Left Behind but Filling the Voids: Rethinking Northern Mexican Urban Peripheries

In 2012 the Mexican Federal Government announced a new national policy for urban development concerning new urban growth in all of the country. The revised policy calls for a change in the trajectory of urban development, from an outward –centrifugal- model, to an inward –centripetal- model. This is a response to the catastrophic socio-economic consequences of an abused version of sprawl in the 2 previous sexennial periods. If this new policy is to be enforced and implemented, what is to happen to all of these subdivisions, would-be neighborhoods left behind far away from the benefits of the city?

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Within the concert, or cacophony, of current theories and ideas for urbanism explored in academia and the disciplines related to the city, how is this issue fitting and potentially contributing to the larger world-wide discussion?

In a region subject to a high influence of American Dream desires intertwined with an arid or semi-arid location: how is it that new values can be found in the very foundation of urban systems, landscape and ecology, to repair social and urban networks?

MEXICAN URBAN SPRAWL: FROM *EJIDOS* TO SUBDIVISIONS

Agrarian laws in Mexico were reformed in 1992. The original laws symbolized the output of the Mexican Revolution but then, in preparation for the North American Free Trade Agreement, these were deemed an obstacle for Mexican Agricultural competitiveness. For urban development, the critical component of this reform was opening up *Ejido* lands –agricultural cooperative lands, owned by the nation but with specific rights for profit by those in charge of the land, or *ejidatarios*- to privatization. Reformed lands that were owned by the nation but in care of individuals organized around a social group, the *ejido*, were now able to sell and privatize property, delivering full ownership rights.

While one of the reasons for the reform to happen was an attempt to regularize land ownership in urban areas were *ejidos* were illegally urbanized, the situation provided a legal path for urbanization on the urban fringes were most of the land was, and still is, owned by ejidos, provoking urban sprawl. Nowadays, these lands are often sought to be privatized as the land use change from agricultural to urban is more profitable than agriculture. During the years of 2000 to 2012, Mexican cities experienced an unprecedented growth of urban areas facilitated by credit and subsidy availability for low income housing –social interest housing as is most often known in Mexico- and by the capacity of ejido lands to be converted into urban lands.

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Figure 1: Urban periphery of Chihuahua City, population 825,000. Photo by Gabriel Díaz Montemayor.

Housing credits and subsidies for low income buyers peaked in Mexico in 2008. This trajectory continues a decreasing direction today. There are a number of socio-economic effects derived from the millions of houses built in these years. The main positive effect was the decrease of the chronic housing deficit. There are multiple negative effects though.

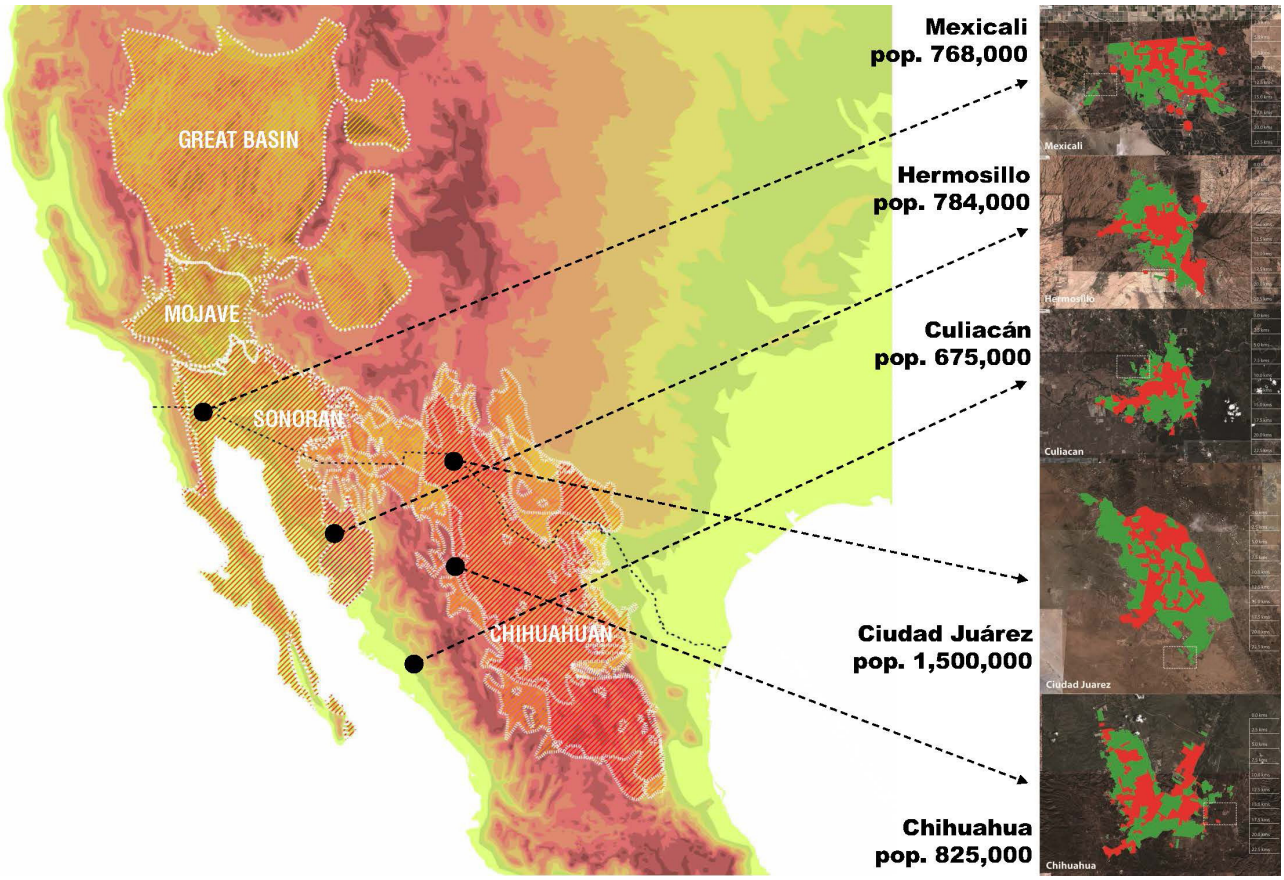
Currently, there is an overstock of housing offered to low income populations that have means for credit acquisition. The housing offer was focused on those buyers with stable verifiable income; while it underserved the population living in the informal economy. This is part of the reason why there is a large percentage of empty abandoned homes.

With the land use change, the subdivisions into which the housing is organized end up occupying cheap lands, far away from public services, live, work, and play centers, making the lives of their inhabitants more expensive as travel distances and time are increased. The urban locations of these subdivisions end up making the poor: poorer.

DEFINING NORTHERN MEXICO AS AN SPECIFIC REGION FOR URBAN PERIPHERY ANALYSIS

Northern Mexico is arid or semi-arid and close to the United States. Arid and semi-arid regions extend well into the center of the country; but the economic influence of the USA as reflected in border trades related to a geographic proximity between both countries can be identified by the presence, or not, of assembly factories –or maquiladoras- which ship products to the nearby USA.

Culturally, central Mexico is different from northern and southern Mexico by centuries of economic and cultural centralism around Mexico City and its neighboring states. Northern Mexico has historically been isolated. It was not until the 2nd half of the XX century that its economic development kicked off by hand of the Border Industrialization Program that created the maquiladoras in the mid-sixties.



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For the purposes of analysis 5 northern Mexican cities were studied, from west to east:

Mexicali, Baja California, with 768,000 pop; Hermosillo, Sonora, 784,000 pop; Culiacan, Sinaloa, 675,000 pop; Ciudad Juarez, Chihuahua, 1,506,000 pop; and Chihuahua, Chihuahua, 825,000 pop. All of these cities are considered medium cities except for Ciudad Juarez, which is one of the few Mexican Cities surpassing the 1 million mark.

These cities are of a similar scale, lie in arid or semi-arid environments –with the exception of Culiacan, and depend on industries related to the border region and the USA.

Mexicali and Ciudad Juarez are border cities and this defines their economic role. Hermosillo and Chihuahua are 150 and 215 miles from the border and contain assembly industries as the most important economic engine. Culiacan is the center of the agricultural region which profits from seasonal produce imported to the US through the Sinaloa-Sonora-Arizona corridor.

Mexico saw, starting in 2007, a rise in crime and violence in many cities and regions of the country. This was fueled by a declared war on drug mafias by the Mexican president of the term 2006-2012. Violence and crime were particularly critical in most of northern Mexico derived from the proximity to the USA. Drug cartels territorialized northern Mexico for control of contraband, human, and drug smuggling routes into the USA. The impact of the federal government's war hit the hardest in low income urban areas. Most of these are recent, or new, isolated, far away, subdivisions were young populations live. The isolated subdivisions are easily targeted and used as territories controlled by gangs and cartels.

Figure 2: Cities analyzed in this study. Drawing by the author.

The violence and crime created by this, paired with the many empty dwellings from the overstock, converted many of the would-be communities and neighborhoods into dangerous and undesirable areas. Many people left these homes in the peripheries and came back to live in the inner city. In some cases, thousands of persons left cities deemed too risky to make a living, such as the case of Ciudad Juarez, the murder capital of the world in the 2008-2012 period, with 22%, or 111,000, of its housing abandoned.

THE SHAPE OF THE EMPTY FRINGES

Vacancies or Ecologies

A visit to these areas of northern Mexican cities reveals half empty, under-utilized, subdivisions. The territory of these areas is characterized by vast expanses of land, with a high percentage of empty parcels, where the subdivisions clustering hundreds of dwellings present themselves as marooned communities, on their own, inserted in valleys were the balance between land value and low income produced the opportunity for subsidized housing.

Non-developed areas, even when zoned as ecologically sensitive, are, in practice, understood as vacant lands. Most of the cities of the region have expanded their urban land use areas by taking land from areas which were previously designated as environmentally relevant. Unfortunately, there are few effective mechanisms to stop development into urbanizable areas, such as agricultural and natural valleys.

Adding to the problem is the fact that there is a lack of expertise to determine, measure, and argument for the protection of sensitive areas. Urban plans have just recently been progressively updated to include scientific ecological studies. Labeled as environmentally relevant without really knowing why, these lands sat waiting only to be requested as urban land uses by their new owners after the Agrarian Reform of 1992.

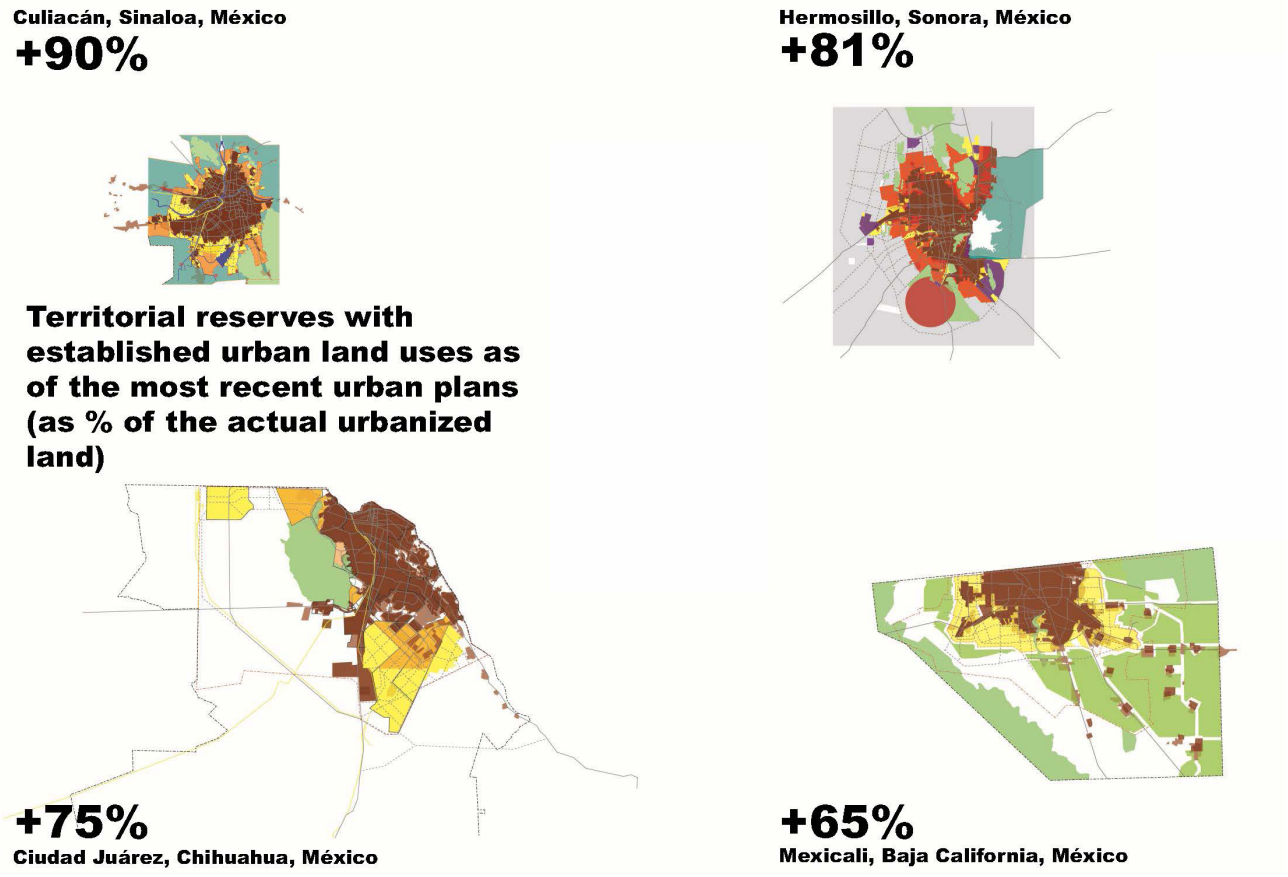
Generally speaking, the low income peripheries sit in flat valleys with clay rich soils which often pose complex conditions for urbanization as these soils expand and contract. In this arid region, greenery is normally concentrated along riparian corridors of different scales. Rivers, but most often washes, extrude plant and tree communities, defining space. Agricultural lands are aligned with rivers. Washes are neglected, concentrate trash and pollution, and are flattened, if possible, when urbanization happens.

Mountains are other areas of relevancy for ecological systems as these are the main areas of recharge for aquifers. In the case of low income areas these are not subject to big threats as low income urbanization looks for cheap construction costs and standardization. It was not the case before the massive availability of housing credits and subsidies, when illegal settlements crawled up the hill of many Latin American cities in an effort for location and proximity to work and service centers.

The recent updates to planning documents urge cities of the region to identify and determine ecologically rich areas –valleys, agricultural areas, mountains, rivers, and washes- as protected areas under federal law, which is the strongest legal defense against development; but this is still only a recommendation that hasn't been implemented.

Urban Planning

Local urban plans have gone through repeated updates to keep the pace, first, with a high rate of development (2000-2012), and second, with the tragic consequences



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of this mode of development (2012-today). The urban planning of the cities, which establish zoning and codes and become law, sets up a conflictive situation.

On one hand are the vast territorial reserves that have an approved land use in the urban fringes. Many developers bought ejido lands, built up large reserves, and had the urban land use designation granted. Chihuahua has a development reserve, or urbanizable land, equal to 67% of the actual urbanized area; Mexicali 65%; Hermosillo 81%; Culiacan 90%; and Ciudad Juarez 75%. With decreasing population growth rates in all of the region, it may be that finishing with the urban reserves will not happen. Large vacancies will persist. When the economic crisis of 2008 and crime/violence hit, these vacancies acquired yet another level of emptiness. Unfortunately, population growth rates and urban land growth rates do not match. Land availability is much more than demographic growth.

On the other hand, cities, through their planning institutes, have been updating plans acknowledging the need for a more sustainable mode of development, recognizing the disastrous consequences of the previous model. This includes urban infill policies, centripetal growth over centrifugal growth, enhanced public transportation systems, decentralized work and play centers, and the laying out of frameworks to protect ecologically relevant land from urbanization.

Public Space

Urban codes require subdivisions to be taxed both monetarily and in the form of land. A percentage of land is taxed in the form of public spaces for recreation and sports and in schools and other social services, such as childcare. Normally, the percentage is no less than 10% of the land to be developed, but this varies from

Figure 3: Comparative analysis of territorial reserves in 4 northern Mexican cities. Drawings by the author and Maria Camila Coronado using data from local Urban Development Plans.

city to city. The usual formula is the more people, or density, the higher the land to be allocated as land taxes. Subdivision master planners fragment and disperse these spaces to enlarge the perimeter around public spaces and social programs where dwellings will acquire a higher sales price. The land taxes -or donations as these are normally referred to- are often located in the least desirable, and profitable, locations within the subdivision. The impact of this, paired with the dispersal of public spaces, directly affects the quality of these amenities, all too often being small and disconnected, failing to be organized as urban systems, while also failing to connect and integrate with elements of natural systems.

Transportation Infrastructure and Systems

The expansive urban fringes are facilitated by policies which favor the planning and construction of regional transportation infrastructure. This takes most of the public money available for public infrastructure. These are often located in the urban periphery, designed as bypasses, under the idea that it will bring economic benefits by improving the connectivity with regions, and, in the case of northern Mexico, trans-national corridors. Effectively, these roads open up land for urbanization and are used as commercial-industrial corridors. Even when the bypass is not existing, it is only planned, subdivisions are allowed for construction as, in a near future, these will be better connected to the city. On the meantime, many subdivisions are connected to the city by narrow collector roads.

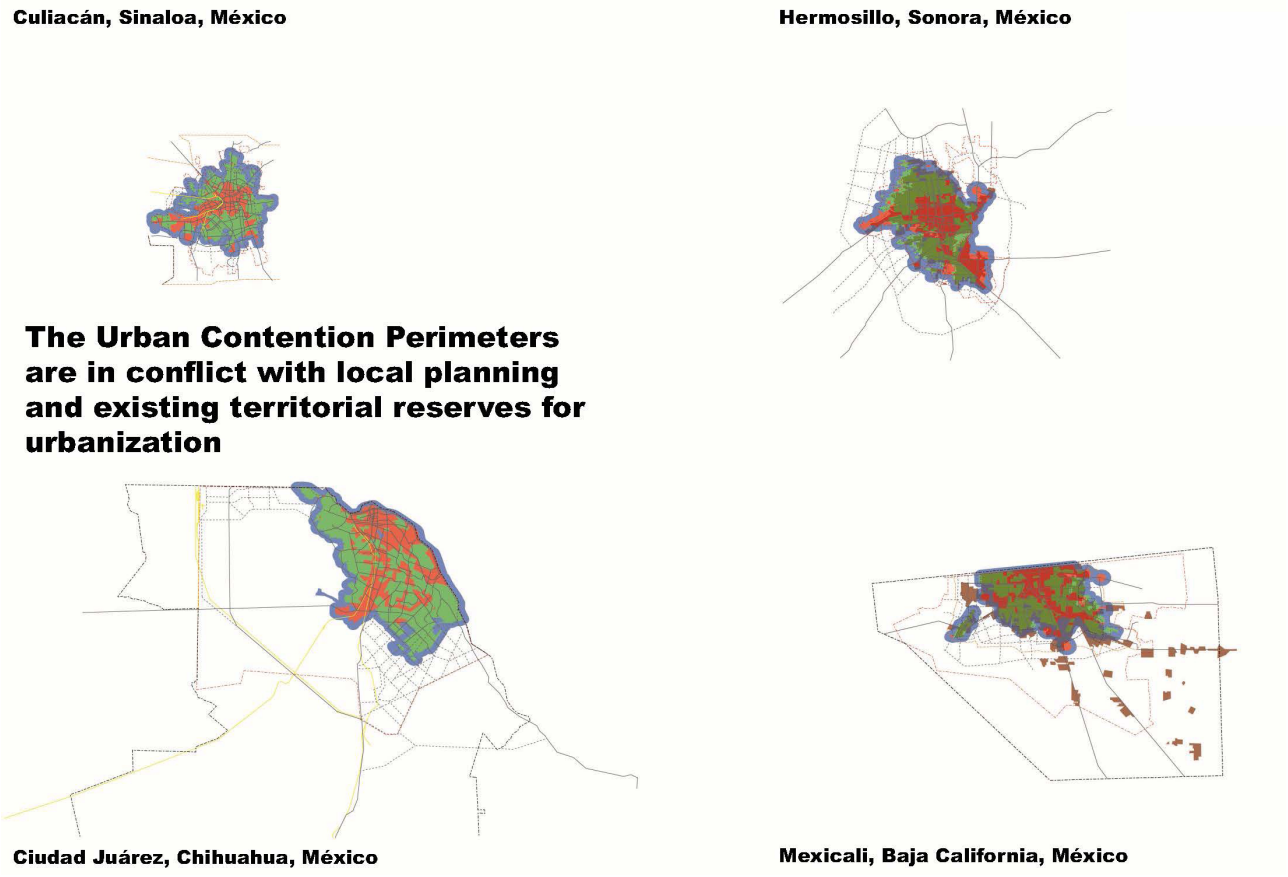
The connectivity of the neighborhoods with work and commerce centers and corridors is limited by inefficient public transportation systems. Some cities in northern Mexico, like Chihuahua, have already planned and built Bus Rapid Transit systems intended to improve the quality and capacity of public transportation. Other cities, like Ciudad Juarez, are in advanced implementation stages, and most of the others have, at least, indicated in their urban plans and as a priority the need to change the modes of transportation. This is proving to be particularly difficult in the region, since, being so close to the United States, there is a steady supply of cheap, used, and junk cars.

LEFT BEHIND

Mexican President Enrique Peña Nieto announced in 2012 the creation of a new federal ministry for agrarian, territorial, and urban development, known by its acronym in Spanish “SEDATU.” With it, the federal government announced a new National Policy for Housing and Urban Development (NPHUD) were growth would be reversed from centrifugal to centripetal. The most important mechanism for this is the control that the federal government has over low income housing credits and subsidies.

Urban Contention Perimeters

The NPHUD establishes 3 “urban contention perimeters” (UCP) for urban areas in all of Mexico. These 3 are organized as follows: first, the established urban areas located in central locations with high access to employment; second, an intermediate ring where a mixture between income levels and vacancies exists, referred to as an urban consolidation area; third, an outer perimeter, wrapping around the second perimeter, defined as an urban growth perimeter. There is a fourth condition defined as “out of perimeter” where credits and subsidies may be approved if the development complies with sustainable development regulations known as DUIS or Sustainable Integral Urban Developments. The urban fringes lie largely in the 3rd and 4th condition. In the 3rd perimeter, the criteria is, to this point, a simplistic approach where a one kilometer (0.62 miles) wide strip of land has been



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offset from the edge of the 2nd perimeter. The criteria for credit and subsidy allocation is: the closer to the core, the higher the support for credits and subsidies. This, in theory, will direct housing development into the 2nd and 3rd perimeters, discouraging expansive horizontal growth outward.

When the UCP are overlaid and contrasted with the local urban plans it is clear that these disregard the location of existing and future (territorial reserves) urban land uses. The federal policy and the municipal local policy do not match, leaving large tracts of land in a temporary regulatory limbo.

The mismatch between local and federal policy acquires an even larger dimension when observing that, in the case of border cities such as Mexicali and Ciudad Juarez, the 3rd and outer urban contention perimeter is offset into the United States, effectively confirming the careless designation and construction of the policy.

FILLING THE VOIDS

If centripetal growth derived from the NPHUD occurs, what will happen for all these subdivisions in the new rearguard? Are all these communities and peoples now condemned to live in a long term isolation?

Ironically, this isolation is the opportunity for an improvement in the quality of life of these populations. This isolation is potentially to be furthered by the implementation of the NPHUD and can provide with a new local social and political interest. The most obvious resource in the urban peripheries is land. Territories which are left largely vacant, with approved urban land use designation but are in reality filled with the ecology of arid and semi-arid natural systems.

Figure 4: Comparative analysis of urban contention perimeters in 4 northern Mexican cities. Drawings by the author and Maria Camila Coronado using data from SEDATU.

The difficulty of administering urban land from a federal level reminds local policy makers and administrators of their value and how it relates to the specificity of place.

Lines

The expanded peripheries require a new mesh to which to adhere and define their urban structure. Natural systems can provide the basic urban structure of the urban fringes. Historically nullified, now these lines are the critical armature to which to connect or articulate neighborhoods. With their natural continuity, these lines infiltrate the city and the outer landscape, shaping an urban structure defined by natural systems. The idea of an urban structure based on natural systems is actually present, at least conceptually, in some of the recent updates of urban plans in the region –i.e. Chihuahua or Los Cabos in Baja California Sur.

The current condition of these peripheries is latent potential for reshaping by strategies emerging from, for example, the proto-disciplines of Landscape Urbanism and Ecological Urbanism. The isolation of these communities can be minimized by strengthening and extending the existing infrastructural networks from the consolidated city outward into the periphery. The land might be vacant but there are traces and systems on the ground, for example, derived from preexisting agricultural activities, energy infrastructure, and transportation infrastructure, that can be recovered and repurposed. The re-assemblage of linear systems can:

- Improve the connectivity of the periphery with the urban core and of the urban fringe with itself, connecting neighborhoods sharing similar conditions.
- Deploy infrastructure as polyvalent systems where, for example, transportation and water management (for the enhancement and protection of ecology) minimize costs and maximize a relationship between dweller and place.

The lines of ecology and public space can be articulated by polyvalent infrastructure which improves ecological function while connecting neighborhoods. These lines can become promenades punctuated by nodes where water is managed and hierarchical spaces are created for the enjoyment of the population.

These lines, already identifiable in current aerials and urban plans, strongly suggest a capacity to provide with an urban structure which can hold stable social ties, a renewed relationship with the landscape, and a new understanding leading to the generalized application of ecologic and socio-economic networks. The resulting spatial armature does require to redefine ranges, distances, times, and an adaptation of the peripheral culture; but, it is that or the current oblivion.

Territories

Vacancies perform an ecological function with varying degrees of spatial quality and viability for active and passive programs. While some areas are ideal for urbanization, others can remain untouched but activated as active and passive recreational programs and systems. In order to perform a non-intrusive urban function, linear systems derived from polyvalent infrastructures can define space and provide access.

The activation of vacant lands as socially and ecologically relevant will depend on rethinking land taxation or donations and on public land acquisition policies.

Land taxes can be laid out as connected systems and not as isolated programs within developments. This is largely an urban administration role which can be

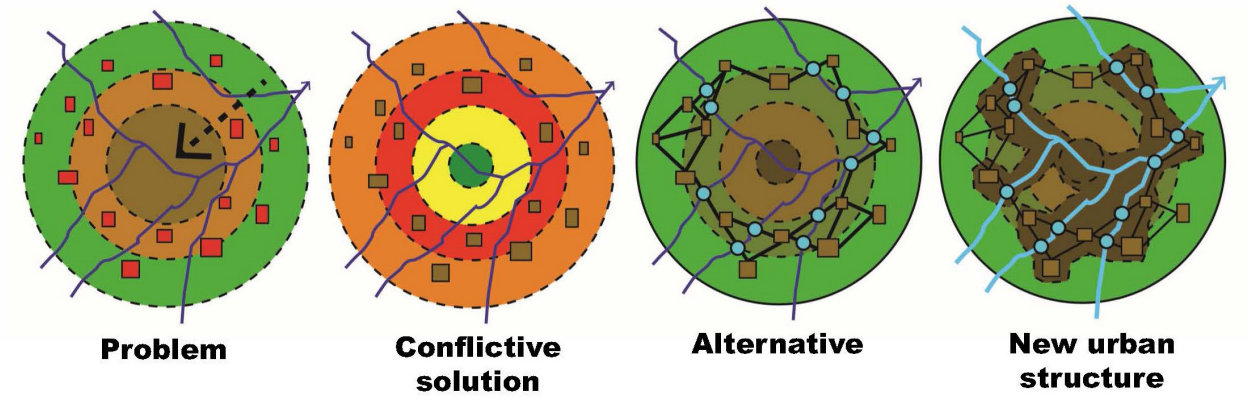

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Figure 5: A new urban structure for northern Mexican peripheries. Diagrams by the author.

enforced with the implementation of urban plans and changes in local construction and urbanization regulations and norms. Donations can be used to provide gateways, access, to elements such as rivers, creeks, and preserved mountains.

Defining the ecological relevance of the land by scientific studies will allow for local governments to receive funding from state and federal governments for land acquisition. These lands will double as large urban and natural parks, a typology largely absent in the region.

The spaces in between would result in reshaped territorial reserves that can be filled up with housing and urban land uses progressively in a managed manner. As the urban peripheries exist as wide outer rings, one potential diagram for the new urban structure is one where radial development corridors divide the fringe into smaller sections. Departing from the core, advancing outward along elements of ecological systems, urban corridors, and large scale infrastructures. Then, these can be connected in between, creating a perimeter where fringe communities are in communication, sharing amenities, services, and work centers.

CONCLUSIONS

Over the relatively few years since Mexican cities have experienced the growth rates and urbanization model which determined the current large peripheries there have been a number of moments which remind the urgency to provide with a more socially and environmentally sustainable and just urban form. From the informal urbanization of the 60's to the 80's, to the Agrarian Reform conducing to the arrival of millions of subsidized homes, to the violence and crime crisis of recent years which provided the foundation for the Urban Contention Perimeters, all have shaped similar opportunities to improve the quality of life of these communities. All have continued to reveal ecological networks as the potential foundation for a new urban structure. But, the current schism between federal and local policies is certainly unique. It delivers a strong argument in favor of a local administration that can find the chance to make the federal government participate in its constitutional obligation and capacity as steward of the land. Think of a collaboration where the municipality plans and designs the city, while the federal government exercises its capacity for territorial subsidy, acquisition, and protection. Unfortunately all of these years are filled up with missed opportunities. Hopefully, this one won't be let pass along.

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