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Tesis para obtener el grado de
Maestro en Administración Pública:

"Movilidad de personas en la región del sur de California y Baja California: el caso de trabajadores transmigrantes de Mexicali Valle Imperial"

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CHAPTER 1

INTRODUCTION

Local, State and Federal governments in the U.S. and Mexico understand the necessity to coordinate high impact public works projects. The Southern California and Northern Baja California region has grown substantially since the signing of the North American Free Trade Agreement (NAFTA) between Mexico, the U.S., and Canada. Southern California is made up of five counties, San Diego, Imperial, Riverside, Orange and Los Angeles Counties. Northern Baja California is made up of four municipalities, Tijuana, Ensenada, Mexicali and Tecate.

The population in both regions increased dramatically when the NAFTA agreement was signed. The Bio-Tech industry as well as the manufacturing and tourism have dominated the economic arena in San Diego County. In addition, the housing development and wage increases in San Diego County have made Northern Baja California, in particular Tijuana, Tecate, Mexicali, and the Imperial Valley, destination communities for San Diego County workers in need of affordable housing and an overall better quality of life. Job growth in this region has been impressive, this year alone Baja California created 40,000 jobs (Union tribune, 2004).

With the influx of people, affordable, live-able, single, family homes, and condo construction has not kept up with demand. San Diego is a business center where the core of jobs are plentiful but housing is at a premium. Trends show that workers who cannot afford to buy a home in the County of San Diego are willing to move to a more affordable county and commute. In this case, Imperial County or Mexico are quick, viable solutions. Other trends show many workers choose to live in Northern Baja California in cities such as Mexicali or Tijuana and instead cross the port of entry into the U.S. everyday. Thus, this flight of workers and U.S. dollars is causing people all over the region to take a look at their morning commute and question if their quality of life is improving or getting worse.

A high-speed mobility corridor that connects people to San Diego County, Imperial County, and Riverside County is badly needed. Peak hour traffic congestion is a source of contention for San Diego employers, public officials, and drivers. Mobility projects linked to housing development has not been coordinated in this region thus increasing pollution levels, natural resource waste, and decreasing worker productivity. With the opportunities of modern technology, a high- speed train (average speed is 180 mph or a magnetic levitation train's average speed is 250 mph) would help to meet this current housing and human capital crisis. Unless sustainable urban and rural development and planning is enforced, urban sprawl and its by-products will continue to grow.

This lack of coordination and infrastructure impacts different sectors of society. One important sector is businesses. In 2002, the San Diego Dialogue asked CEO's their thoughts around the long commutes and their employee base. The CEO's made the connection between new housing being built without overall plan for mobility infrastructure/ transportation. "At the company level, this results in employees having to move farther away from their job sites to find affordable housing, creating longer commuting distances to get to work", one CEO said. Another issue with the high cost of housing in San Diego is the barrier it brings to employers. San Diego's deteriorating quality of life is therefore reducing employers' ability to recruit new employees. Most employers stated that the high cost of living in San Diego (essentially the high cost of housing), combined with the region's transportation problems, has either already become, or will become in the near future, a barrier to recruitment and retention of employees (San Diego Dialogue, 2002).

San Diego County and Tijuana, in many ways have grown with out long- term plans. Southern California and Northern Baja California have not been successful in implementing sustainable use planning standards that limit urban sprawl. The results of poor sustainable land use planning are now apparent; congested highways, long commutes, long border waits, and worst of all, the possibility of economic stagnation. However, the Imperial Valley (Northern Baja California, Mexico and Southern California in the U.S.) is becoming that place where people are moving. The quality of life in this area is good. However, trends are saying that this could easily decrease. If efficient, cheap, and fast mass transportation is not achieved, Southern California and Northern Baja California will begin to sink (San Diego Dialogue, 2002).

The present document is a partial analysis of South California and North Baja California mobility of people and products in order to determine the feasibility of crossing and transportation infrastructure that will improve the region development. The project began with the vision of a modern transportation mode call "Las Californias, high speed train", a binational train that will connect the binational region of the San Diego and Imperial Valley counties and the Mexican cities of Mexicali and Tijuana.

The project arise from the post graduated studies binational program of the Mexican university "Universidad Autonoma de Baja California" and the American university San Diego State University, masters degree on public administration.

The first part of the program finished on a post graduated certification, the students presented a practicum related to their field of work or interest.
Anabele Cornejo and Emanuel Mendoza finish a study related to a wider vision of the factors that will be used in a feasibility research of a high speed train project, it was call "Increasing economic potential through transportation development and sustainable use planning in the Southern California /Northern Baja California region". The research provides data about economic dependence in both sides of the region, socio cultural mobility and commerce information between both federal entities, information needed to justify an infrastructure to have and efficient crossing mode. Housing and jobs opportunities to have a better quality of life between the people of the region are there, we just need to be more related to each other through easier crossing modes.

There is a lot of people commuting each day from one side of the region to the other, as part of the final document, a focus study was conducted in the Mexicali and Imperial Valley area of the region. People that cross every day the west port of entry in Mexicali were interviewed in order to have information regarding waiting and transportation times, actual cost of transportation and qualitative data about crossing and waiting time every day.

The hypothesis is defined as "The transmigrants workers market of a high speed train or other mode of collective transportation in the Mexicali and Imperial Valley area of the region, has a well establish need of infrastructure to have an efficient way of crossing and transportation".

The first part of the study provides information to analyze improvement of commuting mechanisms linking San Diego, Imperial Valley , Tijuana and Mexicali communities. The study provides a brief description of the background and need for a high-speed mobility corridor to provide the commuting connection for people living in these communities to their workplaces in San Diego or other city of the region. We studied the problems using two research techniques—content analyses of historical documents and fieldwork involving face-to-face interviews with key stakeholders and surveys to the transmigrants while they cross the border.

CHAPTER 2

PROJECTS REVIEW

Mobility Projects In The Region

The California border communities are quite significant. The total population of California was 33.87 million in 2000 and the population in the two border counties, San Diego and Imperial, represented almost 9% of the total state population, with approximately 2.8 and 0.14 million inhabitants respectively (Clement, 14).

San Diego And Imperial Valley demography.

The growth projected for San Diego County over the next 30 years is a function of economic expansion and creation, a continued influx of people moving to the area, and natural population growth within the area. This growth has resulted in demand for new housing. However, since 1995, only one new home has been built for every 5 new residents in the San Diego region. Subsequently, housing prices have risen, making home ownership more difficult for much of the population. As a result, many people who are employed in the region have started moving to neighboring regions in search of homeownership.

In 2003, the median priced home in San Diego County was $407,000 with an average family needing to make $126,851 a year. In 2004, a median priced home jumped to $582,490 an increase of $152,000 (Union tribune, 2004). To get a better perspective of what working class people are finding, the Center for Housing Policy calculated that the average elementary school teacher made $48,840, a police officer made $58,370, a nurse made $35,080, a retail salesperson made $19,150, and a janitor made $18,110. These workers are the kind of folks that are looking for alternatives to San Diego's high cost of living (Center for Housing Policy).

The average poverty threshold for a family of four was $18,810.00 nationwide and $25,180 in San Diego (the higher figure reflecting the cost of living here). In San Diego County, 348,425 peopled lived under the poverty line last year

(2003), compared with 334,829 in 2000, according to the Census Bureau. In San Diego, you can spend anywhere from 30 percent to 80 percent of your income on housing. "This is one of the primary factors why San Diego ranks as high as it does" said Marnie Cox, an economist with the San Diego Association of Governments (Union tribune, 2004).

"In San Diego County, because of its high cost of living and preponderance of low wage jobs, the percentage of people living in poverty outpaced the rates for the state and the nation (Union tribune, 2004)". According to the Census Bureau, 14.5 percent of San Diegans were below the poverty level, compared with 13.4 percent in California and 12.5 percent in the nation. In 2000, the national poverty rate was 11.3 percent.

As people move farther away from their places of employment, increased pressure is placed upon interregional transportation systems. This affects not only the long distance commuter but also causing congestion for residents in communities along the transportation route. Another related impact is increased emissions of air pollutants and greenhouse gases, which in turn can adversely affect water quality and habitat, further diminishing the overall quality of life in the region. It seems more and more that Northern Baja California or the Imperial Valley can provide San Diegans with affordable, high quality housing at a reasonable price. But in order to be able to provide that, area businesses, local, state and federal governments, must make quick and meaningful decisions when it come to long term sustainable planning (SANDAG, 2003).

Jobs and housing inaccessibility is also occurring between San Diego County and Imperial County. CALTRANS estimates that more than 1,000 households that live in the Imperial Valley commute to San Diego (SANDAG, 2004).

With nearly half a million acres of farmland supporting everything from cattle pastures to winter vegetables and alfalfa hay, the Imperial Valley has long been considered a farming community. As developable land in urban coastal regions becomes increasingly scarce, home builders and possible buyers are migrating to inland counties such as Imperial, transforming southern California into a commuter state. Some sales agents report that as many as 20 percent of their sales come from buyers outside the valley. Imperial County is bracing for an increased housing and population growth, with nearly 20,000 housing units currently in the planning pipeline. Some housing analysts foresee growing numbers of San Diego County residents buying homes there (Union tribune, 2004).

Imperial County had 142, 361 residents in the 2000 Census. 60% of those resided in three cities: El Centro (38,000), Calexico (26,000), and Brawley (22,000). The county's economic strategy aims to create more higher wage and value added jobs linked to agriculture such as a packaged –salad plant or cattle slaughtering facility—and more government jobs in prisons and related facilities (Martin, 6).

Some may think that Calexico or Mexicali are out of the way but in reality it's in the middle of important Mexican, California and Arizona economic sites. Driving time to San Diego from Calexico is 1 hour 49 minutes, Yuma 59 minutes, and Mexicali is 19 minutes. The County of Imperial is located between major cities of California, Arizona, and Mexico. Approximately 8,000 to 12,000 vehicles per day currently travel various sections of SR-111. Traffic is projected to double during the next 20 years due to residential and commercial developments. The County of Imperial is a centralized location for business in the Imperial Valley.

Congestion management is mandatory if sustainable land use planning is not implemented in the Imperial County. Over the last year, housing prices have continued to climb, pushing out local homebuyers. Employment centers relocating to Imperial County would ease commuting congestion and air pollution contamination of the region.

Past And Future Projects

The idea of connecting and integrating the region first appeared when San Diego resident J.D. Spreckels and Mr. Pontius initiated the process to build a railroad. The train would connect the south pacific in San Diego, cross the International Border to Tijuana and to Tecate, then move over mountains to climb into the U.S. and decline into the desert of Ocotillo and the Imperial Valley. Once there, the train would go through El Centro and Calexico, California, and again re-enter Mexico by way of Mexicali. From Mexicali, it would connect to the east and head towards Arizona and connect with the railroad that headed to the Atlantic Ocean.

Mr. Spreckels was interested in transporting sugar and finally on November 19, 1919, the construction on the railroad line of communication was completed. The 71 km. that ran from Tijuana to Tecate was also used to transport passengers. Since then, the San Diego Arizona Railroad was known as the Inter California Railroad in the stretch between El Centro to Mexicali and then to Yuma, Arizona. In Yuma, you found that the train headed to Tucson, Arizona and from there to Nogales, Sonora. Up until 1948, there was no other secure way to move between Baja California and the rest of the country. If it wasn't for the route Nogales-Yuma then one would have no other option but to risk crossing the desert by car knowing that death easily be part of your adventure (Don Crispin). One of the reasons why the train route was designed to enter and exit the border, besides the convenience of passing by important cities in Mexico, was to avoid problems with the topography. Now they were able to avoid slopes and mountains that would have proven difficult to get through.

Don Crispin, one of the construction men that helped build the railroad route, remembered the American company paying Mexican workers in dollars and still taking out taxes even though they did not live in the U.S. "It wasn't until the creation of the Union (Sindicato), when the Mexican Government began to take out taxes. However, the working conditions did not improve," recounted Mr. Crispin.

In those days, the train was utilized to go East West – from Nogales to Tijuana, which had to cross the border into Tucson and re-entered thru Mexicali. It would then head back towards the U.S. and stop in Calexico. From Calexico, it would enter Mexico, through Tecate. In those times, a passport was not needed- Americans and Mexicans would just get on and pay their fare.

One could drive from Tijuana to Mexicali but back in 1932 that trip lasted eight days. It wasn't until the government under Miguel Aleman that the Tijuana Mexicali road was paved. By 1969, the San Diego Arizona train ceased to operate.

The connecter between Tecate to Mexicali, has not been in service since 1983 mainly because of the damage caused by the tunnels collapsing and problems with the tracks that can be attributed to storms.

Based on current needs from the population, it would be in the best interest of Mexico and the U.S. to build a high-speed train that traveled between Imperial Valley and San Diego. A cargo train, referred to as the "Jobs Train", would travel the San Diego, Tecate and Imperial Valley again, an East West route. The Regional Airport Authority in San Diego has chosen the Imperial Valley as one of its possible sites for a regional airport. This "Jobs Train" could ultimately serve the airport. A fast train is necessary and would be able to transport passengers between the Airport and San Diego in 20 minutes. The train could do this by going at speeds of roughly 300 km per hour. A high- speed train project is being proposed for the San Diego Imperial County Airport site (currently one out of the seven of the possible sites). This is another high impact public works project that if planned using a sustainable use methodology could easily become a mobility infrastructure where many other issues could be addressed.

Are Maglev or High Speed Rail the answer? Currently there are no public transporation projects planned to connect the Imperial Valley with San Diego County. All planned transportation projects pertain to highway widening. The San Diego county region is exploring a high-speed rail system now being planned at the state level. This line would run through the Inland Corridor, stretching from Los Angeles through Riverside and Temecula areas to downtown San Diego via Interstate 15, or the Coastal Corridor, stretching from Los Angeles through Orange County to San Diego would be upgraded to a feeder service to the high-speed connection in Los Angeles. The environmental and engineering feasibility of these two routes is now being studied (SANDAG, 2003).

Baja California Demography

Baja California has the largest border population of all the northern Border States. In 2000, the population of the state's three border municipalities accounted for 82.5% of its entire population. Almost half of the state's population lives in Tijuana, which in 2000 had a population of 1,210,820. While unemployment is low—1.1% in 2000—many Tijuana residents cross the border to find better paying jobs. Some residents are U.S. Citizens or permanent residents who live in Tijuana because of lower housing costs (Clement, 18). An estimated 40,000 people cross the international border each day (San Ysidro). Tijuana's population is estimated to reach 2.9 million by the year 2025- double its current population of 1.4 million. The current housing demand in Tijuana is already overwhelming its existing capacity. This situation will likely worsen, causing an overflow of unregulated, shanty style housing to emerge along the eastern border. Housing costs have a significant impact on daily migration. The cost to low- to – medium – level home in Tijuana 2001 was $263,000 pesos or roughly $26,000 U.S. dollars.

By November 2005, Baja California plans on starting service between Tecate and Tijuana. This train service would mainly serve workers from the Toyota factory. Ridership estimates are as high as 480 people, each going at least 2 hours one way. The total cost has not been determined, but Zamudio stated that passenger rail is not where the money is. The train will be subsidized by the government.

Past And Future Projects

There is an antique train depot in Tecate established in 1926 that hasn't stopped being utilized. This railroad is mainly used to transport beer and liquid gas. Beer is transported from Tecate to Tijuana and gasoline for both Tecate and Tijuana for the Zata Gas Company.

The Federal Government as the central communication route between Tijuana and Tecate has designated the State of Baja California. However, there is an opportunity to bid for a concession. This concession would require the train to transport people as well as freight. The Secretary of Communication and Transportation has asked the Federal Government for the designation and ability to construct the Train route Tecate to Ensenada. This would certainly help the development in the region. The Tecate and Tijuana railroad will be adding the

Tecate Imperial Valley railroad. State Government in Baja California has a project to develop of a railroad between Tecate and Ensenada that can generate a lot of opportunities because of the Long Beach port saturation. This railroad would reduce the cost of freight in the region.

CHAPTER 3
METHODOLOGY

In this chapter we review the methods of investigation that were used as interviews, historical literature review and surveys. The information is classified as qualitative data and quantitative data.

Qualitative Research

Two techniques that we used for the qualitative research was the review of written history and interviews (stake holders and workers). Written historical information was used to gain knowledge of the past train projects in Southern California and Northern Baja California to understand the possible barriers of proposed mass transit corridors. Open-ended interviews where participants were allowed to speak freely allows one to understand the perceptions and needs of the community.

Historical source is a qualitative research using interviews with key people in both sides of the countries that are supporting transportation projects that could generate opportunities for the region. These key people could be congressional representatives, directors of railroad concessions, or agencies that regulate the communication in both sides.

Surveys in certain regions that we do not have information will be another type of source. It will gain such insights as getting frequencies of travel, destination and reasons for travel in order to determine the actual travel, and commute data and the future destination of travel.

Baja California Train, Interview with Zamudio Director of the short route Tecate-Tijuana

Items that were spoken about included: history of the train (Mexican side), type of administration, and the function of the state government as well as the main types of freight which includes route carries, plans for the future, and his perspective with regard to a connection for the trans-border region of the Californians.

Zamudio states, "The line has been operating since 1926 while the part that runs in the U.S. stopped running in 1983, because of the damage caused to the tunnels. This line is used to transport beer and liquid gas- beer to Tijuana from Tecate and gas from Zeta Gas to both Tijuana and Tecate. By November 2005 , a new service will start transporting Toyota workers from Tecate to Tijuana. Each trip will take roughly two hours. A large part of the project will have to be subsidized by the government. Zamudio also points out with caution, "There is no money in transporting people."

The State of Baja California is designated as the concessionaire of the railroad project. This route will be both for cargo as for people. This route is designed to move from Tecate to Ensenada for development of the region. Right now they are in the process of getting money for the project, which they estimate, the need at 200 million dollars. American investors are interested in this project because of the possible links with the Long Beach port and the ability to ship freight by boat and then by train in Mexico. Business owners in the Imperial Valley are also interested in the possibility of shipping food by train. "Another possibility", mentioned Zamudio, "is a train from Mexicali to Yuma."

Interview with Congressman Bob Filner.

The congressman with more than 12 years of service, mentions a "jobs train" that would run East to West and hopefully connect to the new regional airport. "A high speed train to connect San Diego to the new airport is vital to make the whole project work", says Mr. Filner. He states that the San Diego Airport is at and has been at capacity. There are federal funds available which today has 10 billion dollars. The airport is estimated to cost 3 billion dollars and another 2 billion for the train. If an airport is not built in Imperial Valley, it will be difficult to get a train out there.

Interviews by San Diego Dialogue CEO Survey 2002

One Survey of San Diego area CEO's in 2002 shows the negative impact long commutes are having on their employees. The CEO's made the connection between new housing being built without and overall plan for infrastructure, in this case transportation. "At the company level, this results in employees having to move farther away from their job sites to find affordable housing, creating longer commuting distances to get to work", one CEO said.

Sometimes these business people try to take a logical approach to solving problems, but in government that isn't always the first route taken. 'Another interviewee stressed the importance of making proactive investments in infrastructure. She stated, "… the growth is necessary, yet at the same time it doesn't seem to be as well-planned as it may need to be… the infrastructure should be in place before you add the houses, in my opinion..." (San Diego Dialogue, 2002). Another issue with the high cost of housing in San Diego is the barriers it brings to employers. With San Diego's Deteriorating Quality of Life, it is reducing employers ability to recruit new employees.

Most employers stated that the high cost of living in San Diego (essentially the high cost of housing), combined with the region's transportation problems, has either already become, or will become in the near future, a barrier to recruitment and retention of employees.

Some companies find they have to provide extra financial incentives, or financial assistance, to recruit highly valued employees. The head of one of the region's cable television systems commented, "… invariably we have to pay substantial amounts of mortgage differential for five years to get people to move into this market. Otherwise I couldn't bring the people that have the expertise into the market for leadership positions. And these are high paying jobs too, so that's tough."

For firms that need to recruit high value-added employees from other parts of the country, San Diego's quality of life, even its vaunted climate, is not as strong a selling point as it has been in the past. Employees and job candidates are less willing to make tradeoffs in their quality of life (e.g. housing costs, traffic congestion, an overall high cost of living) to come to San Diego. And CEO's also found it difficult to retain employees. The interviewed firms cited many examples of employees who have had to leave the area because a quality of life concerns. Again, this phenomenon seems to span all classes of employees and income levels. The CEO of a regional shipbuilding firm offered a poignant example: "It's always painful when it happens, but one comes to my mind. It was very explicitly said; he had a family and kids and he said, 'I can never get ahead here. I'll never be able to get a decent home,' and so he went down to Alabama…" (San Diego Dialogue 2002).

Surveys

One hundred workers survey was conducted for the final research in the Mexicali and Imperial Valley area. This was done based on a random selection of cars while waiting to cross the west port of entry in Mexicali. Three days of October in year 2005 were the days when the data was collected between 4:30 a.m. and 6 a.m. A 15 closed answers questions and one open question instrument was designed in order to have information regarding, waiting and transportation time both ways home to place of work and viceversa, also home place in Mexicali, years crossing, type of work and position, and actual cost of transportation.

Quantitative Research

Data of border crossers in the two major cities of Baja California were attained thru the "Banco Mundial de Comercio" and Home Land Security in the USA. Data was also gathered from Imperial county transportation plan update, highway element, San Diego region Baja California cross border transportation study, Extension of the San Diego trolley to Tijuana study, and newspaper articles were also used. Techniques used for quantitative research include commuter statistics in Southern California and Northern Baja California. This takes into consideration that Southern California East and Northern Baja California East have been until recently unattended to by the larger state and federal planning agencies. There is not much information concerning the possibility of a high-speed train and bi-national agencies that could develop to its fullest potential for the region. The focus is on information of projects already in progress: what commuters in San Diego/ Tijuana area and Mexicali/ Imperial area experience, information of mobility between Tijuana and Mexicali by roads, and the mobility of persons between San Diego County and Imperial County.

A research of an academic institute named Colef (Colegio de la frontera norte) conducted by Tito Alegria was also reviewed. The study about transmigrants in the Tijuana and San Diego area brings data regarding past and future growth of the effect and characteristics of the workers in the border.

CHAPTER 4

DATA ANALYSIS

The statistics that are presented in this document are a compilation of studies already done in the San Diego Border Region (San Diego, Tijuana, Mexicali and Imperial Valley). Results of the transmigrants survey are also presented in this chapter. The purpose is to justify the important relationship between the cities and the counties and define if there is a market for a collective transportation infrastructure in order to have an efficient crossing system and fast transportation between the region. The relationships are as much labor oriented as they are commercial, tourism, or family ones. All of this was done with the hopes that a consciousness regarding a more effective transportation infrastructure would be developed. One that would help the region realize and design a community and economic development in order for us all to have a better quality of life.

The focus is directed towards justifying a collective transportation route in the Californias with faster crossing modes. This route eliminates the physical barriers that holds back the growth of the region. This route will increase business opportunities in such areas of commerce, tourism, and services. It will offer communities a good quality of life at a live-able, reasonable rate. Familial opportunities would also be attainable and not only realized but actualized. Finally, this route would reduce contamination caused by automobile emmisions by attacking the main cause of contamination- border wait and inter-regional commuting.

Interregional Border Crossing And Mobility

In 2002, 56.5 million individuals crossed the Mexican border between Tijuana – Tecate to the U.S. (SANDAG, 2004). While in 2000, approximately 56 million people and 14 million cars crossed the Calexico- Mexicali port of entry going both directions (Caltrans, 2002). Historically, the region that includes Tijuana and Tecate has twice as much activity as the Mexicali Algodones region. Everyday, 90,000 vehicles (45,000 each direction) cross the San Ysidro port of entry. At the Otay Mesa port of entry, there are approximately 114,000 vehicles crossing in both directions and the numbers are estimated to increase 33% by 2010. In Mexicali, approximately 56,000 vehicles cross in both directions, which comes to 28,142 vehicles that travel north. The total number of vehicles traveling north is 10,271,640 per year (U.S. Customs, 2000).

Table 1 represents the quantity of automobiles that commute from Mexicali to Tijuana or vice versa, annually and daily. Approximately 31 million vehicles cross solely in one direction. Another 62 million who travel that commute do so in both directions between Tijuana and Mexicali.

Table 1 North Bound Crosses

		Annual	Daily Average
Mexicali-Imperial (2000)	Vehicles	10,271,640	28,142
Tijuana- San Diego (2003)	Vehicles	20,805,000	57,000

Source: U.S Customs

Horizontal movement, which is between San Diego and Imperial County and Tijuana and Mexicali, is much less intensive. This represents 16,000 daily vehicles going both directions between San Diego and Imperial County (Caltrans, 2000). For the region Mexicali and Tijuana, an estimated 7,000 vehicles commute between the two cities (Fideicomiso La Rumorosa, 2003). This accumulation of traffic at the ports of entry creates wait times of 30 minutes on weekdays and up to 2 hours on weekends. This especially occurs at the San Diego - Tijuana port of entry. The inefficiencies caused by the long wait impact tourist and business owners trying to move workers and goods across the border. The long wait not only wastes time but also adds dangerous chemicals into the air. In a study that San Diego Dialogue conducted, reducing border wait time from Tijuana to San Diego from one hour to fifteen minutes would induce Mexican residents to cross more often to shop.

Shopping, Recreation, Family Visits

The majority of border crossings are made by people who live in the region(approximately 96 %) (San Diego Dialogue, 1992). 95 % are residents that cross at least 4 times a month. In the Tijuana Region, the main reason for crossing is for shopping and the second is for employment. The place where most of the crossings originate is in Mexico. For example, in Mexicali, in 1998, 75 % of the crossings were visits to the U.S. by Mexicali residents while only 25% of those visits originated in the U.S.

According to statistics of the Bank of Mexico, the main reason for crossing into Mexico is for family visits from relatives in California and the second reason was for recreational purposes. The economic impact these visits leave in Mexico from California residents is 777 million dollars in the year 2003. The majority of this is generated from people who live in San Diego County. In 2003, the total number of visits was 19 million visits.

In the Imperial County Mexicali region, the main reason Californian's traveled to Mexicali was to shop and the second was to visit family. The economic impact is valued at 95 million dollars. 80 % was generated from residents of the Imperial County in 4.6 million trips. The monetary spillover San Diego County has versus Imperial County is 9 times greater. This illustrates the need for easier crossings and more efficient interactions at the port of entries.

Mexican residents also spent heavily in the California region. In 2003, residents of Tijuana spent more than 1 billion dollars in California. The principle reason being shopping and the second reason was for family visit. This totaled 31 million trips. In the Mexicali region, 254 million was spent in the Imperial Valley in 10 million trips.

It is important to note the economic spillover in the region. Between Tijuana and San Diego, Mexicans tend to spend more money in California than Americans in Tijuana (1 billion vs. 777 million). In the Mexicali Imperial Valley Region, there exists a larger dependency on Imperial County (254 million vs. 95 million dollars. In 2003, through shopping visits, recreation, and family visits, the annual spending of Californians in Baja California totaled 872 million dollars. In contrast, the expenditure from Mexicans in California was 1.312 billion dollars. The main reason was shopping. However, it is important to note that recreation was not one of the main reasons. This is something both California and Baja California can work on.

Employment

The effect on transmigration is understood to be the act of residing in one country and working in another. This act is very important in the Southern California/Baja California region. The data shows that in 1998 (**table 2**), approximately 36,000 crossed north to San Diego to work in that county. The attraction of the higher salaries was the principle motivator for this phenomenon. A job in the U.S. pays triple of what one pays in Mexico and there is data that states in some manufacturing jobs it can be up to 9 times more.

Table 2 Transmigration

Year	Tijuana	Mexicali	Cd. Juarez
1996	28,656		17,279
1998	35,943	16,013	15,164
% of PEA	8%	7.3%	3.5%

Source: Tito Alegria, ENEU ERMEU 1998

In Mexicali, 16,000 workers cross the border to earn 2.5 times the income. Although there isn't a documented "phenomenon" in commuting laterally, there does exist a new trend of high level commuting within its own country. San Diego and the Imperial Valley are linked by one highway. These days more and more people who work in San Diego are moving to Imperial Valley for it's low cost of living. CALTRANS estimates that 1000 people are commuting daily from the Imperial Valley to San Diego to work. On the Mexican side, it's becoming a phenomenon because housing prices are so much less compared to Tijuana. Unfortunately, the jobs are located in Tijuana. There is an estimate of up to 600 cars that cross the toll at least 4 times a week to Tijuana from Mexicali (Fideicomiso de la autopista Rumorosa, 2002).

This phenomenon within countries will continue to rise because there are more advantages to living farther east of where the job centers are located. As housing becomes more out of reach for San Diego and Tijuana, workers will help this phenomenon grow. The median house price went up $150,000 in one year (UT). The median house cost $500,000, which is much higher than the price for a home in the Imperial Valley that costs approximately $180,000. Transmigration will continue as long as there is an imbalance of wages and housing- this is the main reason for growth- not the lack of legal documents or the demand for labor in San Diego (Alegria, Colef).

In the Baja California region, there seems to be higher percentage of people who are participating in this phenomenon. It is estimated 8 % while in other states in Mexico that are along the border. In Cuidad Juarez, it's closer to 3.5 % of the total workers who live in Mexico and work in the U.S. (**table 2**). The salaries of workers from Tijuana and Mexicali are also much higher than the salaries in Cuidad Juarez (**table 3**. shows that the monthly difference is $200). It is interesting to note that the transmigrants who are Americans live in Tijuana. 90% of them enter legally into the U.S. and only 47% work legally (Alegria, 2000).

Approximately 9,000 American citizens live in Tijuana and work in the U.S. (Eneu Ermeu, 1998). Out of these, 4,000 work in Tijuana and 5,000 cross the border everyday to work in the U.S. The effect may also grow due to the cost of living in San Diego. However, if there was fast transportation in another county like the Imperial Valley or Mexicali perhaps there would be an increase in the amount of persons who have decided to move to these cities for a more affordable home without losing the advantages of a good paying job in San Diego. Currently, San Diego is listed as one of the 10 cities in the nation where prices are higher than the residents can afford.

Table 3 Monthly Salaries in Dollars

Year	Tijuana	Mexicali	Cd. Juarez
1998	1,069	1,003	799

Source: Tito Alegria, ENEU ERMEU 1998

Transmigrants in Mexicali Imperial Valley

Economic, social and cultural integration of San Diego and Imperial counties and Mexican cities of Mexicali and Tijuana in one region has been the main purpose of this research.

We have studied the economic dependence of the cities and counties of the region and the pleasure, business or family issues commuters. But there is a need of research of job commuters, the also call transmigrants are one of the focal market that needs to be studied in order to justify a possible high speed train or other transportation option, due to their crossing frequency.

These workers live one side of the border and work on the other side, cross every day even on weekends, and live the pain of waiting time and long distance commute. This research will be applied in the crossboder region of Mexicali and Imperial Valley county.

The main objective of the research is to define and justify if there is an interest of the job commuters or transmigrant in a high speed train or other mode of collective transportation.

A one hundred survey on the west port of entry of Mexicali were applied among the workers in their cars while waiting in line.

Transmigrant profile

The survey was aplied three days of October 2005 between 4:30 a.m. and 6 a.m., 100 cars were random selected. Male workers (75%) with an average of 44.5 years old, living on the south of Mexicali city were asked a 16 closed answers research instrument.

The average age of the workers interviewed was 45 years old, mainly men (3 out of 4). The majority of the workers live in the south of the city.

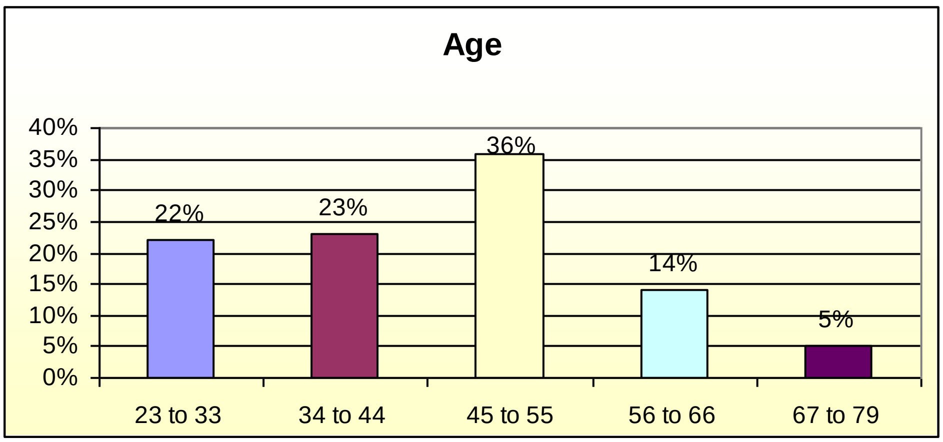

Figure 1 Workers ages

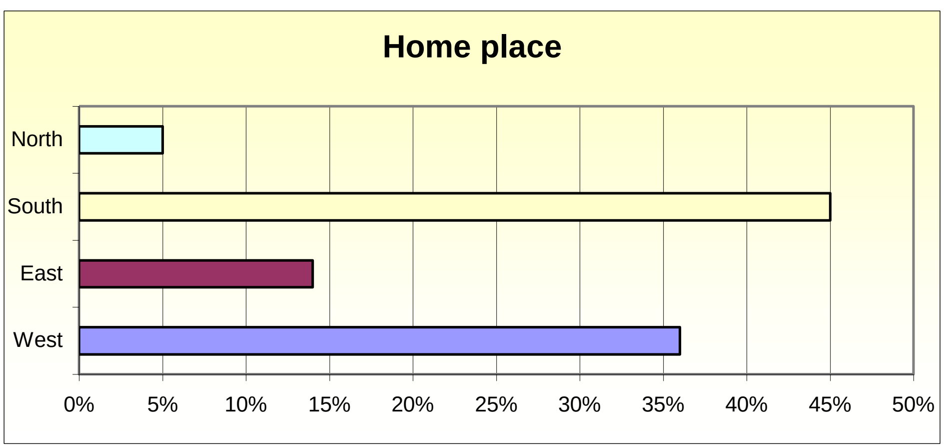

Figure 2 Home place in the city of residence

Crossing attributes

Among the workers that were asked 85% cross the border every day including weekends and have years as job commuters , at least 36 % have more than 10 years crossing and 59 % at least 6 years as transmigrants.

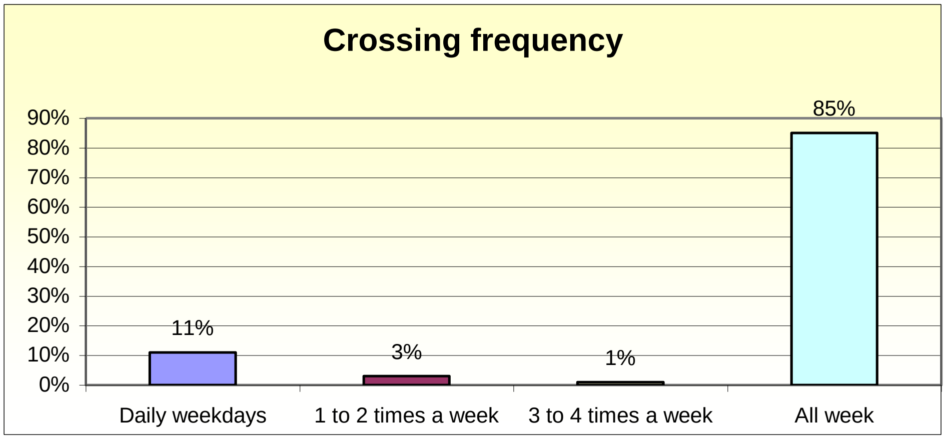

Figure 3 Crossing frequency

It was a surprise to find out that the workers cross every day of the week, as 85% say they cross all the week.

Port of entry waiting times

One of the main arguments to justify a project as a high speed train or other mode of transportation for commuters in Mexicali-Imperial Valley region is the lost of time or dead time to cross the port of entry either way.

The survey asked the transmigrants the waiting time to cross, commute time from home to place of work, and waiting time back home. Every day 16,000 workers cross the border to work in the United States (Tito Alegría, COLEF 1998)

Transmigrant economic spillovers occurs in the Mexican side and it is a very important impact to the local economy, for instance, Tijuana transmigrants represent only 8 % of the working force in that city, but their income represents 20% of the total workers income of Tijuana (Tito Alegría, COLEF 1998).

With 16,000 transmigrants (1998) in Mexicali (now a days more than 20,000), the total lost time of these workers due to waiting time to cross the border, represents a minimum 16,000 man power hours and up to 20,000 man power hours a day, just one way, one hour per worker as an average.

Commute time

The time that the cross border workers take to be on their place of work is also important for the study. We already know that average waiting time at the port of entry is one hour, the average time from home to work is 1 hour and 45 minutes, see **figure 4**. Most of the workers cross the border to the area of Calexico (68%). Waiting time and commute time are factors that play an important role against the region development.

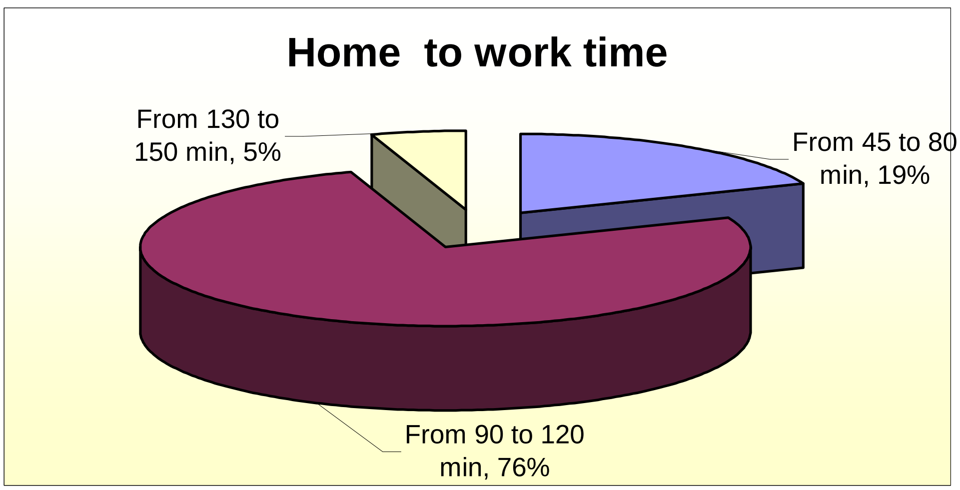

Figure 4 Home to work commute and waiting time

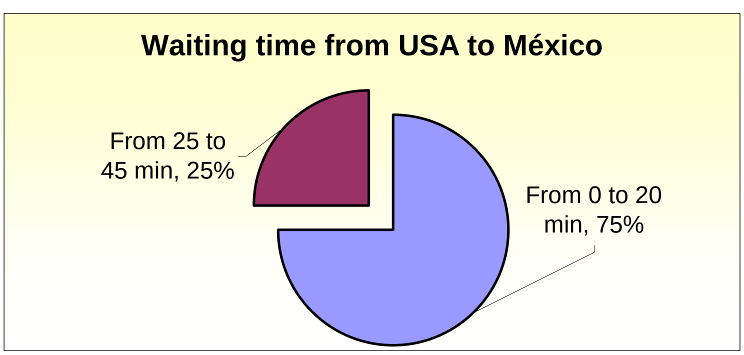

Figure 5 Waiting time Calexico to Mexicali

The waiting time from Calexico to Mexicali is almost half as lower as the waiting time from Mexicali to Calexico, see **figure 5 and 6**.

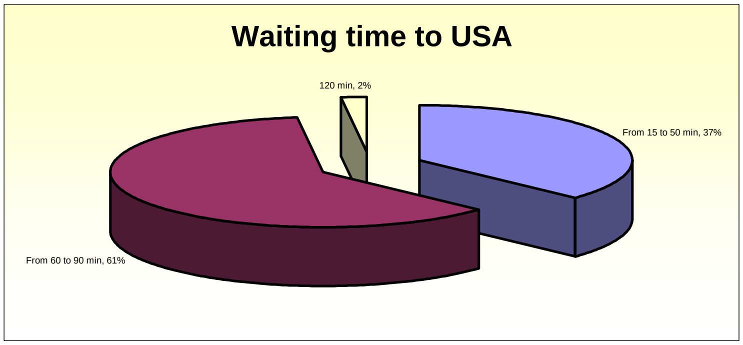

Figure 6 Waiting time from Mexicali to Calexico

Job characteristics

Mostly of the workers been interviewed work in the Imperial Valley county (87%), none said San Diego, that shows a low commute traffic from Mexicali to San Diego, at least transmigrants in the Mexicali Calexico area of the region.

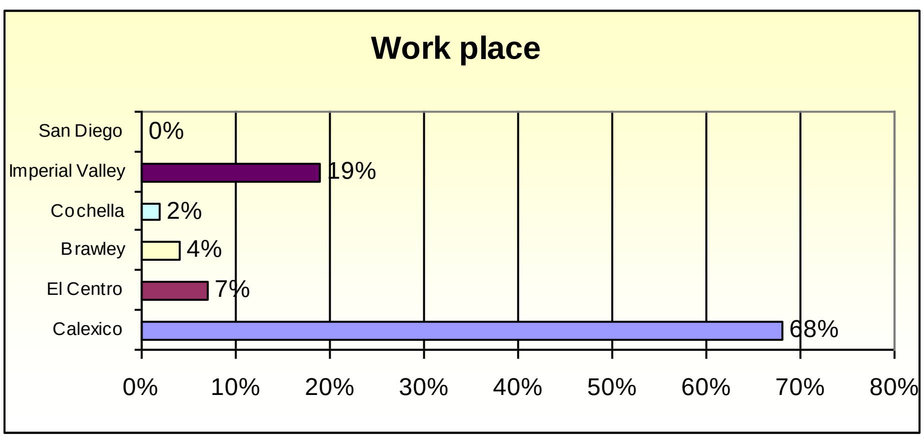

Figure 7 Work place city

Almost half of the workers have an agricultural job as direct labor, 20 % work in the commerce sector and 19% in the service area.

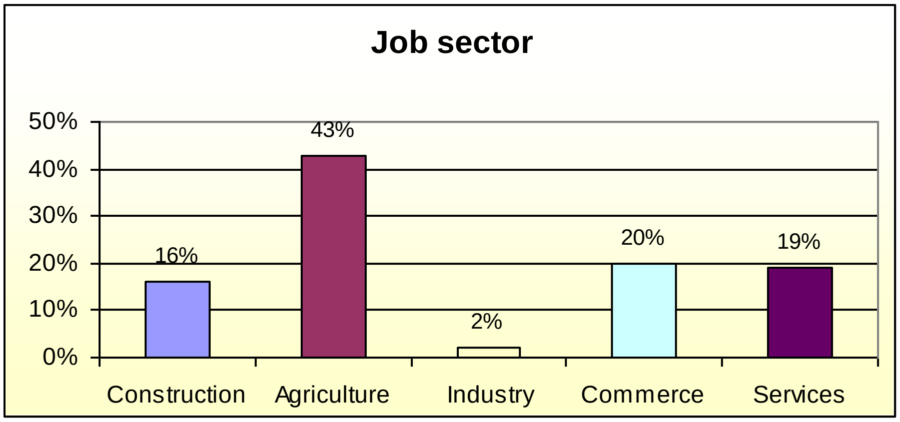

Figure 8 Job sector

It was a surprise to know that 92% of the workers interviewed were American citizens and the rest are working with their normal visa. It is important to say that the answer may not be a true one due to their legal status and consequences.

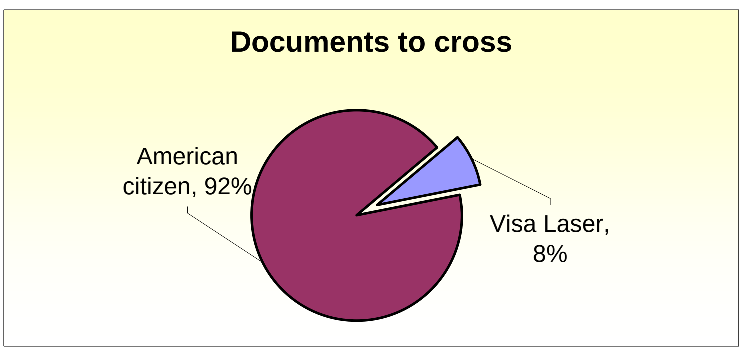

Figure 9 Documents to cross

Qualitative analysis

Waiting and commute time should have an impact on the life of the people that cross every day to work on the other side of their residence country, these factors were studied with open answer questions on the survey.

What is your feeling about crossing every day to work? Was the question, the majority said that are tired and is a waste of time, few of them think that it is not a problem and that crossing is normal for them (23%). At least 36 % of the worker interviewed said they are tired of waiting to cross the border. But the majority of the workers had a negative answer to the question, about 77% do not like to wait as much as they have to.

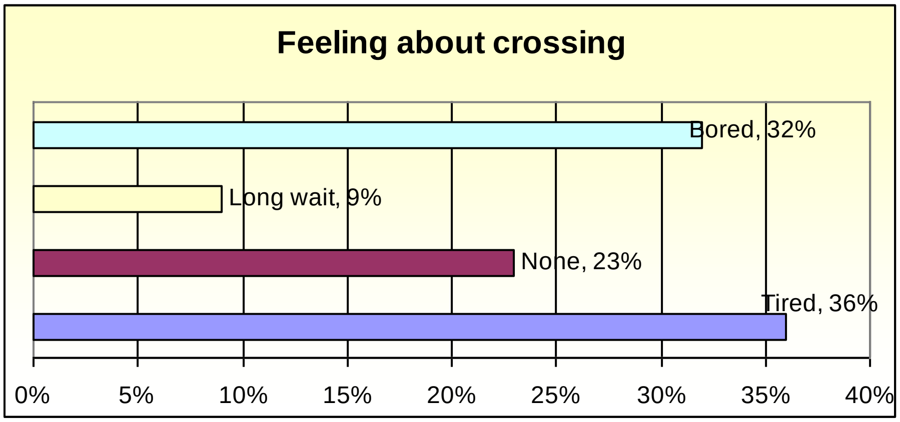

Figure 10 Feelings about crossing

Collective use of transportation is not a common practice between transmigrants, the use of "car pool" or other kind of collective transportation is not used at all, only 1 % of the worker admitted to use car pool to get to job.

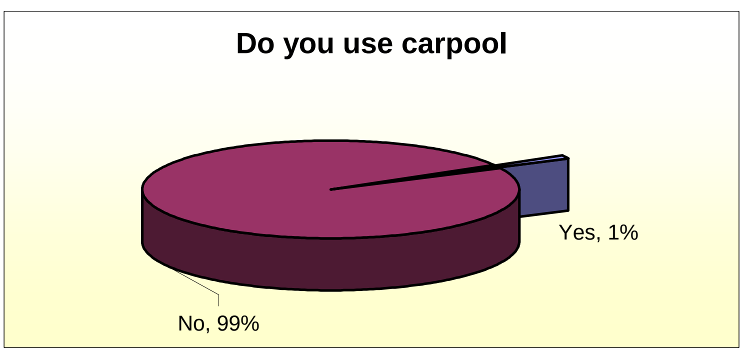

Figure 11 Use of carpool

Transportation cost analysis

The cost factor is very important to study due to the investment justification of a high speed train or other collective transportation option. 60% of the interviewed workers spend between 100 and 150 dollars a week for their transportation, and average of 93 dollars a week. The amount shown by the study is very important for the investment justification and feasibility.

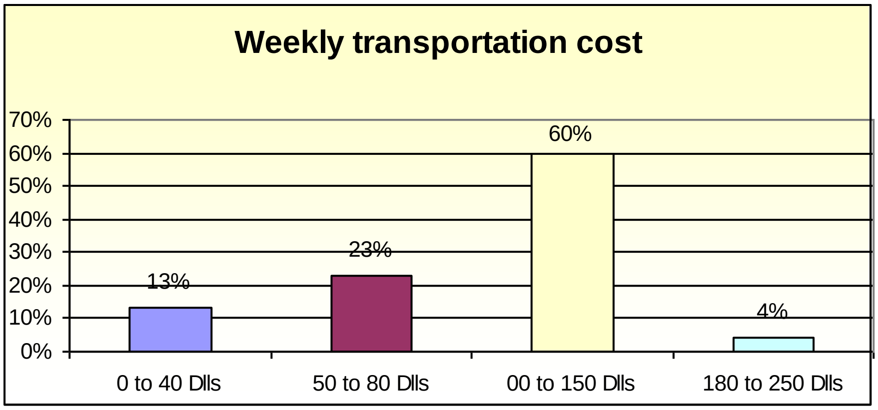

Figure 12 Weekly transportation cost

One of the main questions in order to determine if a need of an efficient way of crossing and transportation is required, was described as "Would you use a faster and efficient way of crossing and transportation if the cost would be the same? And than ask the same question with higher cost impact.

The answers were that if the cost impact would be the same as the one that they spend 50 % would use it, the other halt would not. This figure and the low use of car pool defines a the wish of this market, the need of transportation for other purposes while they are on the other side of the border maybe. But this is a factor that needs to be demonstrated with new research.

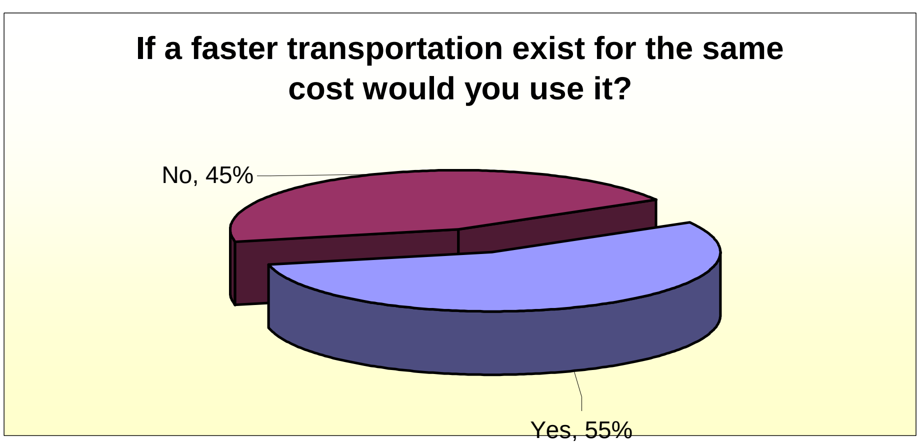

Figure 13 Need of efficient crossing and transportation mode

The other question regarding the use of a new option of transportation faster but with an increase expenditure of 50 % , none of the interviewed workers responded affirmatively, see **figure 14**.

There is a perception on 93 % of the workers interviewed that the waiting time has increased 50 % since last year.

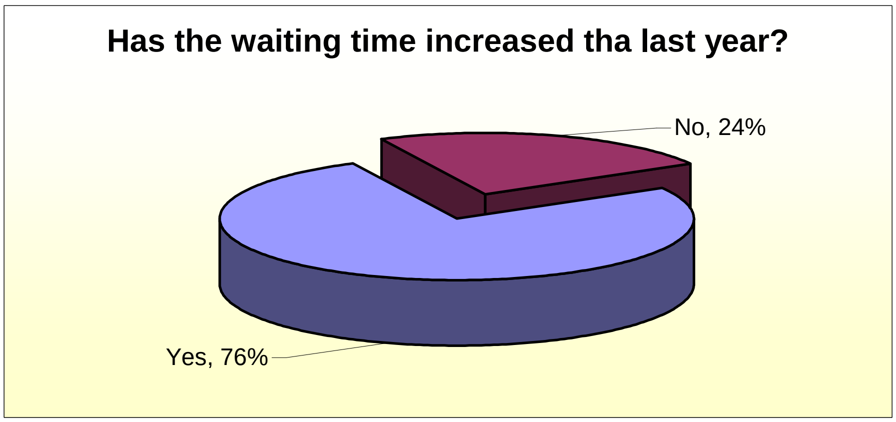

Figure 14 Perception about waiting time

Commerce

An important factor in the California's is commerce. It is important to recognize the quantity the two countries import and export and what crosses the Mexico and U.S. Port of Entry. Mexico imports from California roughly 15.7 billion dollars annually while Mexico exports to California 17.5 billion dollars. This is a difference for Mexico of 2 billion dollars. What is important is that 90% of the trade is done by trucks. From 1993 to 2000, the truck traffic in the area grew from 886,000 filled trucks to 2 million filled trucks. This is more than a 100% increase. This further highlights the need for better coordinated infrastructure, more efficient checkpoints, and a commercial relationship between a high speed corridor and the people who move the commerce across the country. This topic would certainly fit well with the idea of a East-West high mobility corridor. These factors will only be highlighted as transportation of people is the main concern for this project.

Internal Traffic

San Diegans' traffic issues have gotten to the point where it's problems are spoken of regularly. In a study conducted by SANDAG in 1999, traffic was deemed the #1 problem in San Diego. In that study, it was hypothesized that more people would be moving out of San Diego for a better quality of life. In this study, 64% of those interviewed agreed with the following statement "The proximity of my work place will be a factor when I buy my new home"; 68% agreed to " one of the biggest problems in the region is the increase of traffic"; and 82% agreed with " Traffic is worse now, than two years ago". Remember this was fifteen years ago.

It is also important to note that the residents of San Diego have a tendency to solely use an automobile. Seventy-seven percent of those interviewed commuted by themselves in their car. In 1990, it was 72%. This indicates that public transit is not utilized which in turn spurs more traffic and waiting time. Even though the wait time in 1998 from home to work was 25 minutes and from work to home was 30 minutes, commutes times have significantly increased. Today, the average mile to work is 10.5 but the commute time has increased significantly during the peak commuting times.

The trends of the region point to a high speed corridor or train that will potentially strengthen and increase opportunities for the area residents who are always looking for a better way of life. As fore-mentioned, this would include housing, recreational times, family visits as well as business visits. There are other projects in the Southern California and Northern Baja California region that are already in conception. For example, the fast train that is going to connect Los Angeles (inland) which will give the residents of Riverside (29,000) a break from their daily commute to San Diego County. A lot of the decision to build this train depends on the new site that voters pick in the November 2006 election. An opportunity also exists in the Imperial Valley. There is an opportunity for the decision to build an airport in that area. The train would be able to transport travelers to the airport from San Diego in 30 minutes. What this opportunity really offers is the connection to the Eastern part of California and the potential to link this up with the Mexicali/ Tijuana commuters and the Imperial Valley San Diego commuters. This could create a mobile check point (a mobile port of entry). Remote checkpoints could also be used to increase commute time and would reduce wait time as well increase efficiency for commerce and trade.

Housing In San Diego

Certainly one of the main problems in the County of San Diego and one that can be a determining factor in mobility is the lack of affordable accessible housing for a large and growing population. It's important that we study this problem as it attributes to the population and its expansive development. San Diego's history shows that its housing construction has not kept up with the growing population (see **table 4**). It is also crucial to take a good look at it now as it can signify an incremental change in traffic and migration of residents to other counties or to another city in Baja California- in particular Mexicali and Tecate for their low cost housing.

Table 4 Construction of housing units in San Diego

Decade	Housing units constructed	Housing units per new resident
70s	265,000	1 for every 1.9 new residents
80s	222,000	1 for every 2.9 new residents
90s	94,000	1 for every 3.4 new residents

Source: SANDAG

The San Diego region is expected to grow by another million people by the year 2030. The projected number of housing units for 2030 is 314,000 housing units (about 10,500 per year). It is also projected that more than 93,000 outside of the region (SANDAG) will export out to the county's Riverside, Imperial which includes Northern Baja California which is at 3,100 housing units per year. This, of course, would imply that there will be a lot more people driving to San Diego.

CHAPTER 5

CONCLUSIONS

The interviews and the historical information yielded information that helped to identify current and past attitudes, issues with regard to projects of collective transportation and mobility of people between the region. Institutional issues were also identified such as lack of regional communication, the need to develop collaborations between both southern California counties and the four major cities in Baja California Norte, and lastly, the barriers within inter and intra agency communication in the U.S.

Given the issues presented, there are still opportunities to capitalize on. Strong relations take years to cultivate, something that needs to be looked at by all stakeholders. Are we doing enough to integrate both economies? Both cultures?

The plans to build a fast train in San Diego aren't as defined as the plans for a fast train in Los Angeles. This is why it's important to see the opportunity to integrate the institutions from both sides of the border and see what the possibilities of this vision to the south and east, and plan accordingly with both countries.

A transborder agency, with financial as well as political power would enable the region to plan large public works projects in a more coordinated manner. A Fast Train linking East and west could also help with a reduction in wait time at the port of entry's. With a fast mode, remote check points could be done, thus eliminating wait time at the border.

Housing and job opportunities are factors that can be used in order to justify investments in infrastructure projects, the region has to take it´s best strengths of each city or county, we are already a common region.

The possibility of an airport in Imperial is also an opportunity to communicate with a a high speed train Imperial and San Diego, Mexico can and should also be integrated in these projects.

Traffic in the area of San Diego is also a factor that needs to be attack in order to have a better quality of life.

A project of collective transportation between Mexicali and Imperial Valley and Tijuana with San Diego is a must to integrate the region with a faster, dependable and cheaper transportation system to increase the relationship between of people and the economy, as well as take advantage of the cultural opportunities in this region.

This research has develop several important numbers that can be used for a complete justification of a project as a high speed train or collective transportation mode for the region. The numbers show low interest of the transmigrant workers market, but other research should be conducted in order to study other markets and factors. Studies of cost and benefit for a collective transportation in the Mexicali and Imperial Valley area of the region, including the market of tourism and commerce, are needed.

California and Baja California have in common the non culture of collective transportation and a sector that thinks that we should live with this kind of barriers are factors that inhibit this kind of mega projects.

The average cost of transmigrants transportation home to work and back to home was determined as an average of 93 dollars a week, and this figure is a good point of beginning for a more in depth research, even for a less expensive project of collective transportation mode as buses and charters. If the cost of the transportation is to be reduced half there should be a higher percentage of interest among the transmigrants and also other activities market as shopping and tourism, this is a research to be approach.

The up to date number of transmigrants should also be define with a census in order to know the size of the market.

Waiting and transportation time are issues that reduce productivity and the companies that employ these workers should also be interested in the problem, their workers need to wake up three hours before they begin to work and they feel already tired or are buried when they begin to work (77%).

The region is wasting a lot of man power hours that can be productive to develop our community, an integrated vision is needed, both sides of the border and actors that can explore those opportunities.

Big numbers on commerce due to the NAFTA need to be consider in order for the public government agencies to take decisions of a faster and efficient mode of transportation and crossing activity, none of the officers that take decisions live the waiting time each day to work or the time to cross the border in order to buy groceries or clothes, even to see our relatives. Decisions have to be local, but that´s the big challenge.

APPENDIX A
SURVEY INSTRUMENT

Mexicali residents that work in United States market research, its objective is to know de crossing time and cost of transportation from home to work and back in order to justify a collective transportation mode.

Age____________ Gender M F Home colony_____________

1- Are you crossing to go to work?

1. Yes if answer is yes continue 2.No do not continue

2- How many times a week do you cross the border?

1. Daily on weekdays 2. 1 or 2 times per week 3. 3 to 4 times a week 4. All days

3- Years crossing as a worker in the U.S.A?

1. 0 to 2 years 2. 3 to 5 years 3. 6 to 10 years 4. more than 10 years

4-In which city do you work?

1.Calexico 2.El Centro 3.Brawley 4.Cochella 5.San Diego 6.Other_________

5- Average time from home to work?_________min

6- Average waiting time to cross the border from Mexico to U.S.A?_________min

7- Average waiting time to cross the border from U.S.A to Mexico?_________min

8- Name the sector on which you work?

1.Construction 2.Agriculture 3.Industry 4.Commerce 5.Service (food) 6.Service

9-Position?

1.Administrative 2.Direct labor o field worker 3.Manager

10- Documents you use to cross the border?

1.Visa laser 2.American citizen 3.Resident permit 4.other__________

11- Define in one or two words how you feel about crossing every day to work?________________________

12- How much do you spend weekly to go to work?________dlls

13- Do you use carpool? 1. Yes 2.No

14- If a faster mode of transportation to cross and get to work would exists but with the fallow costs, would you use it?

a) Same cost 1. Yes 2.No

b) 50 % more expensive 1. Yes 2.No

c)100 % more expensive 1. Yes 2.No

15- Since last year has the waiting time increase? 1. Yes 2.No

16- If yes , how much? 1. 50 % 2. 100% 3. 200%

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