Whither Managua?
Evolution of a City's Morphology

Introduction

Managua has been labeled a city without a center. On viewing the devastation of the 1972 earthquake in the mid-1980s, Doreen Massey described the city as follows:

> The center is empty save for some gaunt ruins… Around the hollow centre the built up area sprouts haphazardly, and motorway-style ringroads from the Somoza era curve between shanty-towns and wastelands. Most of the small amount of factory-scale manufacturing industry is strung out along the road to the airport. As to housing there are middle-class suburbs, of bungalows with gardens, there are working-class barrios of small but solid single-storey houses, and there are 'spontaneous settlements'. (Massey 1986:1).

Twenty years later, one is struck by the lack of change. The city center has been left largely un-reconstructed. Condemned buildings, partial ruins and open lands sit side-by-side with administrative blocks, a new symphony hall and waterfront esplanade, and the older neighborhoods that survived the trembler (see Figure 1). Industrial areas within the municipal boundaries are limited, and mostly located near the airport. And there are still distinct types of housing: elite residential areas, usually adorned with guards, high fences, and satellite dishes, working-class barrios, some of which show signs of improvement or past informality, and the more recent – and precarious – settlements of squatter areas. One is led to believe that re-integration of the city has not occurred. It certainly has not re-centered around the historic core.
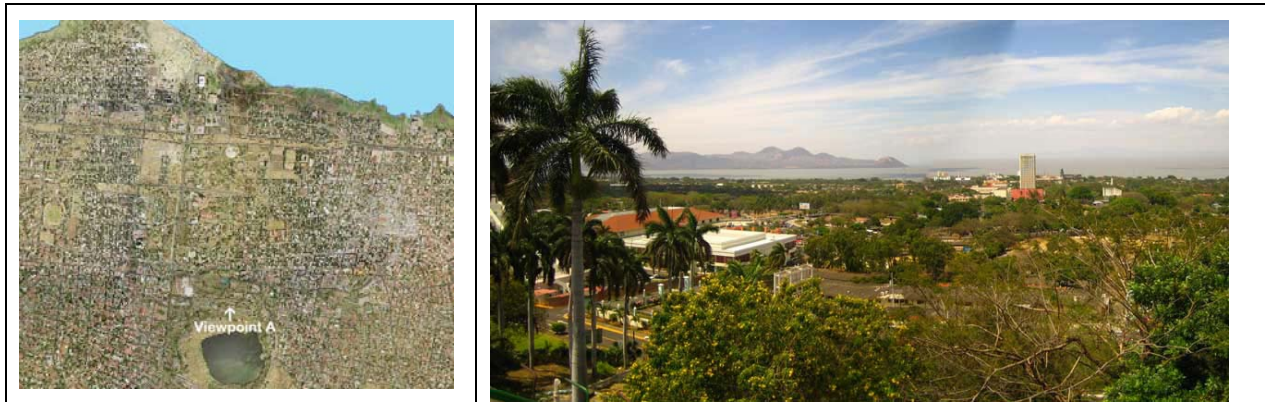

Figure 1: Downtown Managua, View from Tiscapa

Instead the city's growth has shifted focus inland and along the Carretera Masaya, a major highway linking Managua to Masaya 29 km to the south (see Figure 2). Development has leapfrogged along radial highways, congealing around new commercial, industrial, institutional and administrative nodes, a process that began in the 1970s and accelerated in the 1990s. Commercial investment has concentrated in Bolonia, Bello Horizonte, San Juan, Los Robles, Altamira and Los Colinas while population growth has been accommodated in the popular barrios such as San Judas and Villa Venezuela, Ciudad Sandino and El Crucero, the last two independent municipalities since 2000.
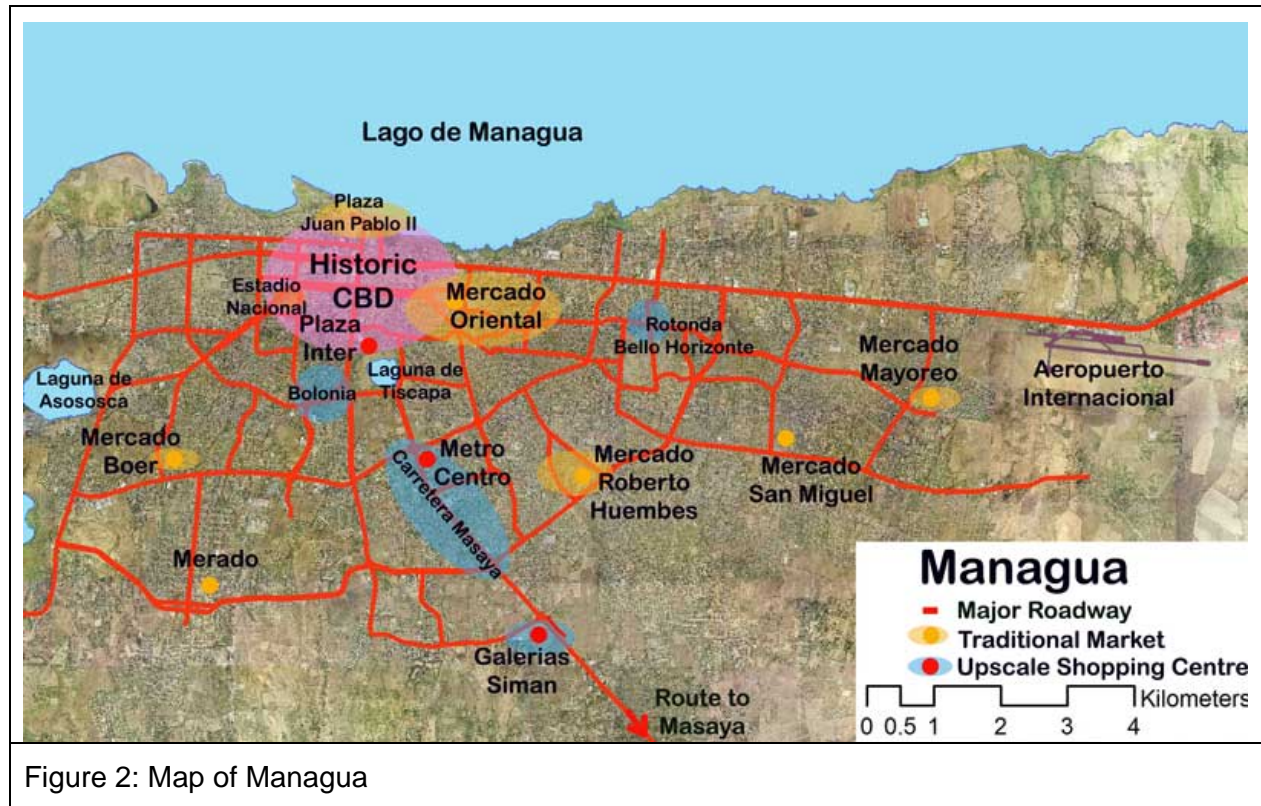
Figure 2: Map of Managua

A more recent observer has argued that parts of the city are now 'disembedded' from the overall structure, with sectors serving the elites increasingly cut off – by roads and roundabouts rather than walls – from poorer areas (Rodgers 2004). There are numerous signs of socio-economic polarization. Overall economic indicators suggest an improvement in prospects that is not matched by a parallel reduction in the poverty rates for Managua (Agosin, 2001; Banco Mundial, 2003). Parts of the city are known for violence and insecurity, with youth gangs, the *paudillas*, controlling some barrios (Rodgers, 2002). Unemployment remains high; the majority of those working do so informally. Many problems of urban management – e.g. flooding and mudslides, pollution of the lake and aquifer, poor housing with insecure tenure – remain unresolved.

In this context the issue of integrative and disintegrative forces that shape the city is interesting. If integrative forces are taken as those that contribute to an economically, environmentally, spatially and socially cohesive city, then the forces at play in Managua seem weakly effective, particularly in the contemporary era. Yet there have been efforts to integrate – from Sandinista era support for social mixing through housing, legalization of land tenure, and widespread efforts to upgrade health and education services, to more recent efforts to construct a cohesive transport network. Equally there have been clearly disintegrative forces: urban violence, insecurity and the fear it has generated; polarized incomes coupled with rural immigration; and national policies, industrial practices and lack of funds that have left Lake Managua too polluted for use.

Our arguments in this paper are, first, that the concepts of integration/dis-integration need to be seen in a less dualistic fashion, second, that Managua shows signs of integration around a new logic distinct from that of the past, and third, if a more just, equitable and sustainable city is to emerge, serious attention to deepening the positive forces and developments and applying them to the poorer sectors of the city and society will be crucial.

In developing these arguments, we draw on existing analyses of the growth and structure of Managua, policy documents, our observations based on visits in 2004-06, and census data from 1995. In many ways this paper represents our initial assessment of socio-spatial dimensions; on-going work when the 2005 census data is available will help us refine and elaborate our analysis. The paper is organized in five sections: the introduction, a conceptual discussion, an overview of the city's growth, a review of the 1995 data and concluding comments.

Integration and disintegration: beyond dualities

Integrative forces – those that promote equity, social cohesion and community development while respecting the bio-physical environment – are generally conceived as those introduced on behalf of society or the environment at large. Disintegrative forces – understood here as those contributing to social polarization, exclusion, and inequitable access to institutional support and opportunity – are the product of individuals or groups' attempts to secure advantages that are not available to others, often at the direct expense or exploitation of others.

However, distinguishing integrative from disintegrative forces can be complicated. Some forces have both integrative and disintegrative effects, for example comprehensive schooling set up by a colonial government. Others are manifest differently over space (e.g. variance within a household, barrio or city) or time (changing significance of a national monument such as a statue of Somoza).

One can explore integration and disintegration at spatial, socio-economic, and political or administrative levels. In this respect, spatial refers to integrated form that is functional and, if not compact, at least well linked both internally and to key external sites. Disintegrated spatial forms often refer to dis-contiguous urban zones, such as that characterized by North American ex-urban and edge city growth, but can also refer to divisions within cities, the quartering (Marcuse, 1997), or fracturing (UN Habitat, 2001, 2005) of the city that has updated earlier socio-spatial segregation in ways thought consonant with contemporary global and national forces (Marcuse and van Kempen, 2000). A key feature in many analyses of urban fragmentation and dis-integration is the construction of secured or gated areas, in which elite groups can buttress themselves away from a wider society seen as dangerous and unwelcome (Caldeira, 1996; Rodgers, 2002, 2004; Davis, 1990). Zones of consumption, often catering to tourists and business people, marked by world class architecture, heritage efforts, or other visible and memorable emblems, are also a hallmark of spatial restructuring of cities aspiring for global recognition.

Socio-economic differentiation within cities is heightened by these forms of spatial restructuring. Extreme patterns of socio-economic spatial segregation may result, in which poorer groups and their neighborhoods are dis-articulated from the whole, and made invisible – physically and symbolically – to those who frequent the newly remade spaces. Socio-economically integrated cities, in contrast, often refer to those that are more equitable and inclusive, ones in which people of various socio-economic classes can interact, sustain livelihoods, and find meaning in the city.

Cities may also be addressed in terms of the level of political and administrative integration, though that is not the primary focus of our analysis. In this respect, disintegrated refers again to fragmented areas, ones in which weak cross-sectoral coordination, multiple jurisdictions, political rivalries, or other aspects of the spatial and political environment lead to poorly integrated decision-making, highly politicized outcomes, or paralysis in planning, decision-making or implementation. Efforts to improve and better integrate municipal planning and administration have been articulated within Local Agenda 21, the healthy city and sustainable city initiatives, and strategic planning, among others. Many of these agendas are concerned to:

include citizens in consultative and decision-making processes, consider multi-scales in planning, improve coordination across sectors, municipal boundaries and temporal horizons, work strategically, improve implementation by linking finances and other inputs to specific prioritized interventions (UN-Habitat, 2004). While our analysis addresses the changing urban and social morphology of Managua, and the (dis)integrative forces at play, the characteristics of municipal administration and planning are key elements in moving towards more integrated outcomes.

The evolution of the city's morphology

Managua's history suggests a city that is highly disintegrated spatially, socially and administratively. As stated earlier, there are countervailing forces, as well as aspects of the city that play a more complex role, fostering integration of some urban elements, some groups, and some places at a particular time, and disintegration of others. An examination of the overall urban form of Managua, its transport links, growth areas, and urban problems suggest that many of the elements that contribute to the re-integration of the city around new axes and commercial centers simultaneously are leading to fragmentation and dis-integration as certain groups, places, and networks operate in distinct 'disembedded' ways. Whether this is a temporary process to be followed by an integrative one, is open to question, and highly dependent on municipal policy, national support for city initiatives and international processes affecting the country.

This section traces the evolution of the city, outlining major features in four period: the pre-earthquake Somoza dictatorship (1960-72); the dictatorship and post-earthquake international aid (1972-79); the Sandinista revolutionary government (1979-90); and the neo-liberal government in a globalizing economy (1990 to the present).

Early Days

Post colonial Nicaraguan society left deep polarization between Liberal (inclusive, socialist leaning) and Conservative (traditional, class based, elite business and government) forces. These were strongly represented in Leon and Granada respectively which served as alternate capital cities depending on which side was in power (Wall, 1996: 45). Managua, physically located between the two colonial cities, was designated as the permanent capital of the country in 1850s as a compromise between these opposing forces. It remained the smaller and least important of the three cities through the end of the 19th century.

Political tensions continued to mark the city. Following conflicts with US privateers and armed forces between 1912 and 1932, peasants and the working class were mobilized by articulate activists and the struggle between conservative and socialist forces intensified. This struggle was represented by Sandino (radical socialist, communist fighting guerilla warfare in the northern countryside) and Somoza (right-wing, dictator) both of whom were prepared to use violence to advance their cause.

Nonetheless, the City of Managua was seen as a site of political, agro-industrial, and commercial import. The Map of Managua in 1942 shows a proud, orderly city with impressive civic, office and retail buildings. The central area fronting on Lake Managua was surrounded on three sides by residential areas. The street pattern is an irregular grid. New areas on the city's outskirts are optimistically highlighted in yellow.
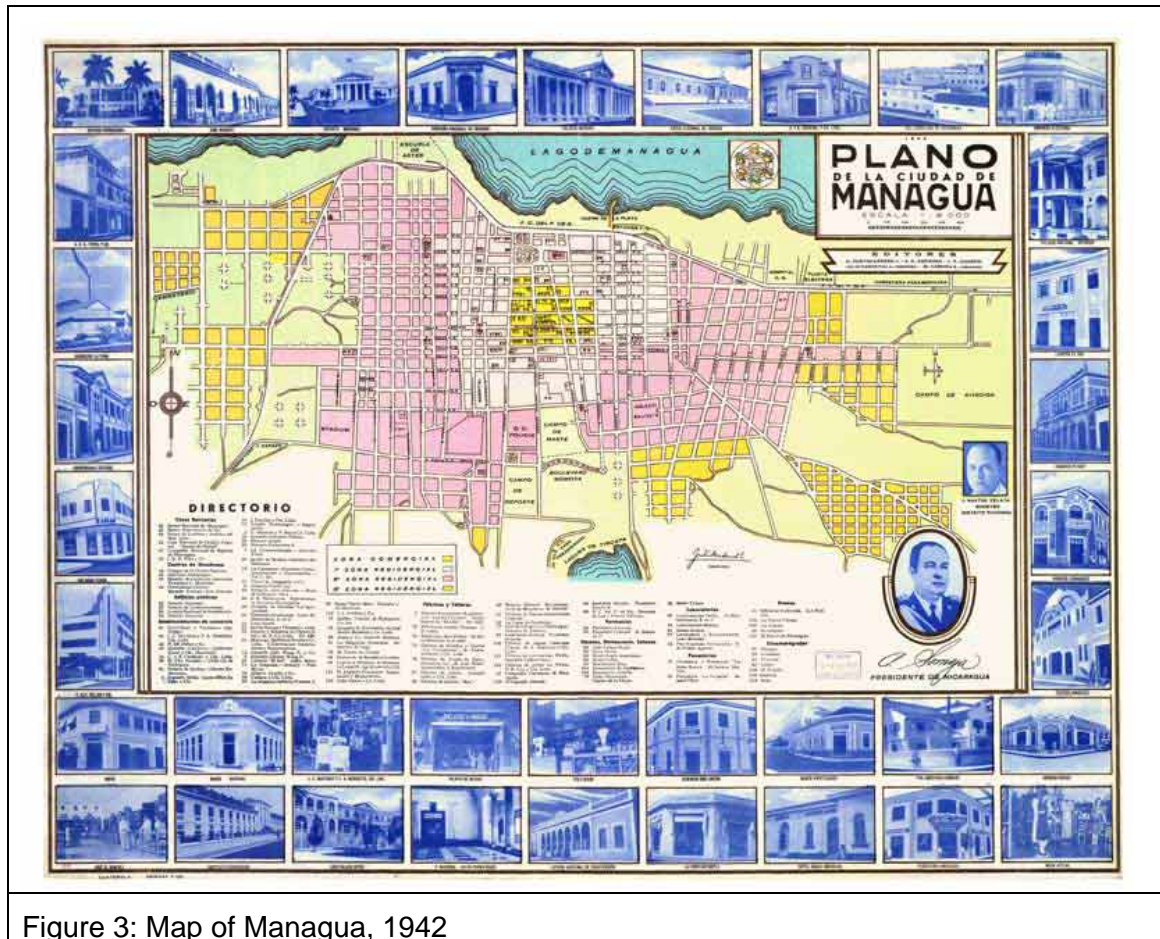
Figure 3: Map of Managua, 1942

Political Dictatorship before 1972 Earthquake

By the 1940s, after the assassination of Sandino, the Somoza family's control over the country consolidated. Some observers contend that the consolidation of power was aided by a 'territorial strategy', one "emphasizing and controlling growth in Managua" (Higgins, 1990: 379). The strategy entailed bringing together the industrial and banking interests of four elite groups and providing the labor force, skills and infrastructure in the city to support their ventures (Higgins, 1990). Managua, which had a far lower level of primary sector employment, numerous rural-urban migrants (due largely to displacement by large-scale commercial agriculture) and some distance from the competing urban areas, grew rapidly. This growth provided an opportunity for the Somozistas to use urban development as a vehicle for accumulation; the family bought up lands, and then used them for subdivision and new housing development. Highway construction facilitated this growth. Maps for the period show a stronger radial pattern with development stretching along arterials such as the highway to Masaya in the south.

Figure 4: Map of Managua, 1962

Political Dictatorship following 1972 Earthquake

Somoza's reliance on housing as a 'cash cow' (Higgins, 1990) became particularly lucrative in the 1970s and 80s when demand for new housing swelled in the aftermath of the destruction wrought by the 1972 earthquake. The earthquake reduced the city's population from 425,000 to 350,000. There were an estimated 10,000 killed, 20,000 injured, and 300,000 displaced (Wall, 1996, 48). About 80 percent of housing was destroyed (Chavez, 1987:227; Higgins, 1990:381). The entire city center was reduced to rubble. As all of the national offices were located in this area, the country effectively came to a stop.

International aid flowed in. A vice ministry of urban planning was created and initial plans for reconstruction elaborated. However, the proposals were largely abandoned because they were "unrealistic, expensive, or simply contrary to the interest of the ruling Somoza family" (Chavez, 1987:227). Somoza ensured that rebuilding efforts were directed to land that he owned (Wall, 1996: 48); instead of reconstruction of previously urbanized areas, development leapfrogged as peripheral lands acquired by the Somoza family were sold to the city for subdivision and development (Wall, 1996; Chavez, 1987:227; Higgins, 1990).[1] Roads were developed, using Somoza-produced cement paving stones, to "link the city to the low-income housing projects built on the outer periphery" (Chavez, 1987:227). Moreover, funds for reconstruction of popular housing were funneled via the responsible state banking institution to private savings and loans, which were then offered as loans to favored clients, mostly middle and upper income residents (Higgins, 1990:382). The central city was virtually abandoned; the rubble from fallen buildings

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[1] In one particularly scandalous case, the president of the Nicaraguan Constituent Assembly bought a parcel of land designated for temporary emergency housing for $17000 and sold it to the housing development bank a few days later for $1.2 million (Higgins, 1990:382).

left in place; vast open spaces persisted. Of the unused land, 52% had all urban services in place. The city's average density was 35 residents per hectare.
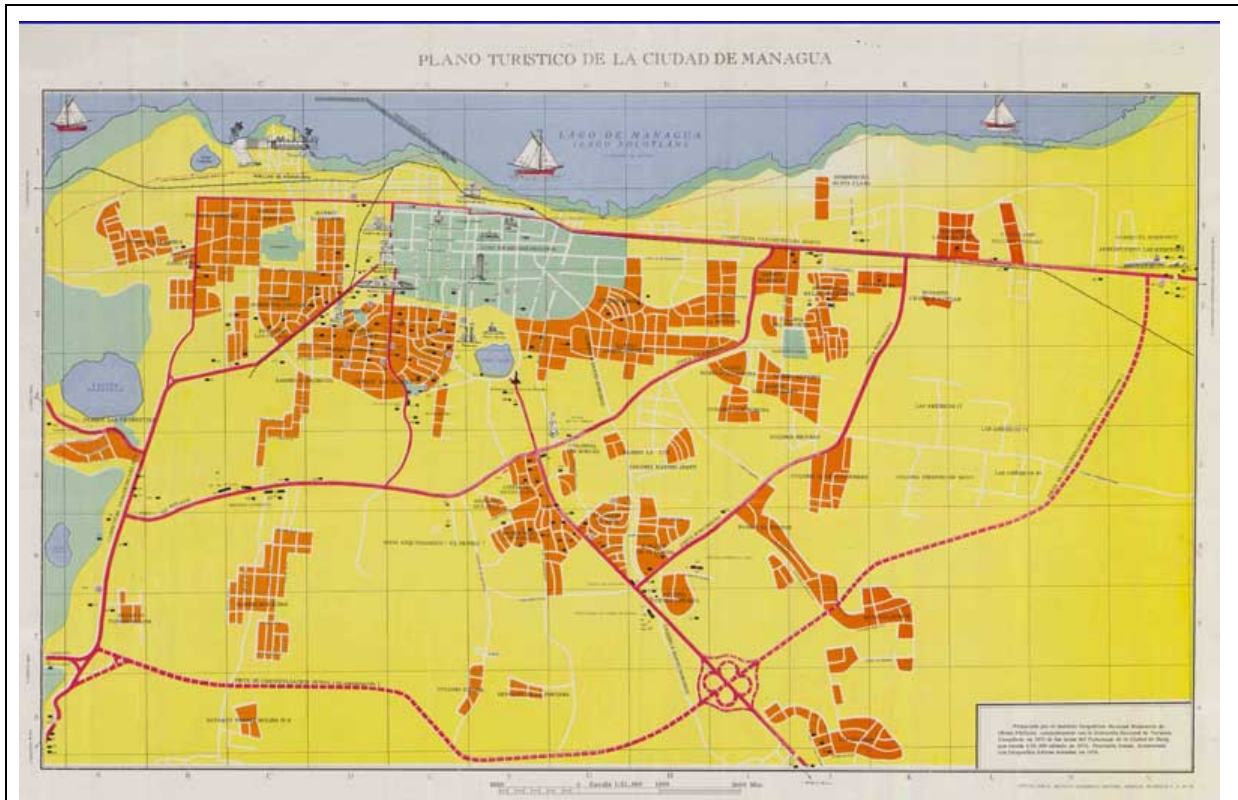

Figure 5: Map of Managua, 1975

The logic pursued also produced high levels of inequality: by 1979, "about one-third of families owning real estate shared 4% of the urban land, while less than 2% of the urban population controlled a quarter of the land within the city limits; half of the city's inhabitants lived in 200 illegal subdivisions that occupied about a third of the urban areas; another quarter of the population lived in miserable tenements and slums that had sprung up along the shores of Lake Managua, where 17 trunk lines emptied raw sewage." (Chavez, 1987:227)

For this period, then, integrative forces included the construction of a capitalist economy headed by a single family interested in using all means possible for the accumulation of wealth and power. The city became a tool of that agenda, aid a facilitating factor, with the logics of functional spatial structures, cost-effective service provision and justice shunted aside. The city accommodated a doubling of the population in 8 years, shopping malls and middle and upper class developments were constructed along new arterials built for those with cars, and popular housing in the new settlement areas was built quickly, if of variable quality.

This same logic carried with it strong tendencies towards disintegrative patterns, including the destruction and abandonment of the city center, the promotion of sprawl which made travel for the majority of residents more difficult, especially in the absence of public transport, and a dramatic rise in number of spontaneous settlements as funds were applied elsewhere. The erection of monuments to Somoza and other elites perhaps epitomizes the dual nature of the changes, glorifying the leaders of the new era, defining new spaces in the process, and neglecting all dissent.

Sandinista Revolution 1979-1990

As Chavez (1997) notes, when the Sandistas came to power in 1979, there was little indication of the benefits of the massive aid for reconstruction. The situation for many urban residents had worsened since the earthquake, as suggested above. And there were no comprehensive plans, no planning process and no agencies empowered with responsibility for guiding growth and recovery.

Legal and institutional reforms adopted by the Sandinistas included establishment of a Ministry of Housing and Human Settlements (MINVAH). Illegal settlements were expropriated and legal tenure granted to residents in 1979; rent control laws were passed in 1980. Vacant lands in the central city were also expropriated and MINVAH was authorized to impose land use regulations (Chavez, 1987:228). Initiatives were also adopted to reconstruct neighborhoods and infrastructure destroyed by Somoza's National Guard in 1978-9, when artillery and aerial bombs were directed at eastern Managua, killing thousands and damaging schools, health facilities, water and power systems as well as residences.

Reconstruction and growth was guided by an urban plan that set out land use regulations. There were some urban projects, especially around housing in the early 1980s, clearance of the rubble and recovery of several downtown buildings, construction of new drainage systems and promotion of urban agriculture; many of these projects were halted, in part because of the low priority given to urban projects as compared to rural food production (a priority because of the trade embargo) and the war (Massey, 1986).

Integrative elements thus included efforts to provide services to the population at large (e.g. the literacy campaign), to encourage the mixture of social classes, and to develop plans to address physical and social problems of the city (Wall, 1996:49). These integrative elements were offset by the continuing war with the contras, and the departure of many professionals and middle class business people to the USA. These forces, together with limited resources, left the city socially and spatially fragmented. Again, public monuments are symbolic of wider patterns: Somoza's monuments were destroyed and the remains displayed on top of Tiscapa; new monuments to socialism were created; but the spaces in which they were located were far from the reach of many local residents.

Neo-liberal Economy 1990 to present

The past 15 years have seen another face of the city. Following the change of regime in 1990, when the Sandinistas lost the elections, the city has again been remade for elites. Arnaldo Aleman, the mayor from 1990 to 1996, and president until 2002, prioritized beautification of the city; fountains, "among them a large roundabout with a big fountain that…seemed to spout waters in different colours, the massive Catedral Metropolitana de la Purisima Concepcion de Maria, …regular campaigns to clear intersections of street children and peddlers, painting over revolutionary murals, and the razing of several informal settlements in the ruins of the city center (Rodgers, 2004:119). New shopping malls and international franchises - from MacDonald's and Subway to a Hard Rock Café – now mark the city; as one observer argues, people returned to Managua "determined to recreate their cherished Miami social and cultural scene" (Whisnant in Rodgers, 2004:115). A new logic, increasingly based on global consumption, became operative. Residential zones were transformed, with music, cafes and clubs tucked in between emerging international hotels and older residences and commercial offices. Others moved to fancier homes in the hillsides of the outskirts of the city. Violence also skyrocketed and, as mentioned initially, spatial strategies to insulate elite quarters included: a preference for roundabouts, where no cars need stop, over stoplights, where holdups were common; and

construction of wide highways with 'strip' development (Rodgers, 2004). Individuals also hired security companies and fortified their homes.

While life improved for the wealthy, the poor continued to live with high levels of insecurity with respect to employment, safety, housing tenure and services, as the next section illustrates. The informal economy remained very important, centred around a series of traditional markets spread throughout the city. The drug trade flourished in some neighborhoods, with youth gangs implicated in the industry (Gomez, 2005). Squatters occupied derelict buildings in the historic areas of the city, and other urban growth focused on the outskirts. Numerous international and local humanitarian agencies have worked at the neighborhood level around service provision and community projects, yet poverty remains a pressing problem (Banco Mundial, 2003). Nonetheless, the story of the elites in the city has been better told than that of the middle and lower classes (there are studies within neighborhoods but little of overall urban structure). In the late 1990s, with a Sandinista mayor, various initiatives were proposed to improve the situation of non-elites, and local neighborhood plans were implemented in numerous barrios to augment health and educational facilities. These efforts are overshadowed by the higher profile interventions made by Aleman as president: new government offices in the historic center, an upgrading of the international airport, and tax breaks to developers putting up large buildings (Rodgers, 2004:119)

In sum, Managua can be seen as "disembedded" spatially and socially; elite areas have been lifted out of the regular fabric of the city. However, the city can also be seen – in our view – as settling itself into a new logic, in which elite consumption and security are key elements but not the only ones. 'Bedroom' communities are coming into their own; Ciudad Sandino to the west of Managua, for example, is now its own municipality, with local services, commercial streets and educational facilities. There are signs that tenure is being granted to older poor areas even as new squatter settlement and legal subdivisions are formed. These 'outskirts' are becoming places in their own rights. Likewise, the economic center of the city is just as much the traditional market, Mercado Oriental, and Zona Hippos, a vibrant café and restaurant district catering to the middle class and visitors, as it is the new luxury malls. Safe, pleasant places to walk, shop, and people-watch from outdoor cafes are essential if the city is to move towards greater social and physical integration. These areas are especially important for the middle class who play a critical role in providing professional services and creating a positive atmosphere for much needed investment.

The disintegrative elements – the ways in which the poor and the rich live in parallel worlds, and space is fractured, quartered and fragmented to keep those worlds separate – are not viable in the long-term. Cars, public transit, horse carts and pull carts use the thoroughfares. Peddlers and informal traders ring the MetroCentro mall. And the increasing security present in many parts of the city allow all, poor and wealthy, to encounter the city in new ways.   Central questions remain: can the forms of integration that we identify here spread to other areas and social groups? Or will they be embedded in parallel and fractured ways? Can the serious problems of environmental degradation, poverty and exclusion be overcome?

Spatial Patterns

In this section we examine the extent to which the successive waves of integrative and disintegrative forces over the past 50 years have influenced the spatial distribution of urban services and socio-demographic groups in Managua. While ideally the analysis would involve comparisons of spatial patterns for different time periods, the only comprehensive data at the barrio level available was from the 1995 national census. Although these data do not necessarily reflect current tendencies, they provide a reasonable measure of the situation five years after the liberals ousted the Sandinista Revolutionary Government.

The analysis focuses on disparities in access to services and differences in the socio-economic characteristics of the city's barrios. In most cases an index is used to indicate the degree of variance from the overall mean. This was calculated simply by dividing the percentage of residents or housing units that received a service, such as piped water, in each barrio by the overall mean for the city. Index values for a particular barrio that are close to 1 indicate that that barrio received the level of service that was generally available. Values less and greater than one indicate lower and higher levels of service respectively.
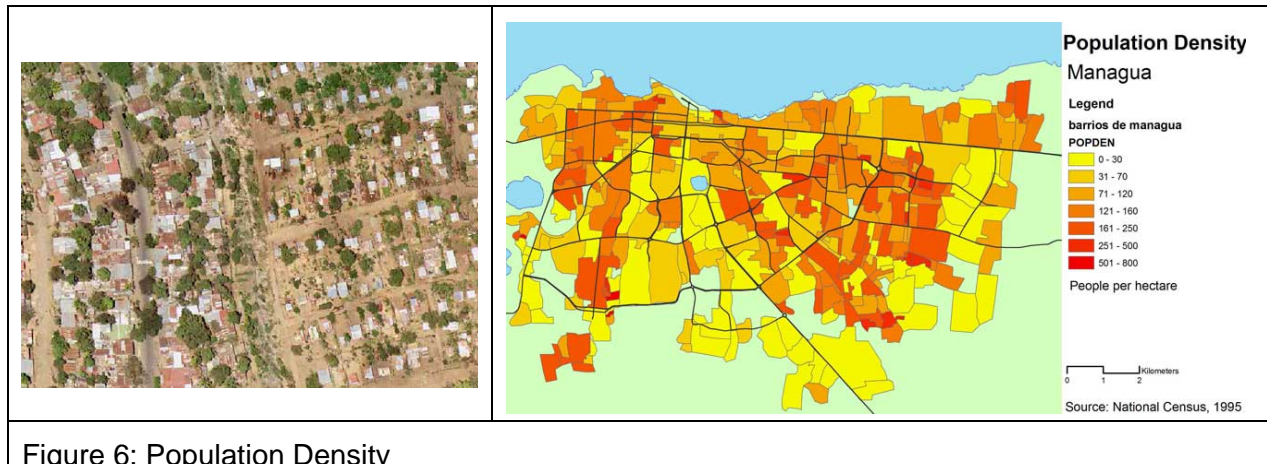
Population Density

Figure 6: Population Density

The sporadic, leap-frog growth of the city under Somoza is clearly evident in the map of population density in 1995. Large tracts of land within the urban perimeter were, and are, essentially vacant; the overall density is low. However, the variance among barrios is very significant with some reaching relatively high gross density levels for a city where very few structures are higher than two stories.

Population density in the historic downtown core remains very low. This area is surrounded by moderate density areas that were left standing following the earthquake. Higher density occurs in patches over a large swath southeast of the city and along development corridors in the west. Some of these areas were originally occupied by squatters. Others were established as low income housing following the 1972 earthquake. The Carretera Masaya area which has attracted most of the high end development over the past 15 years has a population density comparable to North American suburbs.

The sporadic distribution of the population has a disintegrative effect on the city as public services and infrastructure, such as public transportation, schools and sewers are rendered less efficient and more expensive to provide.

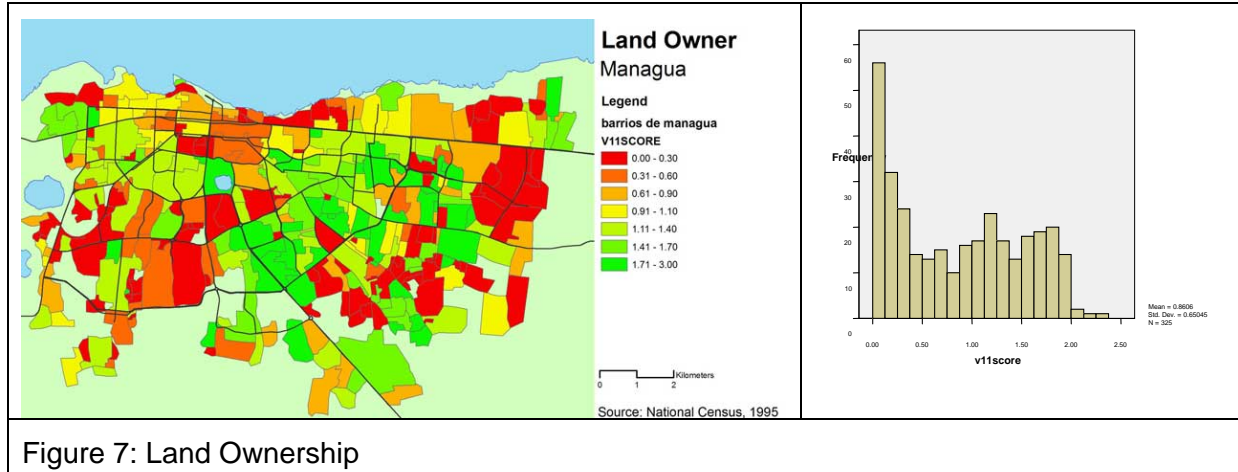**Municipal Services and Land Tenure**

Security of tenure

Figure 7: Land Ownership

On average 44% of the housing units in Managa in 1995 were occupied by property owners with written documentation attesting to their status as property owners. Considerable variation in this rate was evident with the highest levels of ownership present in the ring around the historic centre and along Carretera Masaya. Property ownership is especially low in the old CBD and in outlying areas.
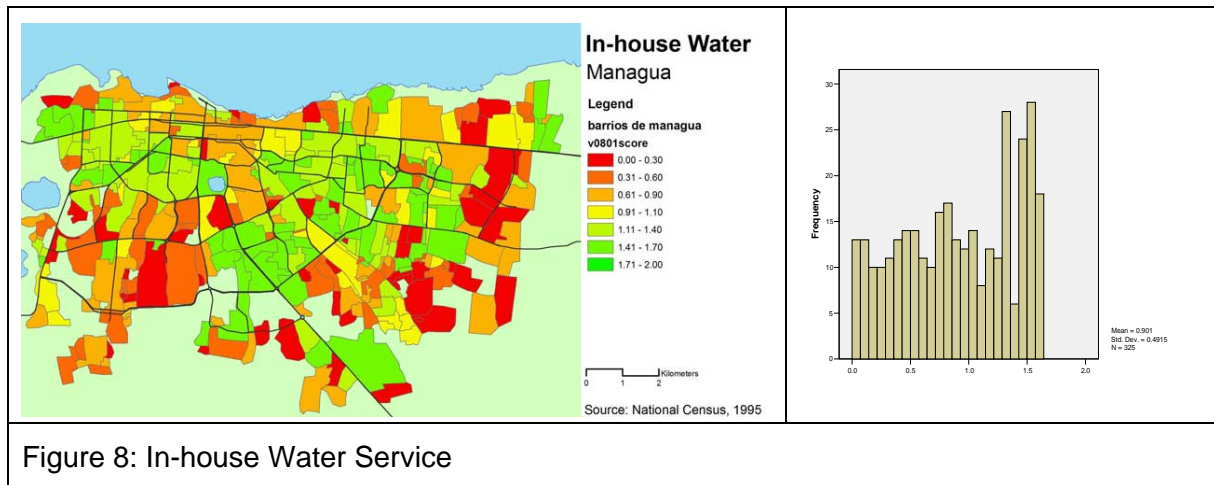
Water Services

Figure 8: In-house Water Service

Overall, 62% of the households had in-house water service in 1995. However, as indicated by the histogram, the discrepancy between barrios was very significant. While the older neighborhoods that were established before the earthquake and the Carretera Masaya arterial are fully served, many of the outlying areas that were established informally did not have in-house water service. Remarkably the service level in the historic downtown area was below the overall city mean as some informal development occurred in this area.
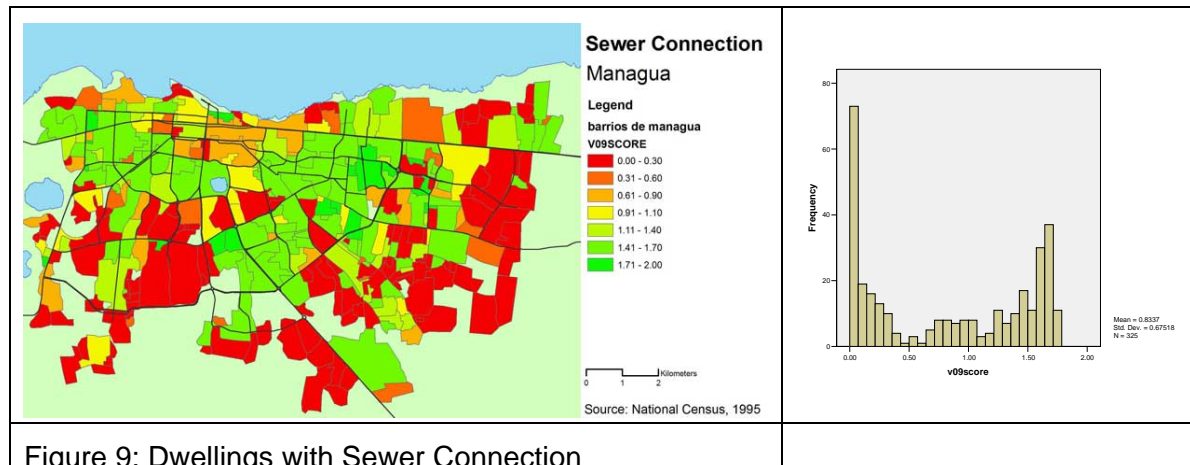
Sanitary facilities

Figure 9: Dwellings with Sewer Connection

Although the overall percentage of housing units with sewer connections (58%) was similar to piped in-house water in 1995, the disparities among barrios were much more dramatic.   In most outlying areas the service was simply not available, the exception being along the Carretera Masaya corridor.

Overall

Municipal service levels and tenure reflect the status and nature of the development as well as political power of residents and the degree of difficulty in extending the service. Informal settlements that are dispersed and whose residents are not well connected with politicians and municipal authorities may be expected to have much lower levels of service. The exception is in the case of services, such as electricity, that are relatively inexpensive to provide. In 1995 98% of housing units received electricity service with virtually all barrios reporting close to the mean service level. Evidently the extension of this service throughout the city was within the means of the Sandinista Government's program to reduce disparities in services.

Disparities in service levels are a disintegrative force that results in neighborhoods which differ in convenience, amenity, safety and health, effectively creating two or more classes of citizens. The creation of spontaneous settlements in areas that are not appropriate for development due to environmental conditions or distance to the existing service network complicates the situation. Ideally, service levels are used as a means of implementing a well structured municipal plan that provides opportunities for all residents.

Population and Labor Force Characteristics

Literacy

The 1995 census reported that 87% of the population of Managua was able to read and write. Further, there was little variation between the barrios. This relatively high rate of literacy is no doubt due to the attention that the Sandinista Government gave to literacy, both within the city and throughout the country.
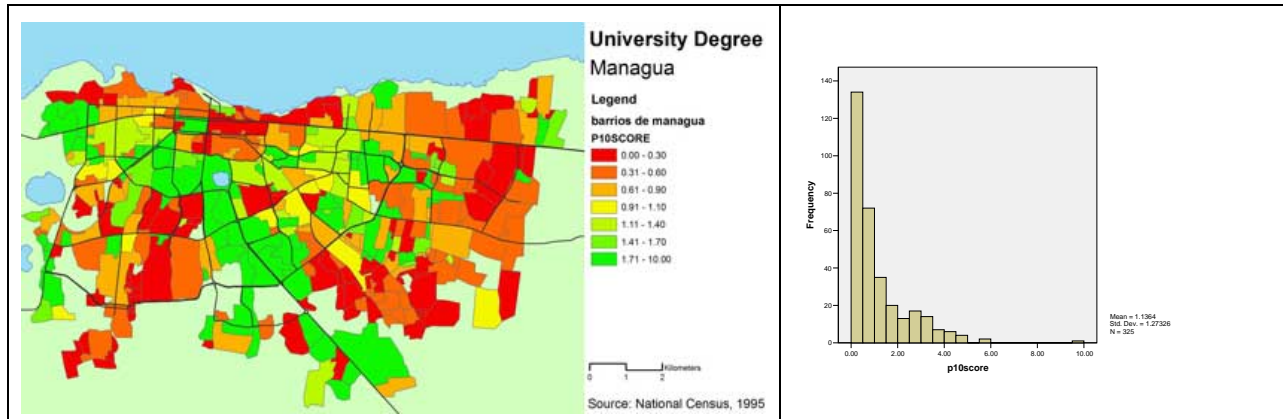
Education level

Figure 10: Residents with University Degrees

Approximately 8.6% of the population in 1995 had graduated from university. These individuals tended to live in selected areas with a good number of barrios housing two or more times the city-wide percentage. Established barrios south of the historic center, such as Martha Quezada and Bolonia, as well as the Carretera Masaya corridor accounted for the bulk of these residents. This suggests that the majority of professionals were living in these neighborhoods in 1995.
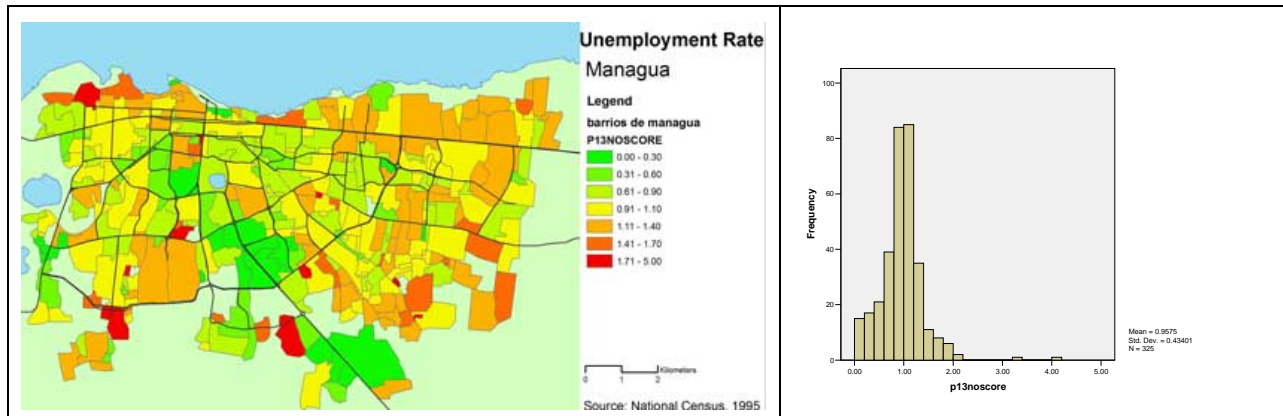
Unemployment Rate

Figure 11: Unemployment

The unemployment rate for each barrio was calculated by dividing the number of people who were not actively working but were available and looking for work by the total workforce which includes the former category together with those actively working in the formal sector. By this measure 18% of the population 10 years of age or older were unemployed in 1995. Surprisingly there was little variation in the rate of unemployment among the different barrios, with the exception that lower rates were evident in Bolonia and barrios along Carretera Masaya.
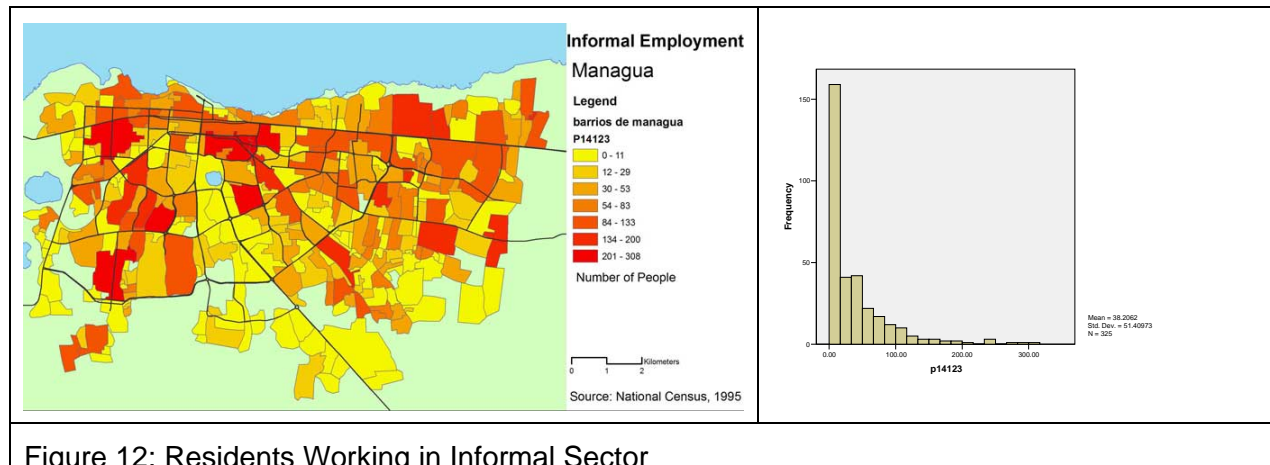
Informal Sector Activity

Figure 12: Residents Working in Informal Sector

A separate question in the 1995 census identified people who were not in the regular labor force but were nonetheless working in occupations such as vending, cleaning or crafts. The individuals engaged in these informal activities tended to live around the traditional markets: Boer, Oriental, Roberto Huembes, San Miguil and Mayero. The vast majority of barrios housed only a small number of workers in this category.

Overall

Clearly, with the exception of literacy, there were significant differences in the socio-economic composition of Managua barrios in 1995 despite the efforts of the Sandinistans to promote integrated neighborhoods. The extent to which this is a disintegrative phenomenon, however, is less clear.   Most urban areas have at least some degree of stratification as housing supplies are offen segmented and many if not most people seek the company of others with similar experiences, conviviality and preferences.   Of greater importance is the extent of the polarization between rich and poor and the availability of people with the full range of skills that are needed to move the city forward.

Conclusion

In our concluding comments we address elements of the contemporary city that we see as particularly challenging, and then return to discussion of our three initial arguments.

- Natural amenities and constraints: Managua, regardless of the administration, has had a sobering history with respect to its natural environment. Industrial discharges have polluted the lake over the years, and urban sewage now compounds the problem. Seismic faults stretching through the historic core, together with the condition of the lake, have contributed to the city's turn towards another centre, one dictated by security and consumption rather than other urban functions (e.g. administrative, productive, convivial, symbolic, etc.). Almost all aquifers of the city are under threat due to sewage, garbage and industrial waste. A planned sewage plant with inceptor sewer lines will address some of these concerns.

- The CBD and new investment zones: New residential, office and commercial projects under construction along the Carretera Masaya and further south are creating an EdgeCity that draws investment from the city center and established zones. Free trade zones have similarly concentrated employment in industry outside of the city.

Administrative, cultural and market function remain, but planners and residents will require real creativity to cope with the empty spaces that they border.

- The roundabouts, highways and strip development: The ring roads provide for efficient vehicular movement. Adjacent there are new places of attraction from informal gathering spots to casinos and strip clubs. It remains to think about the needs of pedestrians. Pedestrian crossings between roundabouts could be created with traffic lights. Bicycles are very popular elsewhere in Nicaragua, and could serve a very important role in Managua if greater concern was given to road safety. Other investments in public transit – e.g. a planned rapid bus-way along the shore from Ciudad Sandino through Managua and to the airport in the east – could be used to structure growth.

- Street life: In many ways the emergence of commercial activities in the midst of older residential neighborhoods is an exciting and welcome development. Within the urban fabric many new restaurants and bars have opened in Zona Hippos in the last few years effectively creating a pedestrian street scene that has been lacking since 1972. In some other, more modest neighborhoods, street life has also continued to be vibrant. In San Judas, for example, people still stroll in the evening, visit each other, and claim the street space as their own. These aspects of the city are to be cherished and nourished, regardless of the wealth or poverty of the areas in which they occur. The challenge is to extend such spaces into the many neighborhoods where streets – especially at night – are too unsafe to act as extensions of the home and where people hide themselves behind walls, barbed wire, or barking dogs.

- Markets: The traditional markets are a particularly interesting aspect of the urban economy, representing loci for exchange, and for complex networks of business and social encounters, that cross class boundaries. The Mercado Oriental is a supplier for many other formal and informal businesses throughout the city, yet there are safety concerns.   It is important to find ways to make the markets accessible to a mix of residents, as has happened to some extent at Mercado Roberto Huembes.

Slums, squatter settlements and precarious housing remain a feature of the city. Whether spatially concentrated or tucked into wealthier areas, poor people without adequate services or secure tenure have pressing needs. The low densities, varied topography, and spatial expansiveness of the city make provision of urban infrastructure more costly. Likewise, exclusion is experienced by youth, the poorly educated and female heads of households (Herrera, 2001; Bradshaw, 2002).

To move forward the city must draw on the skills and energy of all of its citizens. Fortunately, there are many opportunities to accomplish this and build on the positive aspects of each of the dramatic and turbulent events that the city has witnessed over the years. Opportunities include: considerable interest in investment; talents in arts and culture encouraged during the Sandinista period and still very much in evidence; a population that is generally well educated, determined and convivial; the natural beauty of the city's location between volcano and lake; and a city, while complex, that has a unique history and form.

If we return to our three arguments, we find that much of Managua's development shows that many features were both integrative and dis-integrative, and that even the current period –in which security, consumption and the needs of the middle class and a new international elite are served – has brought new possibilities and new interactions to the city. At the same time, attention to redirecting plans, investments, and interventions to fostering a city that works for all its inhabitants and for the natural environment is a continuing challenge.

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