a parking tax of 20 percent affects the greatest number of employees; the largest proportion of transit impact, a shift of 6,500 employees to transit, will occur under Option A-3, voluntarily reducing employee subsidies to 0 percent. The combination option of voluntarily reducing

TABLE 1

ECONOMIC IMPACT OF POLICY OPTIONS
SUMMARY OF EMPLOYEES/PARKING IMPACTS

	Policy Option	Vehicles Affected	Employees Affected			Additional(Reduced) Parking Costs			Reduced Parking	Employees Shifting to Transit	
			Number	Percent	Normative Ranking	Amount ($000)	Percent	Normative Ranking		Number	Normative Ranking
A-1	Voluntarily Reduce Employee Subsidies to 40%	4,500	5,600	5.1	.11	(400)	(0.1)	(.06)	1,250	1,300	.20
A-2	Reduce Employee Subsidies to 25%	11,200	14,000	12.8	.28	(900)	(0.1)	(.13)	3,120	3,250	.50
A-3	Reduce Employee Subsidies to 0%	22,400	28,000	25.6	.56	(1,900)	(0.3)	(.27)	6,240	6,500	1.00
B-1	Increase DOSP Rates 20%	6,800	8,500	7.8	.17	800	2.4	.11	480	300	.05
B-2	Increase DOSP Rates 50%	6,800	8,500	7.8	.17	2,000	6.1	.29	1,100	700	.11
C-1	Parking Tax of 20%	22,350	28,000	25.6	.56	2,800	8.6	.40	1,340	1,340	.21
C-2	Parking Tax of 50%	22,350	28,000	25.6	.56	7,000	21.4	1.00	3,130	3,130	.48
B-1/C-1	DOSP Rates up 20% & Parking Tax of 20%	22,350	28,000	25.6	.56	3,600	11.0	.51	1,900	1,620	.25
A-1'/B-1	Voluntarily Reduce Employee Subsidies in DOSP Facilities to 40% & DOSP Rates up 20%	9,140	11,440	10.5	.23	700	0.1	.10	910	730	.11
A-2'/B-1	Voluntarily Reduce Employee Subsidies in DOSP Facilities to 25% & DOSP Rates up 20%	12,670	15,840	14.5	.31	500	0.1	.07	1,580	1,375	.21
A-1/C-1	Voluntarily Reduce Employee Subsidies to 40% & Parking Tax of 20%	31,700	37,620	34.4	.75	2,400	0.3	.34	2,720	2,840	.44
A-2/C-1	Voluntarily Reduce Employee Subsidies to 25% & Parking Tax of 20%	41,600	50,490	46.1	1.00	1,900	0.3	.27	4,920	5,050	.78

Source: Estimated by K.T. Analytics, Inc.; and Zuchelli, Hunter & Associates, Inc.

employee subsidies to 25 percent and instituting a parking tax of 20 percent (Option A-2/C-1) results in an estimated 5,050 employees shifting to transit or 78 percent of the impact of Option A-3. Other relatively strong transit impacts (50 to 44 percent of that of the highest option) are produced by Options A-1/C-1, voluntarily reducing employee subsidies to 40 percent, and instituting a parking tax of 20 percent; Option C-2, parking tax of 50 percent and Option A-2, voluntarily reducing employee subsidies to 25 percent.

In summary, the most significant transit ridership is generated by those options which significantly reduce, voluntarily, employee parking subsidies (to 25 percent or less), combine subsidy reductions with a 20 percent revenue tax, or provide for a parking revenue tax of 50 percent. Other parking policy options generate employee shift to transit only one-half or one-fourth of those of the previous alternatives.

B. PARKING COSTS IMPACT

Table 1 also contains information concerning the proportion of employees affected and the additional parking costs or parking cost savings incurred as a result of the various policy options. As shown in the table, Options A-1, A-2 and A-3, voluntarily replacing employee parking subsidies with employee transit passes, results in annual cost savings of between $400,000 and $1.9 million per year depending upon the number of employees who no longer receive parking subsidies.

Options combining voluntary reduction in employee parking subsidies with increases in DOSP facilities parking rates (Option A-1'/B-1) create relatively modest increases in parking costs, a $700,000 additional annual cost and in Option A-2'/B-1, an additional $500,000 annual cost). Increasing DOSP rates 20 to 50 percent (Option B-1 and B-2) creates annual increments in parking cost of between $800,000 and $2 million per year.

The greatest additional parking costs on an annual basis are created by new parking taxes or parking taxes in combination with increases in DOSP rates. Option C-1 a parking tax of 20 percent would have an additional annual parking cost of $2.8 million. A 20-percent DOSP rate increase on top of this parking tax (Option B-1/C-1) would increase annual parking costs by $3.6 million. A parking tax of 50 percent (Option C-2) would increase annual costs of parking by $7 million.

Combining the 20 percent parking tax with induced employee subsidies would ameliorate, to a degree, the additional parking costs of the parking tax, with additional parking costs of $1.9 to $2.4 million depending upon the degree of reduction in employee subsidies in combination with a 20-percent parking tax.

V. ECONOMIC IMPACTS OF POLICY OPTIONS

This section of the report contains ZHA's estimates of the economic impacts of various policy options.

A. EXISTING ECONOMIC/OUTLOOK

Table 2 contains estimates of economic trends and outlooks under existing parking policy options in the downtown. The projections are based primarily upon estimates contained in market evaluation work conducted as part of the Downtown Master Plan (Hammer, Siler, George). Information is provided concerning total office space, occupied office space and percent of space occupied. Estimates are provided for current conditions (1986), the near-term outlook (1990) and long-term outlook (2005). Information is also provided on estimated retail sales, hotel rooms and employees.

Existing office space is based upon the current inventory in downtown Miami. Year 1990 office space is based upon office space committed and/or under construction. Estimated year 2005 office space is derived from the projected occupied space assuming a return to a more normalized 90 percent occupancy rate. Growth in office space through 1990 is based upon an estimated 32.5 percent capture rate of regional office space or a growth of approximately 480,000 square feet per year. Growth over the 1990 to 2005 period is based upon a 33.5 percent capture rate or a growth of approximately 553,000 square feet per year.

Retail sales estimates are derived from the Downtown Master Plan and take into consideration the implications of the Bayside Center as well as growth in downtown employment, residential area capture rate and tourism derived demand. Hotel demand is likewise derived from the Downtown Master Plan analysis. The number of hotel rooms in the downtown area is currently overbuilt and it is not foreseen that there will be any additional hotel rooms prior to 1990. Growth for the year 2005 takes into consideration overall growth in the downtown office market from which approximately 80 percent of the hotel demand is derived.

Growth in employment is based upon the projected office, retail and hotel demand and the factors previously identified.

TABLE 2

ECONOMIC IMPACT OF POLICY OPTIONS
TRENDS/EXISTING POLICIES

	Existing	Trend 1990	Trend 2005
Office Space			
Total Square Feet (000)	14,840	16,640	25,560
Occupied Square Feet (000)	10,800	13,200	23,000
Percent Occupied	72.7	79.3	90.0
Retail			
Sales ($000)	220,000	390,000	610,000
Square Feet of Space (000)	2,700	3,300	4,300
Hotel Rooms	3,200	3,200	5,300
Employees			
Office	44,300	52,800	92,000
Retail	5,400	6,600	8,600
Hotel	4,800	4,800	8,000
Other	55,000	64,000	108,500
Total	109,500	128,200	217,100

Source: Estimated by Zuchelli, Hunter & Associates, Inc.

Other employment growth is derived as a residual based upon the estimated total current employment of 109,500. It is assumed that other employment will remain at approximately 50 percent of total downtown employment.

As noted previously, these projections do not assume adoption of any of the identified public policy options. Utilizing the methodology described in the previous portion of this report, projections are made of office space, retail sales and space, hotel rooms and employees under each of the identified parking policy options.

B. POLICY OPTIONS VOLUNTARILY REDUCING EMPLOYEE SUBSIDIES

Table 3 contains an evaluation of the economic impacts of public policy options voluntarily reducing employee subsidies. As noted previously, this evaluation takes into consideration the number of employees affected by the public policy option, and assumes that employee subsidies are purely voluntary and no negative impact takes place on employees and, hence, the reduction in subsidies results solely in a cost saving to the employer resulting from a conversion from parking subsidies to transit passes.

By 1990 reducing employee parking subsidies and hence reducing employer occupancy costs, would result in an increase in occupied office space from 13,200,000 square feet under current trends to 13,240,000 assuming parking subsidies reduced to 40 percent; 13,290,000 with parking subsidies reduced to 25 percent; and 13,390,000 with parking subsidies reduced to 0 percent. This would result in occupancy rates ranging from 80 to 81 percent versus the projected 79.3 percent under current trends. Similar impacts are produced for retail sales, with retail sales increasing from the $390 million projected under current trends to a range of $391 to $393 million depending upon policy options. Total downtown employment is projected to range from 128,780 to 130,020 versus 128,200 under current trends.

By the year 2005 employee subsidy reductions are expected to generate employment ranging from 218,030 to 221,790 compared to 217,100 under existing trends. Similarly, occupied office space is projected to range between 25.6 million and 25.9 million versus 25.6 million under existing trends.

TABLE 3

ECONOMIC IMPACT OF POLICY OPTIONS
VOLUNTARILY REDUCING EMPLOYEE SUBSIDIES

	Existing Policies Trendline		A-1 Reduce Employee Subsidies to 40 Percent		A-2 Reduce Employee Subsidies to 25 Percent		A-3 Reduce Employee Subsidies to 0 Percent	
	1990	2000	1990	2005	1990	2005	1990	2005
Office Space								
Total Square Feet (000)	16,640	25,560	16,640	25,630	16,640	25,730	16,640	25,920
Occupied Square Feet (000)	13,200	23,000	13,240	23,070	13,290	23,160	13,390	23,330
Percent Occupied	79.3	90.0	79.6	90.0	79.9	90.0	80.5	90.0
Retail								
Sales ($000)	390,000	610,000	391,000	619,000	391,000	633,000	393,000	660,000
Square Feet of Space (000)	3,300	4,300	3,310	4,370	3,310	4,470	3,330	4,650
Hotel Rooms	3,200	5,300	3,200	5,340	3,200	5,390	3,200	5,510
Employees								
Office	52,800	92,000	52,960	92,280	53,160	92,640	53,560	93,320
Retail	6,600	8,600	6,620	8,740	6,620	8,940	6,660	9,300
Hotel	4,800	8,000	4,800	8,010	4,800	8,090	4,800	8,270
Other	64,000	108,500	64,600	109,030	64,600	109,700	65,000	110,900
Total	128,200	217,100	128,780	218,030	129,180	219,370	130,020	221,790

Source: Estimated by Zuchelli, Hunter & Associates, Inc.

C. PUBLIC POLICY OPTIONS INCREASING DEPARTMENT OF OFF-STREET PARKING RATES

Table 4 contains a summary of the economic impacts of increasing DOSP parking rates from 20 to 50 percent. In general, the economic implications of increasing DOSP rates are relatively modest. Increasing DOSP rates by 20 percent would have an extremely limited economic impact. Even increasing DOSP rates by 50 percent would, in the long term, result in only 350,000 less office space over the 20-year period and approximately 3,100 less employees--a reduction of less than 3 percent.

D. PUBLIC POLICIES INITIATING A LONG-TERM PARKING REVENUE TAX

Table 5 contains the economic impacts evaluation of a parking tax of both 20 and 50 percent. The short-term impact of increasing parking tax by 20 percent would be to reduce the office occupancy from 79.3 to 77.6 percent and reduce employment from 128,200 to 126,020. In the long term, the amount of office space would be reduced from 23 million to 22.5 million and downtown employment would be reduced from 217,100 to 212,880.

Far greater impacts would result from a 50-percent revenue tax with the 1990 office occupancy rate declining from a projected trend of 79.3 percent to 75.1 and the number of downtown employees in the near term declining by 6,000 to 122,200. In the long term, the amount of office space is projected to decline from 23 million to 21.8 million, with total downtown employment being reduced from 217,100 to 205,830.

E. PUBLIC POLICIES INCREASING DOSP RATES AND INSTITUTING A PARKING REVENUE TAX

Table 6 contains an evaluation of Option B-1/C-1 consisting of a 20-percent increase in DOSP rates combined with a 20-percent parking revenue tax. This option generally falls in between that of merely having a 20-percent parking tax and instituting a 50-percent parking revenue tax.

G. PUBLIC POLICIES VOLUNTARILY REDUCING EMPLOYEE SUBSIDIES IN DOSP FACILITIES AND INCREASING DOSP RATES

Options combining 20 percent increases in DOSP rates with voluntary decreases in employee parking subsidies at DOSP

TABLE 4

ECONOMIC IMPACT OF POLICY OPTIONS
INCREASE DOSP RATES

	Existing Policies Trendline		B-1 Increase DOSP Rates 20 Percent		B-2 Increase DOSP Rates 50 Percent	
	1990	2000	1990	2005	1990	2005
Office Space						
Total Square Feet (00)	16,640	25,560	16,640	25,400	16,640	25,170
Occupied Square Feet (000)	13,200	23,000	13,120	22,860	13,000	22,650
Percent Occupied	79.3	90.0	78.9	90.0	78.1	90.0
Retail						
Sales ($000)	390,000	610,000	89,000	608,000	387,000	606,000
Square Feet of Space (000)	3,300	4,300	3,290	4,290	3,280	4,270
Hotel Rooms	3,200	5,300	3,200	5,270	3,200	5,240
Employees						
Office	52,800	92,000	52,480	91,440	52,000	90,600
Retail	6,600	8,600	6,560	8,580	6,560	8,540
Hotel	4,800	8,000	4,800	7,910	4,800	7,860
Other	64,000	108,500	64,000	108,000	63,500	107,000
Total	128,200	217,100	27,840	215,930	126,860	214,000

Source: Estimated by Zuchelli, Hunter & Associates, Inc.

TABLE 5

ECONOM C IMPACT OF POLICY OP IONS
PARKING TAX

	Existing Policies Trendline		C-1 Parking Tax of 20 Percent		C-2 Parking Tax of 50 Percent	
	1990	2005	1990	2005	1990	2005
Office Space						
Total Square Feet (000)	16,640	25,560	16,640	25,010	16,640	24,190
Occupied Square Feet (000)	13,200	23,000	12,920	22,510	12,490	21,770
Percent Occupied	79.3	90.0	77.6	90.0	75.1	90.0
Retail						
Sales ($000)	390,000	610,000	386,000	604,000	381,000	595,000
Square Feet of Space (000)	3,300	4,300	3,270	4,260	3,220	4,070
Hotel Rooms	3,200	5,300	3,200	5,210	3,200	5,070
Employees						
Office	52,800	92,000	51,680	90,040	49,960	87,080
Retail	6,600	8,600	6,540	8,520	6,440	8,140
Hotel	4,800	8,000	4,800	7,820	4,800	7,610
Other	64,000	108,500	63,000	106,500	61,000	103,000
Total	128,200	217,100	126,020	212,880	122,200	205,830

Source: Estimated by Zuchelli, Hunter & Associates, Inc.

TABLE 6

ECONOMIC IMPACT OF POLICY OPTIONS
INCREASE DOSP RATES & PARKING TAX

	Existing Policies Trendline		B-1/C-1 DOSP Rates + 20 Percent, Parking Tax 20 Percent	
	1990	2005	1990	2005
Office Space				
Total Square Feet (000)	16,640	25,560	16,640	24,860
Occupied Square Feet (000)	13,200	23,000	12,840	22,370
Percent Occupied	79.3	90.0	77.2	90.0
Retail				
Sales ($000)	390,000	610,000	385,000	602,000
Square Feet of Space (000)	3,300	4,300	3,260	4,250
Hotel Rooms	3,200	5,300	3,200	5,180
Employees				
Office	52,800	92,000	51,360	89,840
Retail	6,600	8,600	6,520	8,500
Hotel	4,800	8,000	4,800	7,770
Other	64,000	108,500	62,500	106,000
Total	128,200	217,100	125,180	211,750

Source: Estimated by Zuchelli, Hunter & Associates, Inc.

facilities to 40 percent and 25, respectively, are presented in Table 7. This rather focused public parking policy generally has a very small impact compared to previously presented policies, as a result of the combination of increased rates and decreased employer payments for parking. Year 1990 office occupancy rates would be reduced from 79.3 percent under current projected trends to a range of 78.9 to 79.0 percent. Year 2005 occupied office would generate approximate 22.9 million square feet versus 23.0 million square feet under projected current trends.

H. PUBLIC POLICIES VOLUNTARILY REDUCING EMPLOYEE SUBSIDIES AND INSTITUTING A PARKING REVENUE TAX

Table 8 contains estimates of the economic impact of instituting a downtown parking revenue tax of 20 percent in combination with voluntarily reducing overall employee subsidies to 40 and 25 percent, respectively. Combining across-the-board reductions in employee parking subsidies and concomitant decreases in employer parking costs, with across-the-board parking revenue taxes creates relatively modest economic impacts. Year 1990 office occupancy would range between 77.9 and 78.2 percent versus 79.3 under current anticipated trends. Year 1990 downtown employment would range between 126,400 and 126,800 versus 128,200 under current trends. By 2005 the differences would be somewhat more pronounced, with estimated office occupancy ranging from 22.6 to 22.7 million versus 23 million under current trends. Total downtown employment would decline to a range of 213,410 to 214,170 versus the current trend projection of 217,100.

I. ECONOMIC IMPACT OF OTHER PUBLIC POLICY OPTIONS

A detailed parking, transit and economic impact evaluation was not conducted for Options D, E, & F, increasing enforcement, setting aside space to meet short-term parking needs and revising parking requirements. The following paragraphs contain a brief discussion of these options.

1. Increased Enforcement

Increasing enforcement to prevent/prohibit "meter feeding" is primarily seen as a test. The importance of improved enforcement is not seen as great now but will heighten as more stringent pricing and supply policies are put in place. Furthermore, policy options could greatly impact short-term

TABLE 7

ECONOMIC IMPACT OF POLICY OPTIONS VOLUNTARY
REDUCING EMPLOYEE PARKING SUBSIDIES IN DOSP FACILITIES & INCREASING DOSP RATES

	Existing Policies Trendline		A-1'/B-1 DOSP Subsidies to 40 Percent, DOSP Rates + 20 Percent		A-2'/B-1 DOSP Subsidies to 25 Percent, DOSP Rates + 20 Percent	
	1990	2005	1990	2005	1990	2005
Office Space						
Total Square Feet (000)	16,640	25,560	16,640	25,420	16,640	25,450
Occupied Square Feet (000)	13,200	23,000	13,130	22,880	13,150	22,910
Percent Occupied	79.3	90.0	78.9	90.0	79.0	90.0
Retail						
Sales ($000)	390,000	610,000	389,000	609,000	390,000	610,000
Square Feet of Space (000)	3,300	4,300	3,250	4,290	3,260	4,300
Hotel Rooms	3,200	5,300	3,200	5,280	3,200	5,290
Employees						
Office	52,800	92,000	52,520	91,520	52,600	91,640
Retail	6,600	8,600	6,500	8,580	6,520	8,600
Hotel	4,800	8,000	4,800	7,920	4,800	7,941
Other	64,000	108,500	63,800	108,000	63,900	108,200
Total	128,200	217,100	127,620	216,020	127,820	216,380

Source: Estiamted by Zuchelli, Hunter & Associates, Inc.

TABLE 8

ECONOMIC IMPACT OF POLICY OPTIONS VOLUNTARILY
REDUCING EMPLOYEE PARKING SUBSIDIES AND INSTITUTING A PARKING REVENUE TAX

	Existing Policies Trendline		A-1/C-1 Subsidies to 40 Percent, Parking Tax 20 Percent		A-2/C-1 Subsidies to 25 Percent, Parking Tax 20 Percent	
	1990	2005	1990	2005	1990	2005
Office Space						
Total Square Feet (000)	16,640	25,560	16,640	25,090	16,640	25,190
Occupied Square Feet (000)	13,200	23,000	12,960	22,580	13,010	22,670
Percent Occupied	79.3	90.0	77.9	90.0	78.2	90.0
Retail						
Sales ($000)	390,000	610,000	387,000	606,000	387,000	606,500
Square Feet of Space (000)	3,300	4,300	3,280	4,270	3,280	4,270
Hotel Rooms	3,200	5,300	3,200	5,230	3,200	5,250
Employees						
Office	52,800	92,000	51,840	90,320	52,040	90,680
Retail	6,600	8,600	6,560	8,540	6,560	8,540
Hotel	4,800	8,000	4,800	7,850	4,800	7,850
Other	64,000	108,500	63,200	106,700	63,400	107,100
Total	128,200	217,100	126,400	213,410	126,800	214,170

Source: Estimated by Zuchelli, Hunter & Associates, Inc.

parking availability which could have serious retail repercussions. The potential impact on transit ridership is perceived as relatively small, as is the economic impact, as there only appears to be approximately 300 persons estimated to be currently "feeding" short-term meters.

2. Change Short-Term/Long-Term Mix

Changing the mix of long-term and short-term parking was evaluated primarily as a potential test in one of the DOSP parking garages. The evaluation concluded that relatively few (20 to 25 percent) additional short-term parkers need to be generated to make up for potential loss in monthly parking revenue.

Furthermore, based upon interviews conducted with retail representatives, the increased availability of short-term parking spaces could do much to enhance retail sales derived from area residents and tourists who comprise approximately 55 percent of downtown retail sales and of whom approximately 72 percent arrive via auto.

An additional benefit in increasing the availability of short-term parking spaces in the core area is improved parking for visitors to office spaces. Although not specifically cited in downtown key leadership interviews, availability of parking spaces for downtown office visitors may be an important factor in enhancing the competitive market position of downtown office space.

3. Parking Requirements

It does not appear that changes in parking requirements, in and of themselves, have a particular impact upon transit ridership and/or economic development. An office development must have a minimum amount of on-site parking to meet the needs of high-level executives. In addition, sufficient parking space must be available in the general vicinity of the development in order to provide for the overall needs generated by the development. In general, as long as there is sufficient overall parking in the vicinity of a particular development (on the order of magnitude of three spaces per thousand square feet of office space) and a minimum number of on-site spaces are available for executives (generally one space between 1,000 to 1,500 square feet) no negative market implications may take place.

The actual market implications of parking supply regulations does not depend upon specific regulations but upon the competitive market position of a particular facility vis-a-vis other competitive office developments within the downtown and the overall downtown parking supply.

Provision of downtown parking space is not profitable for an office developer. An office developer will thus provide only the number of spaces required to market his structure. ZHA believes that the market should generally be allowed to dictate the amount of spaces provided. It, however, may be desirable to put a broad "cap" on the total amount of parking spaces that may be provided within a facility. This restriction, however, must carefully take into consideration overall supply and demand for parking.

J. SUBURBAN IMPACTS

The potential impact of the proposed parking on suburban development has also been evaluated. Changes in downtown office space, retail sales, hotel rooms and employment, as a result of public policy options affects the amount and character of suburban development. Changes in downtown development does not represent changes in regional growth totals, but rather an intra-regional transfer of demand from the downtown to suburban locations. Thus, any changes (reductions or increases) in downtown demand reflects a direct transfer to suburban locations.

The transfer of demand from the downtown to suburban locations will potentially be attracted to transit station areas. These firms transferring from downtown to suburban locations have strong linkages and/or other reasons to interface with downtown activities. Thus, it is assumed that they would still be desirous of maintaining downtown linkages but without the incremental "costs" of the various parking policies. Furthermore, concentration of this development at transit nodes would serve to create a critical mass of development at these transit stations further reinforcing suburban transit-related development.

While transfer of demand from the downtown to suburban transit locations will result in improved transit ridership, it is perceived that the modal splits captured by transit use will be significantly in suburban locations lower than that that

would otherwise be achieved in the downtown. Thus, a significant portion of the transfer demand from the downtown to the suburban transit locations would represent "lost riders". In addition, concentrating development around transit stations may limit road and parking capacity at the stations and have a potentially negative impact upon transit utilization. Specific policies with regard to transportation system management, parking management and transit commuter versus development related road and parking capacity must be addressed at the suburban stations. Emphasis at suburban stations should be on those uses which can maximize transportation ridership with minimal conflict with downtown commuters.

K. OTHER IMPACTS

The impacts of the various public policy options on the DOSP and on potential public revenues from parking taxes have been evaluated in the transportation consultant's report. Additional economic and development impacts of public policy options should be noted.

The impact upon existing property owners will be dependent upon which public policy options are instituted. Public policy options concentrating on changing rates and employee subsidy ratios in DOSP facilities will differentially impact development projects currently dependent upon DOSP facilities. In order to assure equitability among public policy options, these impacts must be taken into consideration.

It is assumed that public policies are aimed at long-term parkers. In order to minimize impact upon downtown visitors and downtown retail sales, it is important that sufficient short-term parking spaces be made available and that the pricing of short-term parking (which is already relatively high) be carefully monitored. In addition, efforts should be made to promote transit to visitors in order to both assure parking policies do not adversely impact downtown visitors and to attract additional sources of ridership.

Additional impacts of the various public policy options include reduced vehicular traffic and air pollution from enhanced transit ridership and reduction in wear and tear on downtown street capacity. Reduction in parking requirements and employer-supported parking costs are indirect benefits generated by various public policy options.

VI. FINDINGS AND CONCLUSIONS

A. SHORT-TERM IMPACTS

Table 9 contains a summary of the short-term (1986 to 1990) transit and economic impacts of the various public policy options.

The various public policy options are expected to result in from 300 (Option B-1--increase DOSP rates 20 percent) to 6,500 (Option A-3--reduce employee subsidies to 0 percent) employees shifting from auto to transit, or a 0.5 to 9.9 percent shift. The economic impacts of these options, in the short term (through 1990), are expected to range from a 40,000-square-foot increase to a 710,000-square-foot decrease or a 1.7-percent increase to a 29.6 percent decline in the absorption rate, and a 0.3 percent gain to a 5.4 percent decline in the total square footage of occupied office space. During the same time frame, downtown employment is estimated to change from projected levels, from an 1,820 or 9.2 percent gain to a 6,00 or 32 percent decline.

B. LONG-TERM IMPACTS

The long-term impacts, through 2005, are summarized in Table 10. These impacts range from a potentially modest gain in office space absorption of 70,000 square feet to a potential decline of 1.2 million square feet. During the same timeframe, downtown employment would be 4,690 more to 11,270 less than under the trend projections. The potential loss in ridership from the reduced downtown employee base could be significant with from 10 to 37 percent of the projected employee shift to transit, in effect, "lost" because of the smaller downtown employee base.

C. COMPARISON OF OPTIONS

Option A-3--voluntarily reducing employee parking subsidizes to zero--is clearly the preferred option. This option generates the most positive economic impact and the largest number of employees shifting to transit. In the short term (1986 to 1990) an additional 190,000 square feet and 1,820 employees would be captured in the downtown over the trend line projection. An estimated 6,500 people would shift to transit. Over the longer period through 2005, the additional

TABLE 9

ECONOMIC IMPACT OF POLICY OPTIONS
SUMMARY OF SHORT-TERM IMPACTS
1986 TO 1990

	Policy Option	Office Space: Change in Absorption Number (000 SF)	Office Space: Change in Absorption Percent	Office Space: Percent Change in Total Space	Employment: Change in Employment Number	Employment: Change in Employment Percent	Employment: Percent Change in Total Employment	Estimated Employees Shifting to Transit	Potential Additional (Lost) Ridership at 20 Percent Modal Split
A-1	Reduce Employee Subsidies to 40%	40	1.7	0.3	580	3.1	0.5	1,300	120
A-2	Reduce Employee Subsidies to 25%	90	3.8	0.7	980	5.2	0.8	3,250	200
A-3	Reduce Employee Subsidies to 0%	190	7.9	1.4	1,820	9.7	1.4	6,500	360
B-1	Increase DOSP Rates 20%	(80)	(3.3)	(0.6)	(360)	(1.9)	(0.3)	300	(70)
B-2	Increase DOSP Rates 50%	(200)	(8.3)	(1.5)	(1,340)	(7.2)	(1.0)	700	(270)
C-1	Parking Tax of 20%	(280)	(11.7)	(3.1)	(2,180)	(11.7)	(1.7)	1,340	(440)
C-2	Parking Tax of 50%	(710)	(29.6)	(5.4)	(6,000)	(32.1)	(4.7)	3,130	(1,200)
B-1/C-1	DOSP Rates up 20% & Parking Tax of 20%	(360)	(15.0)	(2.7)	(3,020)	(16.1)	(2.4)	1,620	(600)
A-1'/B-1	Reduce Employee Subsidies in DOSP Facilities to 40% & DOSP Rates up 20%	(70)	(2.9)	(0.5)	(580)	(3.1)	(0.5)	730	(120)
A-2'/B-1	Reduce Employee Subsidies in DOSP Facilities to 25% & DOSP Rates up 20%	(50)	(2.1)	(0.4)	(480)	(2.6)	(0.4)	1,375	(100)
A-1/C-1	Reduce Employee Subsidies to 40% & Parking Tax of 20%	(240)	(10.0)	(1.8)	(1,800)	(9.6)	(1.4)	2,840	(360)
A-2/C-1	Reduce Employee Subsidies to 25% & Parking Tax of 20%	(190)	(7.9)	(1.4)	(1,400)	(7.5)	(1.1)	5,050	(280)

Source: Estimated by Zuchelli, Hunter & Associates, Inc.

TABLE 10

ECONOMIC IMPACT OF POLICY OPTIONS
SUMMARY OF LONG-TERM IMPACTS
1986 TO 1990

	Policy Option	Office Space: Change in Absorption Number (000 SF)	Office Space: Change in Absorption Percent	Office Space: Percent Change in Total Space	Employment: Change in Employment Number	Employment: Change in Employment Percent	Employment: Percent Change in Total Employment	Estimated Employees Shifting to Transit	Potential Additional (Lost) Ridership at 20 Percent Modal Split
A-1	Reduce Employee Subsidies to 40%	70	0.6	0.3	930	0.9	0.4	2,200	190
A-2	Reduce Employee Subsidies to 25%	160	1.3	0.7	2,270	2.1	1.1	5,500	450
A-3	Reduce Employee Subsidies to 0%	330	2.7	1.4	4,690	4.4	2.2	11,010	940
B-1	Increase DOSP Rates 20%	(140)	(1.1)	(0.6)	(1,170)	(1.1)	(0.5)	510	(230)
B-2	Increase DOSP Rates 50%	(350)	(2.9)	(1.5)	(3,100)	(2.9)	(1.4)	1,190	(620)
C-1	Parking Tax of 20%	(490)	(4.0)	(2.1)	(4,220)	(3.9)	(1.9)	2,270	(840)
C-2	Parking Tax of 50%	(1,230)	(10.1)	(5.3)	(11,270)	(10.5)	(5.2)	5,300	(2,250)
B-1/C-1	DOSP Rates up 20% & Parking Tax of 20%	(630)	(5.2)	(2.7)	(5,350)	(5.0)	(2.5)	2,740	(1,070)
A-1'/B-1	Reduce Employee Subsidies in DOSP Facilities to 40% & DOSP Rates up 20%	(120)	(1.0)	(0.5)	(1,080)	(1.0)	(0.5)	1,240	(220)
A-2'/B-1	Reduce Employee Subsidies in DOSP Facilities to 25% & DOSP Rates up 20%	(90)	(0.7)	(0.4)	(720)	(0.7)	(0.3)	2,330	(140)
A-1/C-1	Reduce Employee Subsidies to 40% & Parking Tax of 20%	(420)	(3.5)	(1.8)	(3,690)	(3.4)	(1.8)	4,810	(740)
A-2/C-1	Reduce Employee Subsidies to 25% & Parking Tax of 20%	(330)	(2.7)	(1.4)	(2,930)	(2.7)	(1.4)	8,550	(590)

Source: Estimated by Zuchelli, Hunter & Associates, Inc.

downtown office development would amount to approximately 330,000 square feet or 4,690 employees, with an estimated 11,000 employees shifting to transit.

Option A-2--voluntarily reducing employee parking subsidies to 25 percent--produces the second best economic impact (a near-term increase of 90,000 square feet or 980 employees over the 1986 to 1990 base line projections). In terms of employees shifting to transit, it also ranks high with 3,250 employees (the third best of the 12 alternatives) shifting to transit.

Option A-1--voluntarily reducing employee parking subsidies to 40 percent creates the third best economic impact but a relatively poor transportation benefit. This option results in a modest increase in office growth over the trend line projection (40,000 square feet over the 1986 to 1990 period) and approximately a 1,300 employee shift to transit (ranking 9 out of the 12 options evaluated).

Options combining voluntarily reduced employee parking subsidies in DOSP facilities with increases in DOSP parking rates creates extremely modest negative economic impacts in combination with relatively modest transit benefits. Option A-2'/B-1 (voluntarily reducing employee parking subsidies in DOSP facilities to 25 percent and increasing DOSP rates by 20 percent) ranks as the fourth best option in terms of economic impact and the seventh best in terms of transit impacts. This option results in a decline in office space absorption over the 1986 to 1990 period of approximately 50,000 square feet below the base line while causing 1,375 employees to shift to transit. Option A-1'/B-1 (voluntarily reducing employee parking subsidies in DOSP facilities to 40 percent and increasing DOSP rates by 20 percent) creates a slightly greater negative impact than the previous option (ranks fifth as opposed to fourth) and significantly less positive transit impact (ranks tenth versus seventh). Option A-1'/B-1 results in approximately a 70,000-square-foot decline in office space absorption over the 1986 to 1990 period and approximately 730 employees shifting to transit.

Options increasing DOSP rates by 20 to 50 percent create moderate economic impacts but extremely limited shifts to transit. Option B-1--increasing DOSP rates by 20 percent and Option B-2--increasing DOSP rates by 50 percent, respectively, ranks sixth and eighth best in terms of economic impact but twelfth and eleventh best in terms of transportation impact.

Option B-1 results in an 80,000-square-foot decline in office space absorption with only a 300-employee shift to transit. Option B-2 results in a 200,000-square-foot decline in office absorption and a 700-employee shift to transit.

Options combining voluntary reductions in employee parking subsidies with a parking tax create relatively severe economic impacts and relatively positive transit impacts. Option A-1/C-1--voluntarily reducing employee parking subsidies to 40 percent and instituting a 20 percent parking revenue tax ranks as the ninth best in terms of economic impact and fifth out of twelve in terms of transit impact. This option results in a reduction of 240,000 square feet in office absorption and an estimated shift of 2,840 employees to transit. Option A-2/C-2 ranks seventh out of twelve in terms of economic impact and is the second best in terms of transit impact. This alternative would reduce near-term office absorption by approximately 190,000 square feet but, on the hand, have approximately 5,050 employees shifting to transit.

Combining a 20 percent increase in DOSP rates with a 20 percent parking revenue tax (Option B-1/C-1) results in relatively significant negative economic impacts and moderate transit benefits. The 360,000-square-foot short-term decline in office absorption ranks eleventh out of twelve in terms of economic impacts. The estimated 1,620 employees shifting to transit ranks sixth out of twelve.

Institution of a parking revenue tax of 20 or 50 percent creates severe negative economic impacts and only modest transit benefits. A 20 percent parking revenue tax (Option C-1) results in a 280,000-square-foot decline in office absorption in the near-term (tenth of twelve in terms of economic impact) and a 1,340 shift in employees to transit (eighth of twelve). Option C-2, a 50 percent revenue parking tax, by far generates the most severe negative economic impacts--a loss of 710,000 square feet in short-term office absorption. In terms of transit impact this option ranks fourth of twelve options with 3,130 employees shifting to transit.

In summary, those options emphazing the voluntary reductions in employee parking subsidies are by far the most superior in terms of economic impact, generating a slightly positive economic impact as opposed to the moderate to significant negative economic impacts of other options. In terms of transit

impact these voluntary employee parking subsidy reduction options can result in significant numbers of employees shifting to transit. Options increasing the price of parking, particularly through a parking revenue tax, have the highest negative economic impact and result in generally modest shifts to transit. Combining parking price increases with voluntary reductions in employee parking subsidies tends to ameliorate the negative impact of parking price increases.

ZUCHELLI, HUNTER & ASSOCIATES, INC.

ADDENDUM

TO: Miami Downtown Development Authority/
Parking Task Force

FROM: Zuchelli, Hunter & Associates, Inc.

RE: Review and Evaluation
of Parking Policy Recommendations

DATE: February 10, 1987

INTRODUCTION

The Miami Downtown Development Authority has asked Zuchelli, Hunter & Associates, Inc. (ZHA), to review and comment upon the final parking policy recommendations. This addendum to ZHA's final report contains all work, review and comments on proposed parking policy recommendations. Observations are organized around specific parking policy recommendations for both the downtown study area and the Metrorail stations. This addendem constitutes and is part of the final ZHA economic impact report and completes the required ZHA assignment relative to an evaluation of economic impact of parking policy options.

REVIEW OF PARKING POLICY RECOMMENDATIONS

ZHA is in general concurrence with the proposed parking policy recommendations. Given the limited potential transit ridership benefits and the possible significant negative economic impacts, we believe the more modest parking policy recommendations, contained in your recent draft, are most appropriate. The following contains a brief summary of our observations relative to the parking policy recommendations.

- We concur that parking space for new development should be determined by the marketplace. Establishment of maximum and minimum requirements, however, are in conflict with a purely market-driven supply requirement.

- Given potential conflict between market-driven and established standards, we believe as broad as possible standards for minimum and maximum parking should be formulated. Given the overall desire to encourage transit ridership, we see no reason to establish any minimal parking requirements other than those determined by the marketplace.

- Maximum standards as identified in the report appear appropriate. We believe maximum requirements, however, should be related solely to on-site requirements. These on-site requirements should, as you indicated, be related to site-specific constraints combined with the overall development controls. We see no reason to limit provision of parking, at remote locations. This is particularly true at remote locations easily accessible by roadways, Metrorail or Metromover.

- Fees in lieu of providing parking may cause severe problems. Adequate parking still must be provided in generally convenient locations to meet market demand. Equity questions may be raised relative to payments in lieu of parking versus the costs of providing parking on site or in peripheral locations. The total shortfall in parking demand that may be meet by payment in lieu of parking should be limited unless payments in lieu of parking can, in fact, be utilized to provide reasonable alternative parking supply solutions.

- We strongly concur with efforts to reduce the percentage of employees receiving parking subsidies and increasing marketing of transit passes. We urge, however, that both the City and County governments take the lead in this effort by providing public employees transit passes and attempting to limit parking subsidies to public employees.

- Providing additions, short-term parking at nominal rates in DOSP facilities is an excellent idea. An additional means of expanding supplies would be to work directly with nearby private property owners to achieve a "set-a-side" of parking for transit. It is important that a partnership be created before any advisorial roles are formulated.

- Both moderate parking fees and set-a-side of spaces for our car pools and HOV's is appropriate. We strongly urge, however, that this program be implemented carefully and extremely carefully monitored. Initial parking fees should be no higher than $.25 per day. The number of spaces set-a-side for car pools and HOV's should be significantly below the suggested approximately 10 percent figure.

- Based upon our experience we doubt the success of remote parking with shuttle or bus service to stations. The multiplicity of transfers will significantly discourage transit ridership and make the shuttle bus system uneconomic.

- We do not understand the reason for providing higher parking fees or non-rail patrons at underutilized Metrorail parking facilities. If a facility is underutilized any revenue is beneficial and any utilization of parking will not take away from transit ridership.

- Residential parking permits and other control enforcement measures have provided extremely successful in eliminating spillover of parking in station area neighborhoods. The potential of spillover parking in nearby residential neighborhoods achieved should not be overly emphasized. Such an emphasis may lead to premature adoption of residential neighborhood parking restrictions. Policies and procedures should be put in place to respond to spill-over problems but the psychological creation of such problems by early adoption of restrictive policies could adversely impact transit ridership.

- We are unclear to the meaning of "carrying out an assessment of the effects of development near stations on reducing parking requirements". Development near transit stations, particularly with excellent feeder bus service, should have lower parking requirements. A major problem with development around transit stations, however, is a replacement of available surface parking with development projects and reduced highway capacity in the vicinity of the station for both rail commuters and transit-related development projects. Development projects around stations must be carefully designed to maximize any vehicular capacity conflicts.

- Finally, we are particularly concerned that report recommendations do not emphasize marketing and promotion efforts. We strongly believe that parking policy recommendations must be combined with major marketing efforts aimed at encouraging transit ridership, emphasizing the utilization of transit passes and enhancing parking supply and utilization at Metrorail station areas.

REVIEW OF EVALUATION OF METRORAIL PARKING/BUS ACCESS AT STATIONS

ZHA has reviewed the findings and recommendations concerning Metrorail parking and bus access at transit stations. ZHA is in general agreement with the findings and conclusions of this report. The following summarizes our observation concerning the findings and recommendations.

- We concur that driving is and will be the predominant access mode to Metrorail. Emphasis must be on expanding parking supply or enhancing the utilization of the parking supply.

- The level of feeder bus demand and the excess feeder bus seating capacity indicates that a marketing promotion program may be appropriate to attempt to increase feeder bus utilization. This may be an easily implemented, low-cost approach to modestly enhancing transit ridership.

- The low car pooling rate at Metro Station may indicate that the potential of car pooling as it effects downtown parking policies and Metrorail station policies may be underestimated. The actual usable supply of supplementary parking available to Metrorail users near Metrorail stations may be grossly overstated. Walking distances, environmental conditions and security issues may severely impact the actual effective parking supply. Furthermore, the long-term stability and daily availability of these spaces may be overstated. Inability to find parking during peak periods (e.g., Christmas shopping periods) may severely curtail the true availability and impact of this parking surplus. Active programs and discussions should take place with adjacent property owners

to determine whether or not spaces can be made available for little or no fee. It is important that positive relationships be established, metro advisorial relationships take place between Metrorail users and private parking supply owners.

- ZHA concurs that spill-over parking may take place near Dade Land South and South Miami Stations. Means exist, however, to control possible spill-over. We believe it important, however, not to create or force premature adoption of control measures.

- Spill-overs into shopping centers and other private spaces along Route 1 may also occur. MDTA needs to work with adjacent property owners to assure that spaces are made available. Unnecessary towing or other attempted control measures instituted by private sector operators could have an significantly adverse impact upon transit ridership and public/private sector relationships.

- Price increases at full metro lots will not only generate revenue, but if carefully and modestly implemented can, in fact, enhance ridership. The key is to institute low parking fees and/or small increases in parking charges and carefully monitor the impact of these parking rate changes. Initial parking rates should be more in the $.25 parking fee range to "test" impact. Rates may be raised over time rather than beginning at a $.50 level which may cause a negative impact upon transit ridership and public relations.

- ZHA concurs with set-a-side of spaces for car pools and HOV vehicles. Set-a-sides must be carefully monitored and <u>modestly</u> introduced to serve as a test.

- ZHA is concerned about premature implementation of parking restrictions in residential neighborhoods. We do not understand how a program of selling windshield permits to non-residents would work. It appears that such a program would raise serious "equity" questions as well as create public relation problems in the neighborhoods.

- ZHA disagrees that the County should "simply let the private sector operators take care of any spill-over problems". We believe the County should carefully work with private operators to facilitate expansion of parking supply and avoid any actions which may have a severe negative impact on transit ridership.

- ZHA is in general agreement with the recommendations in the report. We would however, provide the following commentary:

  - Additional parking supply should be sought, primarily through parking management techniques. In addition, we urge working with private land owners near stations to provide parking for little or nominal fees.

  - Moderate parking fees in the order of $.25 as opposed to $.50 per day should be adopted, only at those stations that regularly fill to capacity early. As noted elsewhere, these stations and implications of parking fees should be carefully monitored.

  - A modest set-a-side of spaces near station entrances should be made for exclusive use of car pools. This set-a-side should be more in the range of 5 to 10 percent as opposed to 10 to 15 percent. Once again, such a program must be carefully monitored and enforced.

  - Plans should be addressed to avoid possible intrusion into residential streets. Promotion efforts and liaison with residential neighborhood groups must be undertaken to avoid problems and delay, if possible, parking restrictions in adjacent areas.

  - Finally, ZHA would again emphasize the importance of promotion and marketing to enhance transit utilization, achieve better utilization of existing parking facilities and assure effective utilization of available nearby parking spaces.

SUMMARY

In summary, ZHA generally concurs with the findings, conclusions and policy recommendations for parking both in the downtown and station areas. Parking policies and procedures should be carefully and cautiously instituted. Additional emphasis should be placed upon working with adjacent neighborhoods and property owners to ameliorate any negative impacts and optimize use of available parking facilities. Finally, enhanced marketing and promotion should be made a key element of any parking policy and program.

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