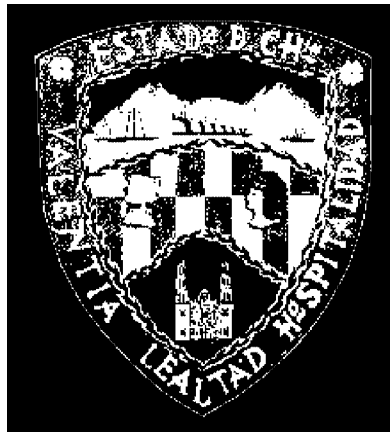


Shifting Gears in Chihuahua

A Headquarter Services Development Strategy

April 2001



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Section I: Introduction

Chihuahua today is poised on the verge of an historic opportunity. The state has succeeded beyond any reasonable dreams in becoming the location of choice for international firms seeking a manufacturing platform in Mexico. Job growth has been so rapid that today, 25 years after the original maquiladora vision was articulated, additional workers for new factories need to be recruited from the south of México. Per capita income is now third highest in the nation, well beyond that of Monterrey, Guadalajara, and México City, and only behind Cancún and Coatzacoalcos.

Can this remarkable growth in jobs and prosperity be maintained? Yes, for a while more, additional workers can be recruited from the south, additional factories can be built, and expansion is possible. However, certain constraints must be faced and overcome: each new resident will draw water from an already shrinking aquifer, each new increment in industrial activity will generate more pollution, and each new factory requires more infrastructure to be built, requiring ever more taxes. In many ways, extending the model – which has brought so much success to Chihuahua to date – will begin to erode the quality of life that has made the city so attractive in the first place.

Most importantly, the type of growth represented by the maquiladora industry no longer serves the economic development interest of Chihuahua. Per capita incomes will only rise very slowly, since the main selling point for international firms is the low wages of its workers. Private sector involvement and investments in improving the economic base of Chihuahua – advanced training, schools, parks, research centers and charities – will not occur at nearly the same rate as in other regions when the ownership of the largest employers is based not only outside the state, but outside the country.

A shift in economic strategy is in order. The existing model need not, in fact must not, be abandoned overnight. But a new vision, which can replace that of cheap labor and foreign ownership, must be articulated and gradually implemented, eventually supplanting the maquila economy. What should it be?

I.1 A NEW VISION FOR CHIHUAHUA

Clearly, a first stage in any new vision will involve a shift in emphasis from manufacturing to the service sector. This shift, which began 30 years ago in the advanced economies, allows for higher wage employment, and cleaner, less environmentally damaging activities. Existing blue-collar workers (or their children) can increase their earnings, meaning that large-scale in-migration of workers will not be required. And the nature of service sector employment lends itself more to cluster-style development, with a network of smaller and larger firms, creating an easier path to ownership and control of more of these firms by Chihuahuans. Those who have profited from the existing maquila model will still find that they are building new houses and places of employment, but the houses will be upgrades from worker class to middle class for existing residents, and the workplaces will be office buildings instead of factories.

Thus, more service sector jobs is clearly a key to this puzzle. But which parts of the service sector? How should Chihuahua initiate this shift? And how can the economic

leaders of the city articulate this vision in a way that excites and motivates the citizenry of the city?

In fact the shift to the service sector is an inevitable result of Chihuahua's expansion, and does not in itself represent a bold new vision on the same level as the original maquiladora vision. However, many economies with Chihuahua's level of manufacturing jobs have difficulty in initiating the shift toward service level jobs.

The proposed strategy, which focuses on the role of headquarters in the economic make-up of the city, will generate a momentum in the direction of service sector industries, while providing a longer-range focus. The strategy proposed in this report provides an answer to the questions raised above: as a guiding principle, Chihuahua City should support the growth of services that will attract the most headquarters.

I.2 METHODOLOGY

This study was conducted in three phases. During Phase I, the consultant reviewed the literature on industrial relocation, looking to see how the criteria for a corporate headquarters location differed from that of a manufacturing or service-based facility. Next, a search was conducted for cities in the Western Hemisphere that have adopted conscious headquarters attraction strategies. Telephone interviews were conducted with officials in those cities to learn from their experiences. Also during this phase, researchers with Desarrollo Económico in Chihuahua conducted a series of interviews with senior executives at existing headquarters facilities in Chihuahua, as well as firms providing services utilized by large administrative offices.

During Phase II, the consultant visited Chihuahua City for a one-week period in October, 2000, meeting with CAPRIN, the staff of Desarrollo Económico, and conducting interviews with a series of senior executives in Chihuahua-based companies and maquiladoras. This visit allowed the consultant to "ground-truth" the feasibility of conducting a headquarters attraction strategy in Chihuahua City. The final day of the trip was spent in México City for interviews with science and technology officials.

Phase III of the study was the consolidation of the results to date, and the preparation of this report, which were presented in Chihuahua City on April 18, 2001.

Section II: Industrial Location Criteria

Firms use a variety of criteria in their choice of facility location. A successful headquarters attraction strategy requires a clear understanding of the qualities firms are looking for when they consider relocation.

II.1 CRITERIA FOR MANUFACTURING PLANT LOCATION

Chihuahua City has been extremely successful in attracting manufacturing plants. Some of the most important factors that manufacturers care about include¹:

TABLE 1: CRITERIA FOR MANUFACTURING PLANT LOCATION

<ol style="list-style-type: none">1. Cost of unskilled and semi-skilled labor2. Availability & reliability of work force3. Access to markets & distribution centers4. Access to suppliers & resources5. Interaction with rest of corporation6. Business climate – efficiency, honesty, taxation7. Access to goods transportation8. Availability of basic services and utilities9. Industrial parks

Clearly, Chihuahua City has most of these features, and has learned how to present its strengths with a very efficient investment attraction program, which has been highly supported by the relevant government agencies, private sector leaders, and other segments of society. Chihuahua's singular success with the maquiladora program is a reflection not only of the existence of the factors listed above, but also the determination of local leaders to develop these strengths and market them effectively.

II.2 ADDITIONAL CRITERIA FOR SERVICES LOCATIONS

An employer who is looking for an ideal site for a facility that will compete in the service sector, as opposed to manufacturing, will look at many of the factors cited in Table 1 above. Table 2 illustrates the additional criteria that services firms will care most about:

¹ Source: Schmenner, Roger W., **Making Business Location Decisions** (Prentice-Hall, Inc.), 1982.

TABLE 2: ADDITIONAL CRITERIA FOR SERVICES LOCATIONS

<ol style="list-style-type: none">1. Literacy & professionalism of work force2. Proximity to university population3. Quality of telecom infrastructure

Service operations generally require a more literate work force, with a strong work ethic. Often the special characteristics sought by companies providing call centers, for example are fulfilled by locating in a region with a major university, where a fresh supply of literate young people willing to work part-time and for low benefits can be relied upon.

Since many services are provided by electronic means in the New Economy, the quality of telecommunications infrastructure is key. When Sykes, a provider of technical support call centers to companies such as Dell and Hewlett-Packard, recently located a new 300-employee center in Hayes, Kansas, they were relatively unimpressed that the local construction company could have the facility ready in 90 days. The make-it-or-break-it question turned out to be: “Can you have a six T1 lines in here in 60 days?” Hayes was able to demonstrate that they could provide the needed high-speed access, and the firm did decide to locate in Hayes.

II.3 ADDITIONAL CRITERIA FOR A HEADQUARTERS LOCATION

A headquarter facility that is looking for a new location has a host of new considerations, on top of the ones cited above. The business climate, the professionalism of the work force, and the quality of telecommunications infrastructure are all still important factors.

However, a variety of new factors can come into play. As one executive put it, the new location “makes a statement about what type of company you have.”²

In March, 2001, the CEO of the Boeing Company, headquartered in Seattle, Washington, announced that they were going to relocate their headquarters to Denver, Chicago or Houston. When asked why he chose those three locations, he replied “they are far enough away from our existing manufacturing facilities that I will not be tempted to interfere with the day-to-day decisions of my operational division chiefs. I can focus on the long-run vision of Boeing.”³

The main factors that a headquarters operation will be looking for, that are less important for a production facility, are quality of life, suitability for marketing and research, and air access.

² Source: Expansion Management, March 2001, page 12.

³ Personal communication with Steve Becker, Vice President of Boeing, April 11, 2001.

TABLE 3: ADDITIONAL CRITERIA FOR A HEADQUARTERS LOCATION

<ol style="list-style-type: none">1. Quality of life2. Suitability for applied research (R&D)3. Suitability for marketing4. Air accessibility5. Climate conducive for executive enhancement6. Availability of specialized services (conference, legal, accounting, design)7. Density of local clusters

As Chihuahua City considers whether a headquarters-oriented strategy is suitable, it will need to assess how it ranks according to these criteria. Much of our research with headquarters relocations suggests that, other factors being equal, a tie between two locations will be decided, not necessarily by better tax incentives *per se*, but by the degree of unity and motivation displayed by government officials, private sector leaders, and academics to make things happen consistent with a long-range vision for their community.

A Danish pump manufacturer was looking for a location for its North American headquarters in the year 2000, and eventually chose a suburb of Kansas City. “What impressed us was the level of commitment that the team in Kansas City demonstrated. They used an approach similar to that of a business partner rather than a typical government, which made it easy to decide in favor of Kansas City.”⁴

A headquarters attraction endeavor will need to be well-staffed and highly responsive to the needs of each case. Each project is as individual as the company itself.

⁴ Victor Lukic, President, Grundfos, Inc. (as reported in *Expansion Management*, March 2001, p. 15)

Section III: US Case Studies

Industry attraction has been a theme in economic development for as long as there have been cities. There is a universal desire to be proud of the unique heritage and characteristics of one's own city, and an equally universal motivation to improve it so that one's children will want to settle down there, too. Working to bring in new jobs from the outside has been a classic solution to this yearning.⁵

Programs to attract manufacturing and services operations are widespread, and will not be reviewed here. However, a handful of cities in the US and around the world have actively focused on the attraction and retention specifically of headquarters, and may offer some lessons for Chihuahua.

However, the highest concentrations of headquarters for major corporations in the U.S. are in New York City, Los Angeles, Chicago and Houston. Cities of this size are tremendously attractive as headquarter locations, especially for multinational corporations, because of their easy access to finance, their large local markets, and their high concentrations of activities that we call clusters. Because of these features, the parallels to Chihuahua, and hence the lessons Chihuahua could learn from these headquarter attraction programs, are limited.

Therefore this study focused on a series of smaller urban centers that have also implemented strategies targeting headquarters. ECG identified seven metropolitan areas with strategic approaches designed for headquarters attraction, three of which are profiled in the following section:⁶

- **Kansas City, Kansas**
- **San Antonio, Texas**
- **Westchester County, New York**
- Tampa, Florida
- Jacksonville, Florida
- Phoenix, Arizona and
- Birmingham, Alabama.

⁵ However just like parents with their children, citizens of cities are notoriously bad judges of the attractiveness of their own cities.

⁶ Attempts were also made to detect similar strategies being implemented in Latin America. Chambers of Commerce and local consultants in Buenos Aires and Córdoba (Argentina), Santiago (Chile), and even Barcelona (Spain) were contacted, but the findings were negative. It is possible that a more thorough search of Latin America would reveal some useful approaches being used there.

III.1 KANSAS CITY (MISSOURI & KANSAS)

Kansas City’s headquarters attraction program is run by the Kansas City Area Development Council (ADC). This Council was originally part of the Chamber of Commerce, but during the mid-1990s it was considered more efficient to form a separate organization that could concentrate on industry attraction issues. This organization is separate from the two municipal governments – one for the Missouri side and one for the Kansas side – and therefore represents a more unified entity to deal with prospective candidates.



The Kansas City ADC determined that they wanted to target medium-sized firms in smaller cities within an 800-mile radius of Kansas City. The logic of the argument is that these firms already appreciate the advantages of locating in the Midwest, but “they could do better in Kansas City.”

The ADC undertook a “research-based” approach, obtaining a commercial list of firms in this region, and then trimming down the list based on industry, firm size, and similar characteristics to 1,000 firms. This group of firms are targets of an aggressive information campaign mainly conducted by mail. A smaller set of 200 firms was chosen for a series of one-on-one phone interviews, in an attempt to establish a rapport with top firm executives.

Kansas City ADC staff recognize that this approach is not likely to generate an immediate flood of firms relocating into Kansas City. Rather, they argue that this is a long-term strategy, designed to implant the idea of moving into the minds of senior executives. Along with continued exposure to media campaigns, mailings, and news stories about Kansas City, these phone interviews will keep the idea alive. As Robert Marcusse, President of the Kansas City Area Development Council stated, “Even if one of these executives moves to another company in the Midwest, we may have planted a seed in their minds that will eventually lead them to seriously consider moving to Kansas City when the time is ripe.”

One of the key sectors they have targeted is biotechnology. Kansas City has embarked on a 10-year project to make Kansas City a major life sciences “research hub” for the Midwest. A group of private sector leaders and top researchers, in conjunction with the Stowers Foundation, formed the Kansas City Life Sciences Institute to further this purpose. This effort is probably the major flagship initiative designed to show where Kansas City is going in the New Economy.

TABLE 4: CORPORATE HEADQUARTERS IN KANSAS CITY

AMC Entertainment, Inc.	Lee Apparel Co.
DST Systems, Inc.	Sprint
H&R Block, Inc.	Sprint PCS
Hallmark	Yellow Corp. (formerly Yellow Freight)

Main attractions of the Kansas City area cited by the Area Development Council include:

- ❑ available and qualified labor,
- ❑ excellent work ethic,
- ❑ lower operating costs,
- ❑ accessibility (transportation, communications, other infrastructure),
- ❑ central location North-South and East-West
- ❑ availability of Class A office space,
- ❑ high quality of life: transportation without gridlock, affordable housing, excellent schools, cultural diversity, world-class entertainment and friendly neighborhoods.

Ultimately, the work ethic in the Kansas City region is its best drawing card. Government workers are generally regarded as highly professional, pragmatic and impartial, and private sector employees are known to “put in a full day’s work for a full day’s pay.”

Planners in Chihuahua would do well to recruit successful local businessmen who can make statements such as this one by a major corporate chairman who recently relocated to a prominent suburb of Kansas City.

“This is an ideal location...Business-wise it’s a very productive environment. The mid-western mentality is:

- ❑ *what-you-see-is-what-you-get*
- ❑ *no nonsense, get on with the job*
- ❑ *low turnover of people*
- ❑ *excellent education*

...so you can really hire the very best people.”⁷

III.2 SAN ANTONIO, TEXAS

San Antonio, with a population of just over one million, has been quite successful recently at attracting headquarters. Most of the new headquarters have not relocated from nearby cities (Houston and Austin), but from different areas of the US that are already looking for a location in the South or Southwest following the general demographic trend in that direction.



Many firms that are avoiding big cities like Houston see San Antonio as the best location to address the Mexican market. They want their R&D and marketing in San Antonio, and use it as a base to oversee operations, especially maquiladoras, in México.

Some of the particular characteristics that make San Antonio popular with CEOs include:

- ❑ The excellence of the University of Texas at San Antonio (with over 18,000 students) and two smaller universities: Trinity University and St. Mary's

⁷ Kaj Ahlmann, CEO of Employers Reinsurance Corporation. This is a Fortune 500 company that moved to Overland Park, Kansas.

University. High-tech firms are especially attracted to San Antonio's academic strengths.

- ❑ Strategic location near the Mexican border, and the excellent transportation infrastructure connecting them.
- ❑ Existence of the Southwest Research Institute, focusing on automotive and environmental research.
- ❑ The lifestyle, relatively clean air, ease of transportation, as compared with other cities in the region (Dallas, Houston, El Paso).
- ❑ Rapidly improving air service.

The strategy has been to promote these advantages, while aggressively recruiting regionally. They do only passive recruitment of headquarters from beyond the region, but should such a prospect initiate contact, they respond quickly with a comprehensive package including comparative statistics, tax rebate and financial incentives, site selection assistance and fast-track permitting.

The main strategic thrusts, designed to make the city more attractive to headquarters operations, are

- a) building on existing strengths in R&D and engineering,
- b) expanding local air transport capacity (more airlines and more direct flights to principal destinations, and
- c) developing and promoting the freight corridor between México and other US cities (Houston, Austin, Dallas).

Robert Peche, director of the city's attraction efforts, has expressed interest in deepening trade ties with Chihuahua.

III.3 WESTCHESTER COUNTY, NEW YORK

The county of Westchester, New York has a plethora of major US corporate headquarters, not due to any conscious strategy, but mainly as an inheritance of its ideal location. It is the county directly north of New York City itself, nestled between the Hudson River and Long Island Sound. Its rolling green hills, scenic bridges and charming woodlands are attractive getaways for people who appreciate space and nature, and yet thrive on proximity to New York City. Bill and Hillary Clinton chose Westchester as their preferred location after leaving the White House, and the homes of many CEOs and senior executives appear even more 'presidential' than the Clintons' home in Chappaqua.



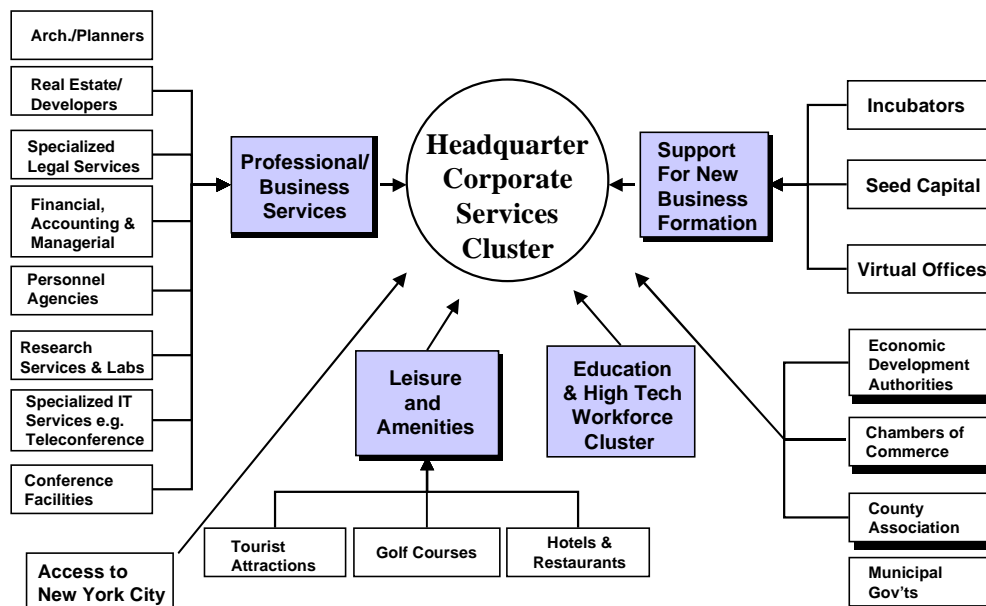
TABLE 5: FORTUNE 500 HEADQUARTERS IN WESTCHESTER COUNTY

IBM Corporation	Reader's Digest
Phillip Morris Int'l	Ciba Specialty Chemicals
Pepsico, Inc.	Texaco, Inc.
MCI International	Swiss Re (Insurance) Co.
Prodigy, Inc.	

However, this location has been chosen for a case study precisely because of its large number of headquarters.⁸ The general demographic trend toward the Southwest, and their relatively high costs for real estate and taxes, have made it challenging for Westchester and other areas in the Northeast to retain their headquarters. Many major headquarters have already relocated. Others, such as Texaco, have moved a number of divisions to Houston, but the company's president, Peter Bijou, enjoys New York so much, that he intends to stay there, even though his accountants tell him that it's more cost-effective to relocate.

In response to these relocations, Westchester County adopted a headquarters attraction and retention strategy that had, as its centerpiece, a focus on coordinating corporate services of value to corporate headquarters.

FIGURE 1: HEADQUARTERS SERVICES CLUSTER IN WESTCHESTER COUNTY, NY



⁸ Unlike many regions the author has studied, in which locals complain that “we are a branch plant state,” Westchester planners actually complain that they have too many headquarters. They would actually prefer a more balanced economy with a larger share of manufacturing, and are working on ways to retain their historic blue collar occupations.

The County economic development staff organized the various suppliers to the major headquarters in the region into a working group, and a variety of initiatives designed to make the region more attractive to headquarters – to provide better, more pro-active service than their competitors on Long Island and in Connecticut and New Jersey.

One such initiative involved organizing some of the tens of thousands of information technology professionals who had been laid off by IBM in the previous decade. These professionals, many of whom had been working independently as freelance consultants or small firms, found that by forming a virtual corporation, they could emulate some of the scale advantages of their former employer, and provide valuable IT services to local firms, both small and large. Other initiatives involved improving access to golf courses for employees of new companies bringing jobs (who normally are put on waiting lists for 5-7 years), improving IT training at local colleges and universities, and coordinating planning of amenities, affordable housing, and transportation infrastructure.

The idea that local service providers can band together to proactively attract and retain major corporate headquarters served as an inspiration for the Chihuahua effort under way now.

Section IV: A Headquarter Services Strategy

The case for adopting a headquarters services strategy for Chihuahua City is a strong one. The region has a strong manufacturing base, and is poised to begin expanding the share of employment in the service sector.

Other communities have also recognized that expanding the service sector is the next step toward higher per capita incomes. However, Chihuahua City has several advantages that other maquiladora-rich communities do not have, such as strong universities, attractive quality of life, well-functioning infrastructure and an excess supply of qualified professionals (see Table 6).

TABLE 6: ADVANTAGES OF CHIHUAHUA FOR HEADQUARTERS

- | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ◆ High concentration of manufacturing industries ◆ Excess supply of qualified professionals and engineers ◆ Good quality of life ◆ Strong universities ◆ Bilingual, bicultural environment ◆ Affordable cost of living ◆ Attractive local market – high income ◆ Proximity to the US border ◆ Strong entrepreneurial culture and good business climate ◆ Strong work ethic ◆ Availability of high quality medical care |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

By adopting a specific focus on *headquarters* and *headquarters services*, Chihuahua City will accomplish several objectives at once: provide a clear set of guidelines for service sector expansion; set an ambitious goal with high visibility and appeal; and create an increasingly owner-oriented mentality on the part of business leaders. The greater the number of central headquarter offices in the city, the more business owners there will be to contribute to civic life, cultural life and political rectitude.

As Jerry Mallot, the vice president of the Jacksonville Chamber of Commerce told us, “Executives want to be around other people with power to make decisions on issues related to the community and the business environment.”

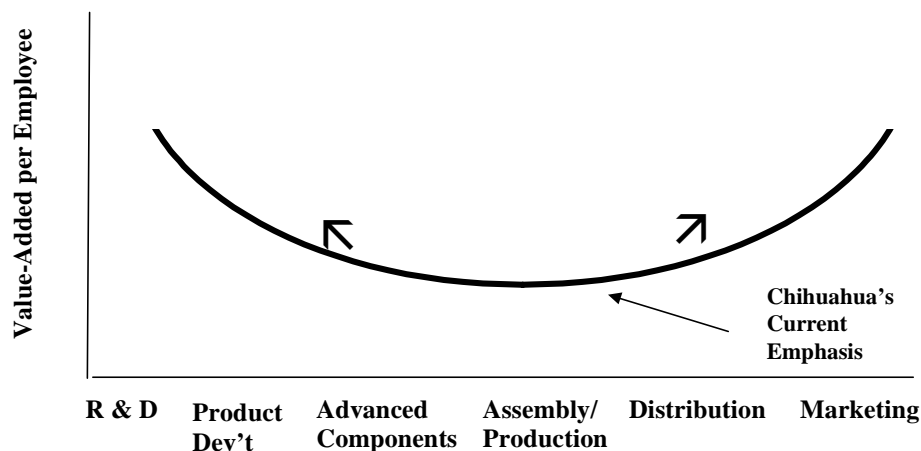
IV.1 MOTIVATION AND BASIC PRINCIPLES

One of the key prerequisites for a successful strategy is to understand what will motivate local actors to remain committed to implementation. Many aspects of the current situation in Chihuahua City cry out for a solution. The success of the maquilador model has paradoxically created new problems of its own: shortage of water resources, air pollution, housing and utility shortages, and cultural frictions with increasing

immigration. Ultimately, however, there is a concern that the best and brightest in Chihuahua are not really motivated to stay, despite the excellent education they receive in their home town. While there is plenty of work for unskilled and semi-skilled workers, there is not a very exciting future for well-trained engineers and managers. There is a scarcity of good jobs for recent graduates, who see greater opportunities in Monterrey, México City, and the United States.

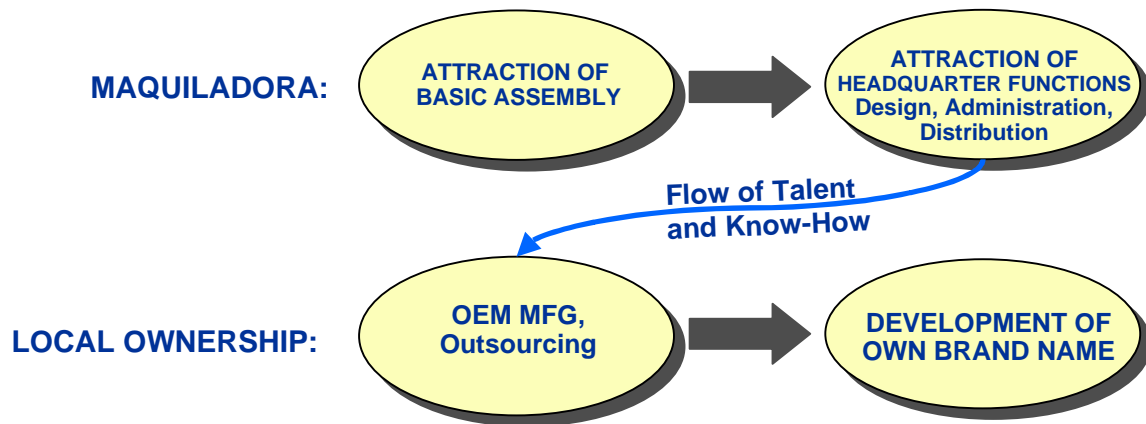
What a headquarters-focused strategy can accomplish, more rapidly perhaps than any other strategy, is to move the greatest number of Chihuahuences out of low value-added assembly and production jobs, and up into better-paying occupations in administration, product development, distribution, and marketing (see Figure 2).

FIGURE 2: MOVING UP THE VALUE-ADDED CURVE



Chihuahua City's very successful maquiladora program makes this much easier. While it can be extremely difficult for the typical Mexican city to build a large array of major corporations, Chihuahua City already has a major jumping-off point. Maquilas can be encouraged to relocate design, administration and distribution functions to Chihuahua City, thus giving Chihuahuans valuable training and experience in these areas. With enough experience, many of these managers and executives will take the opportunity to start up their own firms, initially focused on providing these same services to local maquilas on an outsourcing basis. Finally, with enough of these services being provided by independent companies, larger firms located elsewhere will find the Chihuahua environment more conducive to their operations, and relocate, and existing Chihuahua firms will be able to expand rapidly with greater confidence (see Figure 3).

FIGURE 3: PROGRESSION FROM MAQUILA-BASED TO HEADQUARTER SERVICES-BASED ECONOMY



IV.2 THREE STRATEGIES FOR CHIHUAHUA CITY'S NEW ECONOMY

The three main strategies are:

- ❑ **Strategy #1: *Headquarter Services Attraction Program*** for headquarters offices of all kinds: central, divisional, regional and back-office.
- ❑ **Strategy #2: *Development of a Headquarters Services Cluster***, which will consist of existing developers, legal and accounting, personnel agencies, etc., all working together to ensure greater depth and breadth of services needed by HQ, such as research centers, technology parks, and convention centers. Equal emphasis is placed on making the business climate more conducive to internal formation and on growing new enterprises to create a more entrepreneurial environment.
- ❑ **Strategy #3: *Measures to Overcome Weaknesses***: Better airline connections, improved quality of life, and better integration between the education sector the private sector are needed.

**Figure 4: Attraction of Headquarters to Chihuahua City
Strategic Action Framework**

Formula	<ul style="list-style-type: none"> • Move up the Value-Added Curve • Shared Vision • Knowledge Economy • Entrepreneurial Environment 	
Direction <i>What do we want?</i>	New Economic Vision	Transition from an industrial economy to a knowledge economy
	Elements of the Vision	Headquarters Services, Greater Local Value-Added, Technical and Profesional Capacity, More locally-owned businesses, Higher Per Capita Income, Reputation for High Quality of Life
Strategy <i>What do we do?</i>	Three Fundamental Strategies	<ul style="list-style-type: none"> • Pro-Active Attraction of Selected Headquarters • Coordination and Development of New Economy Business Services • Improved Economic Infrastructure
Iniciativas de Acción <i>Cómo hacerlo</i>	Attraction of Product Development and Design Centers • Regional Offices of Maquiladoras • Service Maquilas • Technology Park • Convention Center • Business Service Incubators • Formation of a Business Service Cluster • Improved Air Connections • Linkages between Private Sector and Higher Education	

Strategy #1: Headquarters Services Attraction Program

This program will target firms at multiple levels:

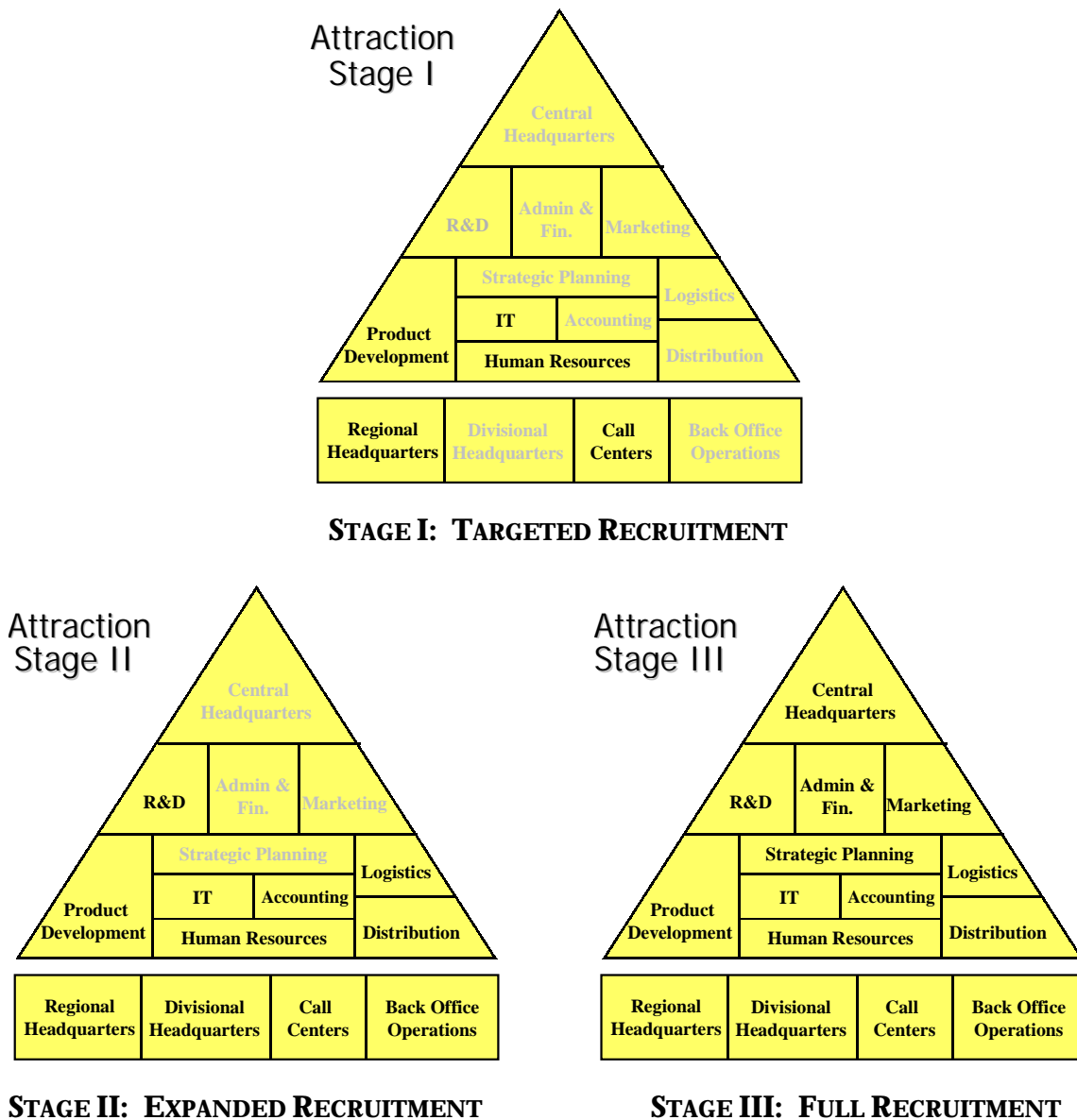
- ❑ Re-location of Headquarters, mainly in the beginning from smaller cities in Northern México
- ❑ Regional Headquarters Offices (Serving the Northern Mexican Market)
- ❑ Divisional Headquarter Offices
- ❑ Banks and Insurance Companies
- ❑ Product Development and Design Centers
- ❑ Regional Offices of Industrial Maquiladoras
- ❑ Service-based Maquiladoras

The series of diagrams in Figure 5 shows the progressive approach that can be used to guide the recruitment process. In the first stage, call centers, regional headquarters, product design centers and information processing centers for large corporations can be targeted. In the second stage, recruitment should be expanded to include divisional headquarters, back office operations, distribution & logistics, strategic planning, and research & development departments. In the final stage, which might not be implemented until 2010 or beyond, Chihuahua City would be recruiting across the full range of headquarter activities, having already built up a base of outsourced service providers and lifestyle amenities that will make Chihuahua a logical choice for major corporate headquarters.

The path from the current situation to a fully realized headquarters services strategy will be a long one. Economic development authorities should not start immediately attempting to recruit the major headquarters in North America to Chihuahua City, even though eventually this may be the goal. The key principle is to build on existing strengths, while addressing weaknesses, in a systematic fashion.

Chihuahua City's single greatest strength today is its maquiladora sector. Combined with the other strengths shown in Table 3, this means the city is in an ideal position to attract services related to the maquiladora industries: product design and development, goods distribution services, and back office operation. The Delphi Design Center in Juárez is an excellent example of such a center, employing 1,800 high-level engineers and managers, and proving that such an advanced facility is attractive and profitable for private sector investments in the State of Chihuahua. Tentative plans by Visteon to concentrate some engineering design functions to Chihuahua City, while not as extensive as the Delphi example, are still encouraging in this respect.

FIGURE 5: STAGES IN RECRUITMENT OF ELEMENTS OF HEADQUARTERS



Thus, during Stage 1 of the headquarters services attraction strategy, maquiladora owners will be encouraged to expand their engineering design, logistics and back office processing activities to Chihuahua City. At the same time, even though large headquarters are not part of the focus in Stage 1, regional recruitment of headquarters of small and medium-sized companies, mainly from smaller communities in Northern México, would be fully appropriate. And if another company such as Cementos de Chihuahua shows interest in relocating its headquarters to Chihuahua, recruiters should not reject their advances – but major resources should not be invested in that type of recruitment in the beginning.

Strategy #2: Development of a “Headquarters Services Cluster”

How can firms outside of Chihuahua be encouraged to place their headquarters operations in Chihuahua City? The attractiveness of this region would be significantly enhanced if providers of headquarter services were to join together and coordinate the delivery of services (and the types of services available) for any firm that moves into the region.

This is the strategy that was adopted by Westchester County, NY. A Headquarter Services Cluster can actually ensure that technology parks are being built (in the right location, with the right infrastructure), that the convention center is appropriate to the needs of local businesses, that there are adequate resources for new start-ups and spin-offs to grow. A cluster working group approach, featuring frequent meetings of task forces and occasional meetings of the entire cluster leadership, can ensure that there is coordinated, prioritized expansion of needed elements, and that the lack of a particular factor will not becoming a binding constraint (bottleneck).

Some initiatives that a headquarters services cluster group should consider in the immediate future are:

- ❑ Aggressive lobbying for basic and applied research facilities,
- ❑ Creation of an incubator especially designed for assisting services firms helpful to headquarters activities,
- ❑ Strong support for and shaping of existing initiatives such as the Techno-Park, and the Convention Center.

While the philosophy of Strategy #1 might be called “buffalo hunting”, the philosophy of Strategy #2 is more aptly characterized as “economic gardening.” For Chihuahua to successfully create the business climate most conducive to large corporations, it needs to make itself an excellent home for the formation (start-up) and growth of small enterprises. This paradox is explained by the fact that, especially in the New Economy, large corporations become more efficient when they can outsource those activities that are not part of their core mission.

Vigorous support of small business growth accelerates the headquarters attraction strategy in another way. High-growth small firms will require technology commercialization, sector-targeted training, venture capital, and incubators. These first two items are equally utilizable by small and large firms, and the last two are easier to do when more large-scale firms are present. Encouraging the rapid growth of small firms helps to generate a virtuous cycle of growth and attraction with larger corporate headquarters.

Strategy #3: Infrastructure Improvements

Chihuahua City has many potential advantages for the headquarters attraction program. But, as shown in Table 7, there are many disadvantages as well, and these must be addressed with a strong sense of purpose and priorities. In 1992, Silicon Valley was facing the potential exodus of many of its major corporations, who were facing high housing costs, congestion, and high wages for engineers. Companies in the Valley pulled together in the highly visible *Joint Venture: Silicon Valley* initiative, and although all the

above-cited factors are still major concerns, there is widespread confidence that much is being done to deal with these issues.

TABLE 7: DISADVANTAGES OF CHIHUAHUA FOR HEADQUARTERS

- | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">◆ Poor air connections◆ A perception on the part of outsiders of the quality of life in Chihuahua -- “it’s a desert”◆ Lack of coordination between the education sector and private initiative◆ High freight rates (air, truck and rail)◆ Insufficient public services to respond to the growth of the city◆ Inadequate public transport◆ Need for more recreational, cultural and sports facilities◆ Local industries do not utilize local consulting services, and resist investing in research◆ There is no long-term plan for the city |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

So it must be in Chihuahua City. The city will always be remote from other major population centers, and will always need to be careful about conservation of water resources. However, whether or not these concerns become binding constraints on *per capita* income growth depends on whether the most intelligent programs possible are designed and implemented soon to undertake initiatives such as the improvement of air connections, optimizing telecommunications infrastructure, and slowing down the rate of maquiladora expansion.

Section V: Action Plan

As outlined in the previous section, the recommended strategy has three elements:

Strategy #1: Attraction program

Strategy #2: Development of a “headquarters services cluster”

Strategy #3: Infrastructure Improvements

While these measures must be carried out, the phasing will be key. The art of designing an action plan is to build on existing strengths, to achieve some early “wins”, and to ensure that the public understands how each action contributes toward the long-run goal.

V.1 ACTION PLAN FOR STRATEGY #1: HEADQUARTER SERVICES ATTRACTION PROGRAM

Chihuahua’s existing strength is the maquiladora industry, so the first steps of the attraction program should be in the direction of attracting more headquarter activity related to the maquiladoras. Also, there is a strong potential to attract smaller and medium-sized firms to Chihuahua City today, from neighboring states in Northern México. This will involve:

Initiative #1A: Establish a Promotion Organization and Initiate Preliminary Activities

DESEC will design an organizational structure capable of operationalizing Strategy #1. This will involve development of a basic business plan and budget, and operating guidelines, including procedures for handling prospects, ethics code, and marketing strategy.

Initiative #1B: Market Study

The study will involve interviews and focus groups of executives in México City, locations in Northern México (e.g. Monterrey, Hermosillo, Torreon, Saltillo, and Tijuana), and the United States (e.g. San Antonio, Wichita, Chicago, Detroit). The team will prepare a presentation regarding the Chihuahua opportunity, and feedback regarding the requirements and concerns of prospect firms, and their views of the comparisons with other cities, will be carefully documented. The market study will provide a “proof of concept” for the overall strategy.

Initiative #1C: Development Detailed Promotion Strategy

Expansion of business plan developed in #1A.

#1D: Attraction of Product Development and Design Centers

Modeled after the Delphi Design Center in Juárez. The most obvious prospect is Visteon.

#1E: Attraction of Service Maquiladoras

These would consist of high-volume services that do not require high skill levels, e.g. call centers.

#1F: Attraction of Firms in Northern México

The time is ripe now to promote the advantages of locating in Chihuahua to grow one's business most rapidly. A package that provides a comparative analysis of Chihuahua's advantages – not just in terms of the criteria in Table 1 and Table 2, but emphasizing those in Table 3, will help to make the case that Chihuahua is after whole businesses, not just the manufacturing part. Enterprising young entrepreneurs from the surrounding region should have the idea that, by relocating to Chihuahua City, their company will grow faster, and they will have a higher quality of life for their families and their employees' families.

Initiative #1G: Networking Relationships with Target US & European Cities

In order to lay the foundation for future recruitment efforts, officials in charge of promotion, acting together with HQ Services Cluster participants, should identify key "sister cities" whose economic structure complements that of Chihuahua. While Juárez naturally works with El Paso, Chihuahua City has the opportunity to create strong relationships with cities such as San Antonio, Austin, Wichita, Charleston, Chicago, and Detroit for example.

- ❑ San Antonio and Austin -- eager to expand their NAFTA-relationships, especially in coordination of distribution & logistics, and Chihuahua may be able to plant the idea that in fact México might be a more profitable location for a headquarters than even San Antonio.
- ❑ Wichita has a thriving aviation cluster, designing and constructing light planes and executive jets, as well as assemblies for larger jetliners. Many of these operations are ripe for relocation to México over the next 5-10 years.⁹
- ❑ Chicago, Detroit and Pittsburgh would all be good candidates based on their industrial structure. Each has a rich history of industrial machinery and precision machining capabilities, and as their economies mature, Chihuahua can position itself to take an increasing share of their design, distribution, and ultimately brand name production.

Initiative #1H: Initiate Attraction of Trucking Firms to Chihuahua City

The implementation of the NAFTA provision allowing Mexican truckers to enter the United States and Canada is a opportunity for Chihuahua to position itself in this crucial industry. Chihuahua is a good location for new trucking organizations to emerge, and for existing ones to transfer some operations, including headquarters, to Chihuahua City.

Initiative #1I: Upgrade Chihuahua's Incentive Package

The promoters of Chihuahua City will need the most attractive set of incentives that are feasible given current economic constraints. While ECG's development philosophy in general argues that funds are better spent investing in economic infrastructure that benefits all members of the economic community (not just the newcomers), in this case it

⁹ Due to military restrictions, some of these products have been historically required to be made in the US, but under NAFTA there will be some loosening of these restrictions.

will be important to have the capability to overcome resistance and traditional thinking to entice some firms to move their headquarters or related operations to Chihuahua. If a major center, similar to the Delphi Design Center in Juárez, or a complete headquarters such as Citlali, were to express interest in moving to Chihuahua, recruiters would want to be able to get their attention on an attractive tax and incentive package without delay.

Initiative #1J: Creation of a Web Page Encouraging Headquarters

This web page should announce Chihuahua’s intention to attract headquarters, and detail the resources available to them. This should not be implemented right away, but after the establishment of clear goals and a “welcoming committee” as part of Strategy #2.

V.2 ACTION PLAN FOR STRATEGY #2: DEVELOPMENT OF A HEADQUARTERS SERVICES CLUSTER

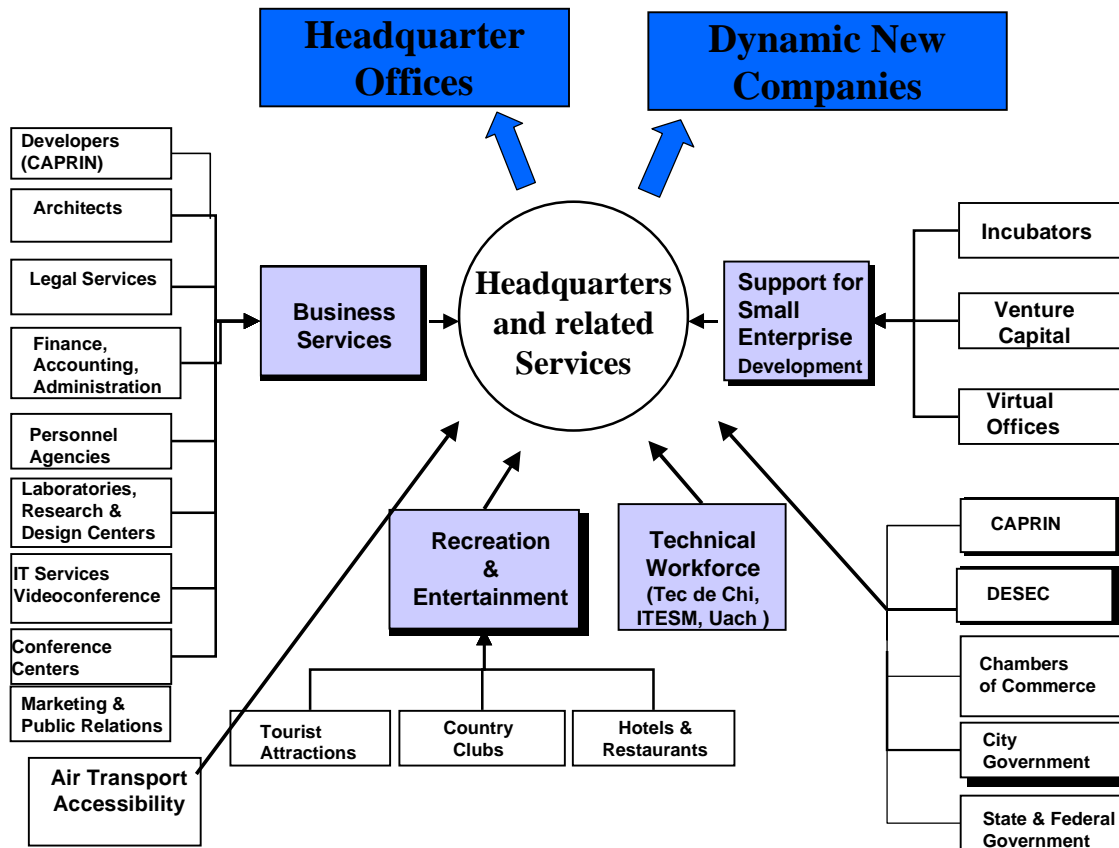
In unity, there is strength. From a genuine consensus, great things can be achieved. Aiming to make Chihuahua City a haven for corporate headquarters is a bold dream, and will require energy, vision and risk. The activities of the promoters who are carrying out Strategy #1 will not be effective unless the Action Plans for Strategies 2 and 3 are implemented decisively. To guide this implementation, consensus among Chihuahua City’s senior leadership will be essential.

For Chihuahua to “get the edge” in this ultimate arena for business competitiveness, the arriving CEO must feel that everything has been thought of, from the moment he steps off the jet. He must feel that this city has been designed for running a profitable business and living a comfortable life. Above all, he must feel that no minor disputes among the various factions in the region will result in obstacles to the smooth establishment and operations of his business. The reputation of the City for strong, coordinated policy will be essential.

There is no magic formula for achieving this kind of coordination. However, the chances of achieving it can be maximized by forming an organization – or an alliance of organizations – that will coordinate the efforts the headquarters service providers. Such an alliance can be led by the real estate developers, whose specialization is their ability to manage complex, long-term problems with uncertain outcomes.

Figure 6 shows the wide variety of specializations that will need to be represented in the headquarters services cluster in order to ensure that truly coordinated services can be delivered.

FIGURE 6: ELEMENTS OF THE HEADQUARTER SERVICES CLUSTER IN CHIHUAHUA



Initiative #2A: Communication Plan to Create Public Awareness of the Vision

The key elements of the vision need to become common knowledge in Chihuahua, and government officials, along with business, academic, and community leaders need to be aware of the broad outlines of the strategy.

Initiative #2B: Support for the Technopark and the Expansion of the Convention Center

These on-going initiatives are exactly the kinds of projects that new firms moving to Chihuahua will be interested in. Their implementation is far from assured. Initiative #2A ensures that the implementation will be rapid, and that the “details” will be appropriate.

Initiative #2C: Alliance for Headquarters Services Coordination

This will be an organizational initiative, comprised of a private sector-led group of service providers who will work to guide and coordinate policies affecting experience of company headquarters from the moment they arrive in Chihuahua City. This Alliance will be responsible for implementation of most of the initiatives in Strategy #2, and will coordinate with those responsible for Strategies 1 and 3.

To demonstrate its seriousness, the organization needs to raise enough funds to hire one full-time manager within the first six months to coordinate activities in connection with this project.

Initiative #2D: Launch Incubator for Suppliers of Advanced Services

In order to create a more entrepreneurial business climate, an incubator should be planned which will provide inexpensive office space for start-up firms that are in one of the fields in Figure 6. Successful incubators are not simply office space, but also provide access to office services (stenographic, photocopy), high-speed telecommunications access, managerial support, marketing support and relatively easy terms on start-up capital. Every two months, a Venture Capital Forum should be held at or near this site in which entrepreneurs with concepts for new businesses present, and potential backers can listen and comment. An ideal location for this incubator would be inside the new Technology Park.

Initiative #2E: Linkages to Science and Technology Basic and Applied Research Centers

Chihuahua City business leaders should meet regularly with leading researchers visiting the City, especially those who have roots in Chihuahua but who are posted elsewhere. Chihuahua has strengths particularly in Optics, Aviation, and Life Sciences (pharmaceuticals, medical devices and biotechnology), and is in a realistic position to attract a major research center in one or more of these areas. Having strong local basic and applied research is the key to making Knowledge Economy businesses perceive Chihuahua City as attractive. There are multiple stages to this initiative:

- a) Define a series of research projects in which Chihuahua-based companies engage research centers currently located in other parts of México. These should be applied research projects, with concrete outputs. This will give the impression of seriousness on the part of Chihuahuans.
- b) Attract a new research center, preferably in Optics, Aviation or Life Sciences. If funding for one cannot be obtained externally, fund it internally, from private and public sources in Chihuahua. The David Sarnoff Research Center at Princeton, in partnership with RCA is a good model.
- c) Work closely with Tec de Monterrey and UACH to ensure that these research subjects are practical, fit well with their capabilities to supply graduates, and have a high potential to generate applications important to existing and future Chihuahuan industries.

Initiative #2F: Establishment of a Cluster of Service Providers

Create a cluster working group based on Figure 6, utilizing a local consultant to facilitate the group through the first few meetings: establishment of vision and cluster definition; cluster challenges; definition of initiatives; and finally action planning. This group will be able to guide many of the activities in Strategies #2 and #3 from this point forward.

Initiative #2H-K: Stronger Linkages between Education Providers and Private Sector

The trend in the United States is toward more commercial provision of education services. Evolution of academic programs is coming too slowly, and new commercially-oriented universities (such as University of Phoenix) are expanding rapidly. Chihuahua must capitalize on its existing leadership in academic excellence by reviewing the existing programs, perform a comparative assessment with best practice in the U.S. and Europe, and be prepared to undertake a bold program to enhance the responsiveness of the education sector to business needs. In the Knowledge Economy, the region with the most well-educated population *at all levels* will have the most competitive economy, with the highest standard of living.

Given that the connection with UACH is becoming stronger with the advent of the Technopark, a new initiative to harness the reputation of Tec de Monterrey should also be developed (#2I). Similarly, deficiencies in the K-12 system should also be addressed (#2J).

V.3 ACTION PLAN FOR STRATEGY #3: INFRASTRUCTURE IMPROVEMENTS

Chihuahua City has many advantages for the headquarters strategy, but also several crucial weaknesses that must be addressed.

Initiative #3A: Comprehensive Study of Infrastructure Limitations

Several weaknesses of Chihuahua City were uncovered during the course of the study, but a more systematic effort will be required to truly assess the scope of these limitations and to make solid recommendations. Such a study, which should be conducted with at least one outside (non-Chihuahuan) participant in order to ensure objectivity, should be used to establish priorities for improvements to infrastructure throughout the city, such as:

- air connections,
- rail cargo rates,¹⁰
- digital infrastructure, and
- public transportation.

The results of the study should be compared with the results of the Market Study (Initiative #1B) before establishing priorities – in other words, the context of these infrastructure improvements will not be purely based on indigenous criteria, but what potential candidates will require before relocating to Chihuahua.

¹⁰ The Ford engine plant in Chihuahua City exports its engines by truck, because it is less expensive than rail. This does not appear to be efficient, and suggests that rail rates are too high. Lobbying and other activities to bring rational pricing to freight rates is vital to competitiveness. Distribution services is a key element on the path to headquarters attraction.

Initiative #3B: Air Service Demand Analysis

Perhaps in conjunction with the Comprehensive Study (#3A), but probably carried out by specialists, Chihuahua will require a better understanding of the types of demand for air service among its various segments: indigenous executives, maquiladora executives, business visitors to Chihuahua, and non-business travel. Only with a more fine-tuned understanding of the components of demand can the challenging problem of limited air services be overcome.

The study could result in more innovative air services – over 50 maquiladoras generate a large number of flights to specific destinations in the US. Ford used to operate a business jet several times per month with round trips to Detroit.¹¹ By aggregating demand, a fractional aviation service could be employed, improving the attractiveness of Chihuahua City as a location for more advanced services.

Initiative #3C: Digital Assessment

Given Chihuahua's geographic isolation, electronic connections to other economic centers will be increasingly important. Therefore, Chihuahua City must do everything it can to maximize its capacity in this area (telecommunications bandwidth). Chihuahua will require an evaluation of the availability of telecommunications infrastructure, quality of services, and regulatory policies, carried out by experts in this field. This may be coordinated and supervised by the team carrying out the Comprehensive Study, but it should be conducted by specialists. One of the key measures to determine, based on survey results, will be the average time, from order placement to order completion, that it takes to provide high-speed internet access to a new development. This is the crucial indicator that new call centers and more advanced service companies will examine. This measure should be broken down into the factors that are responsible for the delay, along with recommendations for reducing the delay. The delay in Chihuahua should be compared with relevant reference cities. If the news is good, this can become a basis for advertising and other promotional activities.

Other important indicators include the number of trunk lines and their capacity, and the cost of providing access for that “last mile.” If the consulting firm is not US-based or European, it should demonstrate knowledge of state-of-the-art digital assessment techniques.

Initiative #3D: Plan to Improve Airport and Expand Air Connections

Innovative solutions must be found to improve air accessibility to Chihuahua City: frequency and directness must rise, and costs must fall. This is a classic chicken-and-egg problem, and the only way around such problems is the Big Push: simultaneous,

¹¹ For many years, Ford had enough executives and engineers travelling from Chihuahua City to Detroit that it used its company jet on a regular schedule, every two weeks. After Visteon split from Ford, Ford stopped sending its jet to Chihuahua City, because there weren't enough demand at Ford alone. When asked why they didn't just let the Visteon executives to continue to fly, asking them to pay their share, it turns out that Ford looked into this possibility, but was thwarted by a US requirement that, by taking paying passengers, Ford would officially be viewed as an airline, and US airlines must have a US citizen as president. The president of Ford Motor Company is Italian by birth.

coordinated improvements affecting a variety of factors that currently depress air travel in Chihuahua:

- a) **Quality of the airport.** Needs to be upgraded, from the point of view of operations (cargo & passenger) and the overall passenger experience (appearance, efficiency).
- b) **Increase in utilization.** As more trade-oriented firms become active in Chihuahua, more traffic will be generated, and services will improve (lower fares, higher frequencies, more direct flights).
- c) **The survey of air travel demand** can be utilized to determine the best opportunities for new service.

This single factor is perhaps the most crucial one holding Chihuahua back today, and will require the most innovative solutions.

Initiative #3D: Improve Public Transport

Service industries are crucially dependent on good public transport. Their locations tend to be less concentrated than manufacturing, and therefore represent a new challenge. Also qualified white collar workers demand a higher quality of service. A study should be commissioned for methods of improving Chihuahua City's public transportation systems, with special attention to long-range planning of city structure and opportunities for short-range operational improvement.

Consultants should examine route structure improvements, application of integrated land use/transportation planning principles, better designed bus stops and enforcement, better competitiveness policies for bus companies, bus priority lanes on busy streets, and coordination of flextime systems with employers. Studies have shown that improved reliability of public transportation can have strong impacts on productivity of private enterprises and government agencies alike.

V.4 MEASURABLE GOALS AND VALIDATING THE THESIS

In the next few months, each of these recommendations needs to be tested with local economic development agencies, validated, and modified to reflect the priorities of existing industry. Each of the resulting initiative The Headquarter Services Alliance (Initiative #2C) would be an ideal organization to take the lead on this activity.

A follow-on study should be conducted to verify some of the assumptions that were made in this study. In order to corroborate ECG's conclusions regarding the role of relocations in economic growth in Mexico, economic researchers at one of Chihuahua's leading universities should undertake studies to evaluate the trends in firm relocations in México, documenting firm size, origin and destination, and types of industries. They should also pay particular attention to the pattern of transfer of corporate functions between US and Mexican operations within the same firm, and the expected trends into the future. Such an effort will create more confidence in the recommendations of this study, and provide more detailed target cities and industries for promotional activities.

Section VI: The Benefits for Chihuahua

Adopting the headquarters strategy can have immediate benefits for Cd. Chihuahua. A simple model was prepared¹² which outlines the potential benefits of a modest number of successful headquarter attractions. The assumptions and forecast are included in Appendix C.

As shown in Table 8, under relatively conservative estimates – that one firm of 300 employees is successfully attracted in 2002, and two firms of the same size in each succeeding year, a major impact on the city's income and development pattern will result.

TABLE 8: PROJECT IMPACT 2002-2006

Number of Headquarters Recruited	9
Earnings in Real Estate and Construction Sectors	\$57 million*
Impact on Income in Year 5	\$87 million*
Accumulated Impact on Income	\$299 million*
Direct Employment	2,700
Indirect Employment	10,800
Commercial Land Developed (m ²)	180,000

* all currency figures in \$US

With potential benefits of this order of magnitude, the costs of implementing the Action Plan appear modest.

¹² With the assistance of Manuel Alderete, president of Alderete y Socios, S. A.

Appendix I: Action Plan

	ESTRATEGIA #1 PROMOCION	ESTRATEGIA #2 DESARROLLO DE ALIANZAS	ESTRATEGIA #3 MEJORAR INFRAESTRUCTURA
Months 1 – 6	<p>#1A: Establish a promotion organization and initiate preliminary activities</p> <p>#1B Market Study; Select target cities and firms</p>	<p>#2A: Communication plan to create public awareness of the vision</p> <p>#2B: Support the Technopark and the expansion of the Convention Center</p> <p>#2C: Alliance for coordination of headquarters service providers</p>	<p>#3A: Comprehensive study of infrastructure limitations including:</p> <ul style="list-style-type: none"> - air connections - rail cargo rates - digital infrastructure - public transportation
Months 7 – 12	<p>#1C: Develop detailed promotion strategy</p> <p>#1D: Attraction of Product Development and Design Centers</p> <p>#1E: Attraction of service maquilas</p> <p>#1F: Attraction of firms based in Northern México</p> <p>#1G: Establish networking relationships with selected cities in the US and Europe</p> <p>#1H: Attract trucking firms</p> <p>#1I: Design incentive packages that are more transparent and attractive</p> <p>#1J: Development Web Site</p>	<p>#2D: Design and launch incubator for providers of advanced business services</p> <p>#2E: Establish close ties with applied research centers in fields of interest to existing or potential Chihuahua industries</p> <p>#2F: Establishment of a cluster of business service providers</p> <p>#2G: Alliance with the Secretary of Commercial Development and Tourism</p> <p>#2H: Development of alliances with the higher education sector</p>	<p>#3B: Air service demand analysis</p> <p>#3C: Digital Assessment – specialized evaluation of telecom infrastructure, services and regulatory policies</p>
Year 2	<i>Continue to refine and expand promotion strategy</i>	#2I: Technology transfer program with Monterrey Tec de Chihuahua (ITESM)	<p>#3D: Plan to improve airport</p> <p>#3E: Plan to improve public transportation</p>
Medium Term		#2J: Initiative to improve linkages with K-12 education and the private sector	

Classification of Headquarters and Business Services Firms in Chihuahua



1. Local Headquarters
 - Interceramic
 - Bafar
 - Accel/Elamex
 - Cementos de Chihuahua
 - Electronic Publishing
 - Tecno
2. Regional Offices
 - Public entities (CONACYT)
 - Banks, Insurers
 - Cigarerra La Moderna
 - Telcel, Norcel, TelMex
 - Ecogas, etc.
3. Relocation of Headquarters
 - Citlali
4. Service Maquiladora
 - Datamark
 - Autozone
 - ACS Business Process Solution
 - Call Centers
5. Regional Offices of Maquilas
 - Visteon
 - Folat
 - Lear (*limited*)
6. Maquiladoras with R&D in Chihuahua
 - Lear (*limited*)
 - *Labinal*
 - *Visteon*

APPENDIX C: ECONOMIC IMPACT MODEL FOR CHIHUAHUA

Assumptions:

300	Employees per headquarters
25	m ² per employee
\$US 543	Construction cost per m ²
2,000	m ² land per headquarters including parking
\$US 110	Cost of land per m ²
\$US 1,200	Average monthly salary of headquarter employees
4	Number of jobs generated per new headquarters employee (multiplier)

Assuming that one new headquarter is constructed in 2002, and two additional headquarters each year thereafter, the following economic impacts would be felt in Chihuahua:

ECONOMIC IMPACT

	New Headquarters	Value of Real Estate Sold <i>(\$US Mill)</i>	Increase in Income <i>(\$US Mill)</i>	Hectares Developed
2002	1	6.3		2
2003	2	12.6	9.7	4
2004	2	12.6	29.0	4
2005	2	12.6	48.4	4
2006	2	12.6	67.8	4
	9	56.5	154.9	18

The increase in incomes based on salaries earned directly from the headquarters and indirect (multiplier) effects are assumed to take place the year after construction for each headquarter office.



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