Exploring Edge Cities:
Report of a National Survey of Senior Planners

Institute for Metropolitan Affairs
Roosevelt University

May, 2002

Executive Summary

The following report consists of a survey of senior planners of 66 Edge Cities distributed across the nation. Edge Cities are municipalities and sub-regions that have experienced strong population growth or change within the past three decades, have become suburban destinations in and of themselves, and have strong commercial/industrial bases of their own.

The analysis clearly shows that Edge Cities are a distinctive type of place, sharing most of the same strengths and concerns. Generally, planners perceived that their residents wanted quiet places to live that were in proximity to their jobs, that were good places to raise children or to retire, and that they have an urban feeling, but with open space. Planners appeared divided over the roles of places like child care and public parks in child-raising.

Satisfaction

Approximately three-quarters of planners agreed that people in their cities were "Very Satisfied" with their city in the following ways:

A good place to raise children
Had quality housing for higher income people
Had good access to hospitals and health professionals
Had good educational opportunities for adults.

Most Edge Cities have in common three particular problems:

Dissatisfaction over the amount of traffic
Dissatisfaction over housing for lower income people
Lack of access to public transportation

For the most part, satisfaction with urban characteristics does not appear to be linked closely to rates of urban growth. For almost all of the city characteristics on the survey, people in fast-growing places and people in slow-growing places were equally likely to be satisfied with where they live.

For most indicators, the size of the city did not distinguish whether planners indicated satisfaction with a given attribute. However, for several indicators, high population totals correlated with low levels of satisfaction. This was true for

Playgrounds for children
Crime and safety
Air quality
Daycare for children
Appearance of housing and neighborhoods

Design

In general, planners felt that residents were most satisfied with all aspects of parks and residential streets.

Planners expressed the least satisfaction with the appearance of their local facilities. This was particularly true for the appearance of public buildings, commercial areas, industrial areas, and highways. Planners felt that residents were particularly dissatisfied with the usefulness and location of highways, and appearance of industrial areas.

Inter-Governmental Cooperation

Planners indicated the greatest levels of effectiveness of three areas of regional planning that may be most essential to human survival: Law enforcement, supply of gas, and water supply.

Planners felt that least effective cooperation took place with regard to tax policy, building sports facilities, planning roads, and creating commercial development. Planners also rated low cooperation around creating rail lines, industrial development and air quality.

Overall satisfaction regarding urban characteristics, design, and inter-governmental cooperation was slightly higher in the Midwest and to some extent the East, and lowest in the Mountain West and Far West.

Traffic

Planners tend to separate the issues of commercial/industrial development and volume of traffic, implying that they believe satisfactory transportation systems can be developed regardless of the amount of development.

Analysis suggests that satisfaction with traffic patterns contributes to satisfaction with other areas of life such as child-raising, middle income community and air quality.

Housing for Low Income Residents

Places with perceived strong human service institutions were more likely to have stronger low-income housing. Success with low income housing may also be linked to the strength of the transportation system, allowing regions to have sub-areas of substantially different nature that could co-exist successfully.

Regional Planning

For many key areas, higher levels of perceived effectiveness of inter-governmental cooperation correlates with higher levels of perceived satisfaction of the community for numerous indicators. Key relationships between strong inter-governmental cooperation and satisfaction were found with

- Industrial/commercial development
- Transportation systems
- Environment
- Design of urban institutions

There were also strong and significant correlations between overall assessment of the effectiveness of intergovernmental cooperation and satisfaction with Edge City life, and design of Edge City institutions.

Authors

James H. Lewis, Ph.D. Principal Investigator

Kathleen Kane-Willis, Surveys

Jami Woy, Research Assistant
Peggy Berlin, Research Assistant

Institute for Metropolitan Affairs, Roosevelt University, 430 S. Michigan Ave, 13th Floor, Chicago, Illinois, 60203. 312-341-3541.

Introduction

The following report grew out of a market survey designed to ascertain agenda items of interest for the Second Annual Conference on Edge Cities, conducted by the Village of Schaumburg, Illinois and Roosevelt University. The work was motivated by the growing debate over how suburban America is evolving and the ways in which cities are evolving into increasingly decentralized population centers, many of which remain in proximity to the older urban cores. The survey proposes to address a number of important questions:

In what areas do planners believe their communities function best?

In what ways are local institutions and facilities best designed?

In what areas do planners believe the strongest, and weakest, inter-governmental cooperation take place?

What may be indicators of likely success in dealing with key issues such as traffic congestion and development of housing for low-income residents?

Do increased efforts at regional planning hold promise for improving the function of Edge Cities?

To what extent are Edge Cities a distinctive type of place, wherever they might be located or how recently their population expanded?

We rely heavily on the work of Joel Garreau who, perhaps better than anyone, articulated a functional definition of Edge Cities in his book by the same name. (*Edge City: Life on the New Frontier*, New York, NY, Doubleday, 1991) Garreau argues that there is a distinctive character to these evolving places, motivated by the aspirations and life-style interests of people who live there, by their energy – a result of rapid population growth or cultural transformation - and the way these

smaller places, usually in proximity to an urban core, embody most if not all of the institutions found in conventional cities.

The analysis was conducted by staff of the Institute for Metropolitan Affairs at Roosevelt University and focused on three areas of particular interest: 1) perceived levels of satisfaction of residents of Edge Cities with a variety of components of urban life, 2) perceived levels of satisfaction with the design and function of local institutions and facilities, and 3) perceived levels of effectiveness of inter-governmental cooperation on a number of key issues. We believe that the survey results provide an important perspective on the strengths of Edge Cities, and the challenges they face as they attempt to preserve a high quality of life in rapidly evolving areas.

The survey was designed at the IMA and reviewed by members of the Schaumburg conference planning team. To conduct the survey, municipal governments were contacted by telephone by IMA staff and the senior planner was requested for the interview. The IMA interviewer utilized a questionnaire and promised confidentiality to the individual interviewed. For that reason, no specific cities are identified in the report with any specific finding.

Selection of Edge Cities

Identification of edge cities for the purposes of a survey is a complex task. The concept of the "edge city" is not limited to traditional municipal boundaries; rather it includes places that might incorporate more than one city or portions of cities that, as a group, form an identifiable "place." The basis of the list of places from which the IMA randomly sampled was the list of edge cities contained in Joel Garreau's book by that title. Garreau articulated the following criteria: (Garreau, pp. 6, 7)

> Has five million square feet or more of leasable office space.
> Has 600,000 square feet or more of leasable retail space.
> Has more jobs than bedrooms.
> Is perceived by the population as one place.
> Was nothing like a "city" as recently as thirty years ago.

Garreau's definition, which functionally suggests that the city or place must have experienced extraordinary population growth since the 1970s, necessarily excludes many places in the northeastern region of the country that otherwise function as "edge cities". Because we wanted to compare urban issues across the nation's regions, we included in the survey a number of cities in the northeast which probably fail a narrow construction of Garreau's criteria , but function economically and socially as edge cities in that they are smaller regional social and economic centers operating within the metropolitan region in which a large city is the largest municipality. To the extent that a significant social characteristic of an edge city is that it be relatively new, these cities do not

conform. However, such a definition would exclude many older places whose character is gradually changing as population turns over, and increases, and as industry shifts from manufacturing jobs to service and professional jobs. The cities selected for our survey beyond those on Garreau's list have experienced significant population growth during the 1990s and are regional centers of economic growth with combinations of retail trade and commercial enterprise. All of them are in the process of dealing with problems of growth management that typify most edge cities sited by Garreau.

Statistical Note

Correlations utilized throughout the report are Pearson and Spearman as appropriate. "Significance" indicates the extent to which the correlation presented is likely can be generalized to the entire universe of edge cities. Significance between 0 and .05 should be considered strong; significance from .05 to .09 should be considered suggestive. These are indicated by * = .05 to .10; ** = .01 to .05; ***= 0 to .01.

I. Profile of Edge Cities Surveyed

The cities surveyed averaged around 100,000 in population and, as one would expect, they have grown enormously over the past 30 years. In 1970, over half (58 percent) had populations of less than 50,000. By 2000 only 28 percent did. In 1970 less than 2 percent had populations as high as 150,000 but by 2000 over 18 percent did.

Table 1: Population of Edge Cities surveyed

POPULATION RANGE	*2000*	*1990*	*1980*	*1970*
Less than 50,000	28.1%	40.6%	48.4%	58.3%
50,000 to 100,000	32.8%	31.3%	34.1%	30.0%
100,000 to 150,000	20.4%	19.3%	11.2%	10.0%
Over 150,000	18.7%	9.4%	6.5%	1.7%
Total	100%	100%	100%	100%

These population changes can be expressed as significant rates of growth. While a few of the cities surveyed did lose population, almost all of them had growth, and most of it was significant. Almost half of the cities surveyed doubled in population over the three decades and over 20 percent grew by 200 percent or more.

Table 2: Growth rates of Edge Cities surveyed, 1970 to 2000

Population change	*Percent*
Lost population	11.7%
No gain to 10%	13.3%
10% to 100%	26.7%
100% to 200%	27.4%
Over 200%	21.7%
Total	100%

Much of the growth occurred recently. During the past decade, 30 percent of surveyed cities grew between 25 and 50 percent, and 7.8 percent grew by over 50 percent.

Table 3: Growth rates 1990 to 2000

Population change	*Percent*
Lost population	7.8%
No gain to 10%	29.7%
10% to 25%	25.0%
25% to 50%	30.3%
Over 50%	7.8%
Total	100%

Regions

The cities surveyed were stratified by region so as to achieve roughly the proportion by region within the sample as exist nationally. The regions within the sample that include the fewest were the south, and the west, which tend in general to be less characterized by the major cities whose suburbs become Edge Cities.

Table 4: Regional location of Edge Cities surveyed

Region	*Percent*
East	21.2%
South	16.7%
Midwest	22.7%
MountainWest	15.2%
Far West	24.2%

II. Satisfaction with Edge City Life

Planners were asked an open-ended question regarding what they felt residents of their area valued most. The most common attributes were the "status quo" (25.8 percent) and the general quality of life, (18.2 percent).

The survey of city planners revealed distinct patterns regarding specific aspects of what people like and dislike about life in Edge Cities.

Approximately three-quarters of planners agreed that people in their cities were "Very Satisfied" with their city in the following ways:

- A good place to raise children
- Had quality housing for higher income people
- Had good access to hospitals and health professionals
- Had good educational opportunities for adults.

In general, planners thought people in their communities were also highly satisfied with availability of shopping, levels of safety, municipal services, play areas for children, restaurants and quality of public schools.

As a whole, these positive attributes tend to define much of what makes up the Edge City environment. However, attaining these attributes has come at some cost.

Most Edge Cities have in common three particular problems:

- Dissatisfaction over the amount of traffic
- Dissatisfaction over housing for lower income people
- Lack of access to public transportation

Not a single planner allowed that people in his city were "very satisfied" with the amount of traffic, and nearly two-thirds said they were clearly "not satisfied." Almost as strong was the level of concern expressed over housing for low income people. Most Edge Cities rely heavily on the automobile for transportation, and because of their dispersion and distance from the urban core, have relatively little public transportation. Low income housing has increasingly become a problem with the realization the businesses need to have a reliable supply of workers for entry-level and low wage occupations, and because as newer Edge Cities grow older, parents are increasingly concerned that their children, who start out with lower wages than the average resident, may not be able to live anywhere near them.

Two other issues, sufficiency of open space and availability of convention center or meeting places had particularly low levels of satisfaction.

Table 5: Satisfaction levels for selected characteristics of Edge Cities

	Very Satisfied	Somewhat Satisfied	Not Satisfied	N
As a good place to raise children	80.0%	20.0%	0	65
Housing for higher incomes	74.2%	19.7%	6.1%	66
Access to hospitals and health professionals	71.9%	28.1%	0	66
Educational opportunities for adults	70.8%	23.1%	6.2%	65
Availability of retail shopping	67.7%	32.3%	0	65
Levels of crime or safety	65.2%	27.3%	7.6%	66
Municipal services	65.1%	34.9%	0	63
Playgrounds and parks for children	62.1%	36.4%	1.5%	66
Restaurants	62.1%	31.8%	6.1%	66
Public schools	60.0%	29.2%	10.8%	65
Pre-School child care or daycare	53.8%	42.3%	3.8%	52
Full-Time employment opportunities	53.8%	38.5%	7.7%	65
Part-Time employment opportunities	53.4%	43.1%	3.4%	58
As a good place to retire	52.5%	34.4%	13.1%	61
Access to airports	50.0%	47.0%	3.0%	66
Access to downtown	44.4%	52.4%	3.2%	63
Access to spectator sports	43.5%	53.2%	3.2%	62
Availability of parking	43.1%	49.2%	7.7%	65
Housing for middle incomes	42.4%	47.0%	10.6%	66
Level of local taxes	41.9%	48.4%	9.7%	62
Access to popular Entertainment	38.1%	57.1%	4.8%	63
Levels of air quality	37.5%	50.0%	12.5%	64
Access to fine arts	36.5%	60.3%	3.2%	63
Sufficiency of undeveloped land or open space	34.9%	50.8%	14.3%	63
Availability of convention centers/meeting space	29.5%	54.1%	16.4%	61
Access to transit (commuter trains, light rail)	24.1%	41.4%	34.5%	58
Housing for lower incomes	6.2%	38.5%	55.4%	65
Amount of traffic	0	34.8%	65.2%	66

For the most part, satisfaction with urban characteristics does not appear to be linked closely to rates of urban growth. For almost all of the city characteristics on the survey, people in fast-growing places and people in slow-growing places were equally likely to be satisfied with where they live.

For only three items can a statistically significant correlation be observed. Places with higher levels of dissatisfaction over air quality tended to be characterized by particularly rapid growth during the 1990s, not surprising as places with very low population density and little traffic came to have probably as many more cars as they do people.

On a more positive note, cities whose planners felt that the residents wanted a busy, as opposed to a quiet feel, tended to be places with the highest population growth rates during the 1990s, averaging 77 percent. This suggests that either people have moved to those rapidly expanding places because they wanted to experience that culture, or planners do not perceive that existing residents considered the expansion troublesome, at least with regard to that aspect of urban culture.

Table 6: Average population change in Edge Cities 1990 to 2000 by satisfaction levels

Item	*Not satisfied*	*Somewhat satisfied*	*Very satisfied*	*Significance*
Access to restaurants	46%	35%	19%	**
Levels of air quality	48%	21%	21%	*
Community preference	*Quiet*	*Busy*	*Both*	
	23%	77%	16%	***

III. Quality of Edge City Design

The survey included a series of questions asking planners how they felt local residents regarded the appearance, location and utility of various urban attributes.

In general, planners felt that residents were most satisfied with all aspects of parks and residential streets.

Planners expressed the least satisfaction with the appearance of their local facilities. This was particularly true for the appearance of public buildings (35 percent Very Satisfied), commercial areas (36.9 percent), industrial areas (25.9 percent), and highways (31.3 percent). In the instance of public buildings, the failings are most likely architectural as most of the communities are relatively new. For the other areas, it is difficult to make commercial and industrial buildings, not to mention highways, visually attractive.

Planners felt that residents were particularly dissatisfied with the usefulness and location of highways, and appearance of industrial areas. Highways are a difficult problem for edge city design as they remain essential for efficient transportation in these communities, yet their noise, exhaust and appearance are clearly contrary to most residents' taste for their community. Clearly highways and industry present the most formidable design problems for edge city planners.

Table 7: Satisfaction of local residents with the quality of design of selected urban attributes

		Very Satisfied	Somewhat Satisfied	Not Satisfied	N
Public buildings	Appearance	35.5%	64.5%	0	62
	Location	64.1%	32.8%	3.1%	64
Parks	Appearance	67.7%	29.2%	3.1%	65
	Location	62.5%	34.4%	3.1%	64
	Usefulness	63.1%	35.4%	1.5%	65
Open space	Appearance	56.3%	35.9%	7.8%	64
	Location	51.6%	40.6%	7.8%	64
	Usefulness	48.4%	46.9%	4.7%	64
Housing and neighborhoods	Appearance	49.2%	46.2%	4.6%	65
	Location	61.5%	35.4%	3.1%	65
Commercial areas	Appearance	36.9%	55.4%	7.7%	65
	Location	60.3%	38.1%	1.6%	63
Industrial areas	Appearance	25.9%	53.7%	20.4%	54
	Location	44.6%	44.6%	10.7%	56
Residential streets	Appearance	60.3%	36.5%	3.2%	63
	Location	65.1%	34.9%	0	63
	Usefulness	55.4%	41.5%	3.1%	65
Highways	Appearance	31.3%	54.7%	14.1%	64
	Location	51.6%	31.3%	17.2%	64
	Usefulness	36.9%	40.0%	23.1%	65

IV. Regional Inter-Governmental Cooperation

The survey asked planners, "How effective do you think cooperation between your municipality and other types of governments is, such as local governments, the county, or regional agencies or authorities?" in order to understand the effectiveness of regional planning efforts.

Planners indicated the greatest levels of effectiveness of three areas of regional planning that may be most essential to human survival: Law enforcement (73.8 percent), supply of gas (72.5 percent), and water supply (62.5%).

Planners felt that least effective cooperation took place with regard to tax policy, building sports facilities, planning roads, and creating commercial development. Planners also rated low cooperation around creating rail lines, industrial development and air quality.

Table 8: Planner assessment of effectiveness of regional planning for selected issues

	Very Effective	Somewhat Effective	Not Effective	N
Law enforcement	73.8%	26.2%	0	61
Supply of gas	72.5%	25.0%	2.5%	40
Supply of water	62.5%	34.4%	3.1%	64
Solid waste disposal	59.6%	38.6%	1.8%	57
Water quality control	58.7%	38.1%	3.2%	63
Supply of electricity	57.1%	35.7%	7.1%	56
Flood control	54.1%	42.6%	3.3%	61
Planning air traffic	44.4%	44.4%	11.1%	36
Creating residential development	42.3%	42.3%	15.4%	52
Environmental/wilderness preservation	42.1%	49.1%	8.8%	57
Creating commercial/retail development	35.2%	40.7%	24.1%	54
Planning rail transportation	32.6%	50.0%	17.4%	46
Creating industrial development	31.4%	49.0%	19.6%	51
Air quality control	30.8%	57.7%	11.5%	52
Planning roads, highways and traffic flow	26.6%	67.2%	6.3%	64
Tax policy	25.9%	53.7%	20.4%	54
Building sports/entertainment facilities	24.0%	54.0%	22.0%	50

V. Community Preferences

Planners were asked about a number of community characteristics and what they thought residents of their communities generally prefer.

In general, planners felt that Edge City residents wanted their communities to be quiet. Most wanted a mix of incomes, with a tendency toward preference for higher incomes.

A. Do you think your residents prefer their community to be:

Quiet	87.9%
Busy	6.1%
Both	6.1%

B. Preference for income

Upper incomes	33.3%
Middle incomes	24.2%
Lower incomes	0
Mixed incomes	44.6%

Planners felt that residents of Edge Cities generally wanted a mix of functions within their community. While they generally want to live in a quiet, residential neighborhood, they also don't want to travel great distances for employment or shopping.

C. Preference for land use

Residential	35.4%
Commercial	0
Mixed land use	64.6%

D. Preference for proximity to employment

Close to jobs	89.4%
Far from jobs	7.6%
Other	3.0%

Consistent with the functional requirements for living, residents want their communities to have a combination of different civic functions – such as suburban housing and shopping, but also to retain the feeling of open space. About half of planners felt that their residents wanted low population density and most others that residents wanted some density.

E. Preference for rural or urban

Rural feeling	12.1%
Urban feeling	4.5%
Urban with open space	81.8%
Other	1.5%

F. Preference for population density

High population density	3.0%
Some density	48.5%
Low population density	48.5%

Residents who want to live in a fairly dispersed setting expect to rely on driving for transportation. About 40 percent of planners did believe that their residents would prefer access to other forms of transportation as well.

G. Preference for transportation

Driving	53.0%
Public transportation	3.0%
Walking	1.5%
Access to various modes	42.4%

H. Preference for retirement

Remain after retirement	89.2%
Move when retired	9.2%
Other	1.5%

Planners indicated that edge cities were divided as to their cultures of raising children. While many planners wanted to answer affirmatively to both preferences, when pressed for a single answer they tended to divide between those who felt parents were more focused on raising their children at home, as opposed to those who preferred to rely more heavily on public facilities. In general, planners of cities in the far west were more likely to think their parents wanted public facilities, as opposed to people in the east who tended more to favor the home.

I. Preferences for children

Have kids around the house	42.2%
Kids play at parks/public facilities	51.6%
Other	6.3%

Raise young children at home	47.5%
Utilize daycare facilities	47.5%
Other	4.9%

VI. Regional Differences

In general, edge cities tend to be culturally similar whether located to the east, west, north or south. On most of the items listed on the various inventories above, there was no statistical difference in planner perceptions across different regions.

- Planners in the South and Mountain West expressed less satisfaction with retail shopping availability than cities in the East and Midwest.
- Planners in the west were most satisfied with availability of open space.
- Planners in the South were least satisfied with levels of crime and safety and planners in the Midwest most satisfied.
- Public transportation appeared to be most available in the East and least in the South.
- Planners in the South felt their communities were the most suitable as retirement communities, probably in part because they were also most satisfied with their middle and lower income housing.

The Far West appeared to fare worst with regard to middle and lower income housing, and planners there were most concerned about access to employment.

The Midwest ranked most strongly among the regions as a place to raise children, crime and safety, and air quality.

Table 9: Average levels of satisfaction for selected items by region

Numbers can range from "1" Dissatisfied to "3" Very Satisfied

Item	East	Midwest	South	Mountain West	Far West	Significance
Availability of Retail Shopping	2.92	2.87	2.45	2.40	2.62	**
Open space	1.92	2.33	2.09	2.70	2.07	*
Access to health care	2.69	2.87	2.91	2.30	2.73	**
Safety/lack of crime	2.71	2.93	2.18	2.50	2.44	**
Air quality	2.50	2.79	1.90	1.60	2.19	***
Public transportation	2.50	1.80	1.33	1.70	1.87	***
Suitability for retirement	2.07	2.69	2.80	2.10	2.36	**
Raising children	2.92	3.00	2.82	2.60	2.63	**
Middle income housing	2.21	2.40	2.82	2.30	2.0	**
Lower income housing	1.43	1.57	2.09	1.30	1.25	***
Full Time Employment	2.69	2.67	2.55	2.40	2.06	**

Planners indicated relatively few regional differences with respect to design issues and regional planning. Planners indicated that neighborhood and residential street appearances were best in the East and Midwest. Planners in the West expressed the most concern over industrial location

Table 10: Average levels of satisfaction with design by region

Numbers can range from "1" Dissatisfied to "3" Very Satisfied

Item	East	Midwest	South	Mountain West	Far West	Significance
Neighborhood appearance	2.69	2.93	2.09	2.20	2.19	***
Industrial location	2.20	2.83	2.20	1.87	2.38	**
Residential streets appearance	2.67	2.86	2.36	2.10	2.69	***

Although for most planning areas planners expressed little regional difference in their perceptions of effectiveness of inter-governmental cooperation, for measures where there were differences planners in the South tended to feel their areas were the least effective. This was true for planning around water quality, air quality and flood control. Not surprisingly, planners in the Far West were the most critical regarding regional collaboration for electrical supply.

Table 11: Average levels of satisfaction with intergovernmental cooperation by region

Numbers can range from “1” Dissatisfied to “3” Very Satisfied

Item	East	Midwest	South	Mountain West	Far West	Significance
Flood control	2.58	2.85	2.09	2.30	2.60	***
Supply of electricity	2.73	2.71	2.50	2.63	2.07	**
Air quality	2.11	2.80	1.89	2.13	2.06	***
Water quality	2.54	2.95	2.27	2.56	2.44	**

VII. Key Issue Areas: Traffic, Low Income Housing, Regional Planning

The analysis of the various survey items above indicates three key issues that planners feel are of concern to Edge City residents. These are concern with traffic that leads to congestion and air pollution, housing for low income people, and improving the effectiveness of inter-governmental cooperation.

Planners were also asked what they felt were the events that were most likely, if they occurred, to change the character of their city. Most of what planners mentioned had to do with aspects of continued development or enhanced transportation that could bring higher levels of traffic and population density.

Table 12.1 Possible events that could change the character of Edge Cities

Threat	*Percent*
New transportation systems	28.8%
New development	21.2%
Redevelopment	18.2%
Economic change	7.6%
Continued growth	7.6%
Other	13.6%

A. Traffic

The surveys of community satisfaction indicated that the single most pervasive problem as perceived by planners for edge cities was traffic. As edge cities become increasingly populated, developed, and may not be surpassed geographically by additional residential development farther from an urban core, traffic becomes increasingly congested. This congestion conflicts with the quality of life that drew many residents to the city in the first place, causes lengthy commutes on road systems often not built to handle the volume of traffic, and a loss of air quality. The dispersed population of these cities makes public transportation systems and rail problematic, particularly for transportation between suburbs.

The table below indicates that planners tend to think of problems of development and traffic flow as separate issues. Planner responses to the survey indicated little to no correlation between levels of satisfaction with traffic and satisfaction with location of housing, commercial, and industrial developments. On the other hand, planners indicated a strong correspondence between satisfaction with

traffic and location and usefulness of highways and residential streets. Planners also did not indicate a correlation between their assessment of satisfaction regarding access to public transportation and satisfaction regarding traffic.

Table 12: Comparison of satisfaction with traffic to utility of key institutions

Attributes	Traffic	Not Satisfied	Somewhat Satisfied	Very Satisfied	N
Housing location	Not satisfied	4.8%	35.7%	59.5%	42
	Somewhat satisfied	0%	34.8%	65.2%	23
Commercial location	Not satisfied	0%	39.0%	61.0%	41
	Somewhat satisfied	4.5%	36.4%	59.1%	22
Industrial location *	Not satisfied	13.9%	50.0%	36.1%	36
	Somewhat satisfied	5.0%	35.0%	60.0%	20
Residential street usefulness ***	Not satisfied	4.7%	51.2%	44.2%	43
	Somewhat satisfied	0%	22.7%	77.3%	22
Highway location ***	Not satisfied	25.6%	37.2%	37.2%	43
	Somewhat satisfied	0%	19.0%	81.0%	21
Highway usefulness ***	Not satisfied	30.2%	44.2%	25.6%	43
	Somewhat satisfied	9.1%	31.8%	59.1%	22

Planner expression of community satisfaction regarding traffic correlated with satisfaction levels for other items of great importance to planners. Satisfaction with traffic correlated with satisfaction with sufficiency of open space, being a good place to raise children, having quality middle income housing and good air quality.

Table 13: Correlations of satisfaction with traffic by levels of satisfaction with other Edge City attributes

Attributes	*Correlation*	*Significance*
Levels of air quality	.311	**
Availability of parking	.263	**
Housing for middle incomes	.281	**
Good place to raise children	.290	**
Sufficiency of open space	.231	*

Planners expressed a weak correlation between satisfaction with traffic and effectiveness of planning of roads and of residential developments.

Table 14: Satisfaction with traffic by types of inter-governmental cooperation

Area of inter-governmental cooperation		Not effective	Somewhat effective	Very effective	N	Signifi-cance.
Planning roads, highways, traffic	Not satisfied with traffic	7.1%	73.8%	19.0%	42	
	Somewhat satisfied with traffic	4.5%	54.5%	40.9%	27	*
Creating residential development	Not satisfied with traffic	20.6%	44.1%	35.3%	34	
	Somewhat satisfied with traffic	5.6%	38.9%	55.6%	18	*

B. Housing for Low Income People

Creating housing for low income residents presents a particular challenge to edge cities. For the most part, operation of the "market" has not led to creation of lower-rent, or lower priced housing in these cities because of high land values and a general sense that these are desirable places to live. Nonetheless, businesses operating in or near edge cities have thousands of jobs that are filled by low-wage workers and dependability requires that these workers live at least within some proximity to their work-places. In some cases, the city's own municipal workers and school employees may be priced out living within the cities in which they work. Finally, with rapid population expansion, many edge cities are populated with first generation residents. Many of their children, or their parents, may desire to live nearby when they grow up but in many communities, finding housing that they can afford within or near the edge city can be difficult.

The surveys shows, not surprisingly, that places with high satisfaction with their upper income housing, tend to be least satisfied with availability of lower income housing. The strong correlation between middle income housing and lower income housing indicates how much more difficult the problem is for places that are primarily high-end housing markets.

Cities that do have low income housing, are also characterized by planners as good places to retire and as having quality health care facilities.

Table 15: Correlation of satisfaction with low income housing by other satisfactions

Satisfaction item	*Correlation*	*Significance*
Access to hospitals and health professionals	.280	**
As a good place to retire	.384	***
Housing for higher incomes	-.273	**
Housing for middle incomes	.586	***

One of the key issues with which planners and residents of Edge Cities are concerned is where to locate housing that may not be typical of other housing within the city. The housing market does not naturally lead it to be built near higher-end housing, and residents may be concerned that increased crime rates associated with low income communities.

As the following table indicates, there is a strong correlation between the perceived effectiveness of the highway system, and satisfaction with low income housing within a community. This could be an indication that edge cities that have successfully developed, or that are happy with their housing mix, also have road systems that allow people to live and traverse communities of their choice.

Table 16: Correlation of satisfaction with low income housing by satisfaction with design quality

Satisfaction item	*Correlation*	*Significance*
Highway appearance	.292	**
Highway usefulness	.432	***

Not surprisingly, planners who felt their residents preferred a community typified by upper incomes were the least satisfied with the quality of their housing for low-income people. Places that wished to maintain either a distinctly urban or distinctly rural feeling were less likely to be satisfied with lower income housing than were places more mixed.

Table 17: Average satisfaction with low income housing by community preference

Numbers can range from "1" Dissatisfied to "3" Very Satisfied

Upper Incomes	Middle Incomes	Mixed incomes		Significance
1.18	1.73	1.64		***
Rural feeling	Urban feeling	Urban with open space	Other	
1.25	1.33	1.53	3.0	*

C. Regional Planning

A third major challenge that faces Edge Cities is inter-governmental cooperation. Civic leaders and residents value the independence of their municipalities, yet a wide variety of issues require cooperation among neighboring cities, often across a wide region. As the table x above indicated, cooperation is generally strong in the most fundamental areas, such as provision of water, gas, and crime prevention, but may be weak in many others.

It is clear from the survey of planners that higher levels of effective cooperation between municipalities correlates with higher levels of satisfaction with different aspect of Edge City life. In some instances, the connection may be obvious – planning of traffic, public transportation or schools, for instance. In other instances, the effect may be more indirect as planners who generally thought that inter-governmental cooperation was effective also considered their cities better places to retire, or to raise children.

Table 18: Correlation of Planning Total Average by Satisfactions

Attribute	Correlation	Significance
Public schools	.410	***
Municipal services	.281	**
Amount of traffic	.280	**
Access to transit	.381	***
Availability of parking	.500	***
As a good place to retire	.273	**
As a good place to raise children	.309	**
Housing for middle incomes	.390	***
Housing for lower incomes	.313	**

There was also a high correlation between perceived effectiveness of inter-governmental cooperation and most of the urban design attributes on the survey. Particularly high correlations existed between cooperation and industrial location and design of highways.

Table 19: Correlation of inter-governmental cooperation total average with design quality items

	Correlation	Significance
Location of public buildings	.256	**
Usefulness of open space	.351	***
Appearance of housing and neighborhoods	.321	***
Location of housing and neighborhoods	.335	***
Location of commercial areas	.329	***
Appearance of industrial areas	.321	**
Location of industrial areas	.487	***
Appearance of residential streets	.379	***
Location of residential streets	.274	**
Usefulness of residential streets	.348	***
Appearance of highways	.322	***
Location of highways	.401	***
Usefulness of highways	.469	***

i. Development

A number of correlations exist between community satisfaction regarding specific issues, and related planning issues:

- Effective inter-governmental cooperation around creating commercial development correlates with greater satisfaction regarding local taxes.

- Satisfaction with the location of commercial development correlates with greater satisfaction regarding local taxes, full-time employment, and part-time employment.

- Satisfaction with location of open space correlates with satisfaction regarding traffic, full-time, and part-time employment.

In short, there is clear evidence that collaboration and planning around commercial development and use of space is perceived to have positive effects on tax levels and employment opportunities.

Table 20: Correlation of development and planning issues

Note: Top number indicates correlation, lower number level of significance for significant correlations

Inter-governmental cooperation on:	**Retail shopping**	**Local taxes**	**Amount of traffic**	**Full time employment**	**Part time employment**
Creating commercial development	-.064	.302 **	.155	.162	-.104
Creating industrial development	.196	.015	.217	.143	-.102
Creating residential development	-.057	.149	.236	.245	.120
Tax policy	.237	.577 ***	.168	.197	.016
Location of commercial areas	.303 **	.235 *	-.059	.304 .016	.450 .001
Location of industrial areas	.145	.099	.237	.114	.192
Location of open space	-.006	.067	.253 **	.375 ***	.337 **

ii. Environment

Planners make a clear link between effectiveness of intergovernmental cooperation around environmental issues and the sufficiency of open space. Planners who felt residents were highly satisfied with the sufficiency of open space also felt that area governments collaborated well around flood control and air quality control.

Table 21: Correlation of environmental and planning issues

Inter-governmental cooperation on:	*Satisfaction with levels of air quality*	*Satisfaction with sufficiency of open space*
Environmental preservation/wilderness	-.037	.003
Flood control	-.115	.224 *
Air quality control	.277*	.414***
Water quality control	.083	-.016

iii. **Transportation**

Planners indicated numerous correlations between their perception of effectiveness of planning around roads and rail transportation, and resident satisfaction regarding traffic-related issues.

- Satisfaction with all aspects of highway design quality on which we surveyed correlated with perceived effective inter-governmental cooperation around planning roads and rails. Not surprisingly, inter-governmental planning effectiveness did not correlate with satisfaction regarding residential streets.

- Effective inter-governmental planning on roads correlated with satisfaction about traffic, and planning around rails correlated with satisfaction around access to transit.

Table 22: Local transportation satisfaction and planning

Satisfaction with:	**Inter-governmental cooperation on Planning roads**	**Inter-governmental cooperation on Planning rail transportation**
Amount of traffic	.217 *	-.156
Access to transit	.011	.350 **
Availability of parking	.389 ***	.318 **
Appearance of residential streets	-.007	-.128
Location of residential streets	.021	.006
Usefulness of residential streets	.102	-.108
Appearance of highways	.256 **	.281 *
Location of highways	.336 ***	.563 ***
Usefulness of highways	.475 ***	.323 **

Strong correlations existed between the aggregated responses for the satisfaction, design, and intergovernmental cooperation survey questions.

The strongest was the relationship between overall satisfaction with edge city life and satisfaction with the design of the various edge city facilities and institutions.

There were also strong and significant correlations between overall assessment of the effectiveness of intergovernmental cooperation and satisfaction with edge city life, and design of edge city institutions.

Table 23: Correlations between satisfaction, design and intergovernmental cooperation totals

	Correlation	*Significance*
Satisfaction with design	.672	***
Satisfaction with cooperation	.384	***
Design with cooperation	.529	***

VIII. Neighborhood preferences and satisfaction levels

The following section analyzes issues on which communities of differing cultural preferences differed as to their satisfaction.

- Middle income communities were significantly less satisfied with the sufficiency of open space.

- Upper income communities were less satisfied with their access to public transportation and lower income housing.

Table 24: Preferred income level by satisfaction level

Numbers can range from "1" Dissatisfied to "3" Very Satisfied

Satisfaction item	*Upper incomes n=20*	*Middle incomes n=16*	*Mixed incomes n=27*	*Significance*
Sufficiency of undeveloped land or open space	2.45	1.81	2.26	**
Access to transit	1.62	2.17	2.00	*
Housing for lower incomes	1.18	1.73	1.64	***
Housing for higher incomes	2.86	2.75	2.50	*

Places with residential, rather than mixed, land use tended to report higher satisfaction with access to spectator sports and fine arts.

Table 25: Preferred land use by satisfaction level

Numbers can range from "1" Dissatisfied to "3" Very Satisfied

Satisfaction item	*Residential*	*Mixed Land use*	*Significance*
Access to spectator sports	2.59	2.31	*
Access to fine arts	2.52	2.23	**

Places with low population density tended to be farther from airports, but they were also the least concerned about crime or safety. High density places, much

more urban in nature, were closer to airports and were least satisfied with crime and safety.

Table 26: Preferred population density by satisfaction level

Numbers can range from “1” Dissatisfied to “3” Very Satisfied

Satisfaction item	*High density*	*Some density*	*Low density*	*Significance*
Access to airports	3.0	2.31	2.59	*
Levels of crime or safety	2.0	2.41	2.78	**

Although the numbers captured in this survey are extremely small, the edge cities whose planners felt they preferred reliance on public transportation appeared to suffer the most problems, with significantly lower satisfaction indicators as good places to raise children or having employment opportunities.

Table 27: Preferred transportation mode by satisfaction level

Numbers can range from “1” Dissatisfied to “3” Very Satisfied

	Driving	*Public transportation*	*Walking*	*Various modes*	*Significance*
As a good place to raise children	2.88	2.00	2.0	2.79	***
Housing for higher incomes	2.69	1.0	3.0	2.79	***
Full time career employment opportunities	2.32	1.50	3.00	2.68	**

For most indicators, the size of the city did not distinguish whether planners indicated satisfaction with a given attribute.

However, for several indicators, high population totals correlated with low levels of satisfaction. This was true for

Playgrounds for children
Crime and safety
Air quality
Daycare for children
Appearance of housing and neighborhoods

The smallest places were distinctly considered to be safer by their planners and to have superior housing.

However, smaller places, often further from density of roads, tended to be less satisfied with the location of highways.

Table 28: Selected satisfaction levels by population of Edge City

	Not satisfied	**Somewhat satisfied**	**Very satisfied**	**Significant**
Playgrounds and parks for children	337,977	74,960	108,455	***
Levels of crime or safety	156,102	138,679	77,672	***
Levels of air quality	147,140	118,598	66,575	***
Pre-school child care or daycare	246,001	79,065	108,175	**

	Not satisfied	Somewhat satisfied	Very satisfied	
Housing and neighborhood appearance	139,556	121,509	77,375	*
Highway location	72,796	80,026	122,200	*

	Not effective	Somewhat effective	Very effective	
Regional cooperation around building sports/entertainment facilities	189,183	97,731	85,925	***

Planners in edge cities across the nation varied in their overall assessment of satisfaction, design, and intergovernmental cooperation, by region.

Overall satisfaction on all three areas was slightly higher in the Midwest and to some extent the East, and lowest in the Mountain West and Far West.

On specific indicators, the Mountain West was lowest on overall satisfaction, and design, and the South and Mountain West lowest on overall intergovernmental cooperation.

Table 29: Total of satisfaction items by region

Numbers can range from "1" Dissatisfied to "3" Very Satisfied

	Overall average satisfaction	*Overall average satisfaction with design*	*Overall effectiveness of cooperation*	*N*
East	2.4	2.5	2.4	14
Midwest	2.5	2.6	2.5	15
South	2.4	2.4	2.2	11
West	2.2	2.2	2.2	10
Far West	2.3	2.4	2.3	16
Significance of differences	***	**	**	66

Most indicators of satisfaction appear not to have been much affected by changes in population. Places with the most rapid population increases, generally on the urban periphery, reported the least satisfaction with access to airports or downtown. On the other hand, they experienced a trade-off in that they were most likely to be satisfied by the sufficiency of their undeveloped land and open space.

Table 30: Selected satisfactions by percent population increase, 1970 to 2000

Satisfaction items:	*Not satisfied*	*Somewhat satisfied*	*Very satisfied*	*Significance*
Sufficiency of undeveloped land or open space	97%	105%	373%	**
Access to airports	1168%	169%	160%	***
Access to downtown	1101%	240%	101%	***

Places with the most rapid growth were most likely to be unhappy with intergovernmental cooperation around highway planning and places happiest with their arrangements for gas supply were the faster growing communities.

Table 31: Effectiveness of intergovernmental cooperation by percent population increase, 1970 to 2000

	Not effective	*Somewhat effective*	*Very effective*	*Significance*
Planning roads	687%	171%	194%	**
Supply of gas		62%	259%	*

Planners in places experiencing the most rapid population growth were most likely to say that their communities preferred a busy feel to them

Table 32: Cultural preferences by population change, 1970 to 2000

Quiet	Busy	Both	Significance
165%	632%	193%	**

IX. Factor Analysis

The following section provides the results of a factor analysis of the various survey items. The factor analysis allows us to observe which items tend to vary together. In that way, we are able to identify clusters of attributes that tend to define different types of places.

Satisfaction

Focusing on the satisfaction variables we can identify six different types of places:

Those characterized by affluent people and the arts; middle class affordable; particularly valuing children's issues; municipal facilities, yuppies, and one factor that defies categorization.

Areas of satisfaction

Arts/Affluent

Item	Factor strength
Access entertainment	.832
Access to fine arts	.675
Access to spectator sports	.622
Full time careers	.606
Restaurants	.559
Housing for higher incomes	.466
Part-time employment	.430
Access to downtown	.408
Adult education	.354
Access to convention facilities/meetings	.334

Middle Class/affordable

Item	Factor strength
Housing for middle incomes	.864
Housing for lower incomes	.802
Place to retire	.491
Traffic	.346

Parking	.332
Health care facilities	.304

Children

Item	Strength
Place to raise children	.808
Educational opportunities for adults	.546
Level of crime/safety	.328
Part-time employment	.508
Place to retire	.508
Parking	.329
Public schools	.316

Municipal facilities

Item	Strength
Municipal services	.765
Public schools	.760
Full time careers	.525
Crime/safety	.514

Item	Strength
Air quality	.746
Convention centers	-.626
Adult education	-.517
Traffic	.511

Yuppie

Item	Strength
Retail shopping	.627
Pre-school/daycare	.616
Health care facilities	.567
Housing for higher incomes	.473
Restaurants	.305

Analysis shows that edge cities that defined children's issues tended to be most common in the South and least common in the Far West.

Edge cities defined by "Yuppie" values were most common in the Midwest, and least common in the Mountain West.

Table 33: Regions by attribute satisfaction factors

Item	*East*	*Midwest*	*South*	*Mountain West*	*Far West*	*Significance*
Children	-.187	.029	.976	-.124	-.457	***
factor 5	.203	.598	-.622	-.190	-.192	**
Yuppie	.067	.393	-.043	-.916	.174	**

Factors Associated with Inter-Governmental Cooperation

Development planning

Item	Strength
Planning commercial retail	.813
Planning residential development	.792
Planning industrial development	.775
Coordinating tax policy	.611
Flood control	.384

Utilities

Item	Strength
Gas supply	.735
Solid waste disposal	.690
Flood control	.621
Supply of electricity	.606
Water supply	.550
Law enforcement	.330

Environment

Item	Strength
Water quality	.776
Air quality	.718
Taxes	.493

Law enforcement	.520
Air traffic	.314
Water supply	.308

X. Conclusion: How Different are Edge Cities?

Data from the past two censuses indicates that edge cities have been growing faster than other suburbs during the past decade. The Brookings Institution's Center on Urban and Metropolitan Policy reports that from 1990 to 2000, 2,586 suburbs in the nation's 35 largest metropolitan areas averaged 14 percent population growth over the decade, but that 37 percent lost population or stayed the same. Of the IMA edge city sample, only about 8 percent lost population or stayed the same while the entire sample averaged around 25 percent population growth.

The federal General Accounting Office released an important report, *Community Development: Local Growth Issues – Federal Opportunities and Challenges* in September, 2000 (GAO/RCED-00-178) that asked officials of cities and counties across the nation, many of the same questions that were asked of planners in the IMA survey. The GAO study aggregated data for the category of Non-central cities and by comparing the IMA survey results with results on selected questions for this category of the GAO study, we can begin to see the extent to which Edge Cities differ in their concerns from other non-central cities, or do not.

Development

Edge cities, by their nature, have succeeded economically over the past two decades and it is reflected in the high levels of satisfaction with availability of commercial establishments and employment opportunities. While as a whole suburbs and other non-central cities have grown, economic conditions in these places have been more uneven, particularly when different areas of the country are taken into consideration.

As Table 33 below indicates:

- Both edge cities and suburbs and other non-central cities appeared equally concerned about the extent of traffic congestion.

- Edge cities appear somewhat less concerned about sufficiency of economic development.

- Suburbs and other non-central cities reported greater dissatisfaction regarding proximity of employment to residents than did edge cities.

Table 33: Comparison of GAO and IMA items pertaining to development

GAO: Extent item (below) concerns community?	Level of concern			IMA: Residents satisfied with item	Level of satisfaction	
	Moderate	High	Very High		Somewhat satisfied	Not satisfied
Attracting new businesses	33.6%	24.3%	14.0%	Retail shopping	32.3%	0%
				Access to FT Employment	38.5%	7.7%
Distance housing to jobs	32.3%	16.4%	6.7%			
Job opportunities	26.0%	15.5%	7.5%			
Traffic congestion	26.7%	28.4%	36.8%	Traffic	34.8%	65.2%
Priority on:	Moderate	High	Very High			
Enhancing transportation system	21.7%	36.6%	32.7%	Access to public transportation	41.4%	34.5%

Housing and Schools

That edge cities are generally more affluent than other suburbs and non-central cities on average is reflected in their greater satisfaction with schools, and their lack of affordable housing. Other suburbs and cities represent a far wider range of environments, many of which are characterized chiefly by moderate and lower income housing. As a result, many of those same places struggle to adequately fund school systems that depend largely on property taxes.

- While the GAO survey question reported was somewhat more narrow than the questions regarding schools in the IMA survey of edge cities, the data indicates that suburbs in general are more concerned with school quality than are edge cities.
- Edge city residents appear somewhat more concerned about affordable housing than residents of other suburbs and non-central cities.

Table 34: Comparison of GAO and IMA items pertaining to housing and education

GAO: Extent item (below) concerns community?	Level of concern			IMA: Residents satisfied with item	Level of satisfaction	
	Moderate	High	Very High		Somewhat satisfied	Not satisfied
Overcrowded schools	34.8%	23.7%	13.5%	Raising children	20.0%	0%
				Public schools	29.2%	10.8%
Affordable housing	31.6%	18.7%	11.8%	Affordable housing	55.4%	38.5%

Environment

On the three questions regarding environmental issues that were common to the two surveys, there appeared to be little difference between levels of concern of edge cities and suburbs and non-central cities. Edge city residents did appear to be more strongly concerned about loss of open space than did residents of other suburbs and non-central cities. Concerns were more moderate with respect to appearance of commercial development and air quality.

- Edge cities and other suburbs and non-central cities appeared about equally concerned about loss of open space within their communities.
- About two-thirds of both edge city and other non-central cities appeared to have concerns regarding appearances of commercial development.
- Edge city and non-central city residents appeared about equally concerned regarding levels of air pollution.

Table 35: Comparison of GAO and IMA items pertaining to environment

GAO: Extent item (below) concerns community?	Level of concern			IMA: Residents satisfied with item	Level of satisfaction	
	Moderate	High	Very high		Somewhat satisfied	Not satisfied
Open space	26.4%	15.7%	6.7%	Open space	14.3%	50.8%
Unsightly commercial development	33.5%	26.2%	11.6%	Commercial area appearance	55.4%	7.7%
Air pollution	37.4%	14.8%	6.2%	Air quality	50.0%	12.5%

XI. List of Cities Surveyed

Bellevue, NE
Bellevue, WA
Berkeley, CA
Bloomington, MN
Braintree, MA
Brockton, MA
Brookfield, WI
Carrollton, TX
Cherry Hill, NJ
(Township)
Chesterfield, MO
Clarksville, TN
Coral Gables, FL
Denton, TX
Durham, NC
Eden Prairie, MN
Elizabeth, NJ
Encinitas, CA
Escondido, CA
Fairfax VA
Fontana, CA
Foxborough MA
Framingham, MA
Fremont, CA
Hagerstown MD
Hempstead, NY
Irvine, CA
Irving, TX
Lake Charles, LA
Lowell, MA
Maple Grove, MN
Marietta GA
McAllen, TX
McKinney, TX
Mesa, AZ
Northbrook, IL
Oakbrook, IL
Overland Park, KS
Oxnard, CA
Plano, TX
Powder Springs, GA
Princeton NJ
Quincy MA

Raleigh, NC
Redwood City, CA
Richardson, TX
Rockville, MD
Round Rock, TX
Salinas, CA
San Raphael, CA
Santa Ana, CA
Santa Clarita, CA
Scottsdale, AZ
Smyrna GA
Southfield, MI
St Petersburg, FL
Stamford, CT
Stockton, CA
Thornton, CO
Troy, MI
Urbandale,IA
Waltham, MA
Wauwatosa, WI
West Des Moines,IA
Westminster, CO
White Plains, NY
Woodbury, MN