

# City of Nogales PARA Pedestrian Circulation at Port of Entries

Task Assignment  
MPD 35-10



## Final Report

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### 1.0 Introduction

#### 1.1 Background

*Study Purpose:* The purpose of this study is to prepare a pedestrian circulation plan for the City of Nogales in the vicinity of and serving the three Nogales Ports of Entry. These ports are the DeConcini and Morley Gate Ports of Entry in downtown Nogales and the Mariposa Port of Entry to the west at SR 189.

*Study Need:* The influx of people to Nogales for shopping, work, and entertainment is significant, and most spend some or all of their time walking around the downtown area and through the downtown ports of entry. This pedestrian activity represents a major portion of the City’s overall economic activity. A plan to make the pedestrian’s experience more convenient, safer, easier to find their way, and pleasant will enhance both the individual’s overall experience and the economic development potential for the community.



DeConcini POE & Downtown Nogales



Mariposa POE

The focus of this study effort will be on the pedestrian circulation needs of the downtown Nogales area, especially targeting the pedestrian circulation that moves between Nogales, Sonora, and Nogales, Arizona, through the downtown area’s two ports of entry (POEs). The need is evident as over 625,000 pedestrian crossings per month flow through these two POEs, much of it from Mexican citizens crossing into Nogales for retail shopping and services. This commerce is a critical component of the economic base of the area on the Arizona side of the international border.

This study also examines the pedestrian traffic through and using the Mariposa Port of Entry to the west of downtown along SR 189. While this is the commercial port of entry, it does have about 5% of all pedestrian crossings in Nogales. There are no sidewalks connecting this POE to the rest of the community, and pedestrians leaving the port of entry are either picked up or walk along the shoulder of SR 189, a high speed truck route. Accommodating the pedestrians using the Mariposa POE and connecting them to downtown Nogales, the Walmart shopping district, their workplace, or other destination points is to be investigated and addressed in subsequent phases of this study.



The *Ambos Nogales Civic Planning Vision* charrette process, conducted in 2009, focused on creating a vibrant mixed-use development in the urban core area surrounding both sides of the DeConcini POE. It recommended a pedestrian scale environment including some form of public transportation providing connectivity between the DeConcini POE and the Walmart retail area. This public

transportation could also be planned to provide service to the Mariposa Port of Entry sometime in the future. Pick-up/drop-off areas or park-and-ride facilities that may be provided to address current needs could ultimately serve as transit centers. While neither the City of Nogales nor Santa Cruz County has a public transit system, a number of local jitney services and intercity bus and van services operate within the study area. An inventory has been made of alternative modes of transportation.



Near all the ports of entry, the provision of pick-up/drop-off areas, park-and-ride lots, and transit staging areas to direct and consolidate taxi, bus and livery services appears to be needed. Park-and-ride lots and/or transit staging areas could evolve into service facilities for a future public transit service in the Nogales area. Additional public parking is needed for residents and visitors alike frequenting the many shopping areas, attractions, and entertainment sites in Nogales, and for those crossing the border from the Arizona side into Mexico for shopping and day trips.

This paper reports on the current conditions of the pedestrian-related infrastructure including sidewalks, crosswalks, and associated facilities and transport services. Subsequent phases of this study



will identify the origins and destinations of pedestrian trips and will map the locations of existing and proposed activity centers such as shopping, restaurants, and public and private services. Needed connections between these destinations, upgrades of substandard facilities, provision of directional signage and wayfinding, enhanced safety measures, pedestrian amenities, additional transport services, and areas for pedestrian drop-off and pick-up in close proximity to the port of entries will all be examined and addressed.

**1.2 Study Objectives**

The primary objectives for the *Nogales Pedestrian Circulation at Port of Entries Study* are as follows:

1. Provide for convenient and safe pedestrian travel in downtown Nogales, and to and from the Nogales ports of entry.
2. Improve staging areas for vehicular transportation and transit services.
3. Enhance opportunities for multimodal accessibility for residents and visitors alike.
4. Identify multimodal connectivity between the Mariposa Port of Entry and major destination areas.
5. Set forth (bilingual) signage and wayfinding strategies to inform and direct pedestrians including identification and information on destinations, how to get there, and how long it will take.
6. Coordinate the plan with local needs, economic development, and downtown revitalization efforts.
7. Identify a menu of potential resources to implement the plan.



1.3 Study Area

*Regional Context:* The City of Nogales is located at the southern end of I-19 at the international border between the United States and Mexico. It is the closest border crossing to the City of Tucson located 70 miles to the north, and the route to the City of Phoenix located approximately 180 miles to the north is entirely via interstate highways, I-10 and I-19. Nogales is home to the largest commercial port of entry in Arizona and one of the largest on the southern boundary of the U.S. This generates a significant amount of commercial business and traffic. Many U.S. citizens enjoy visiting Nogales, Sonora, and account for frequent day trips across the border, usually parking the car on the U.S. side and walking across. These visitors also look to Nogales, Arizona, to provide something akin to the “Mexican experience” on the U.S. side of the border. Additionally, as many as 7 million Mexican citizens have crossed the border annually into Nogales to take advantage of the array of relatively inexpensive retail shopping, groceries, services, and entertainment establishments the community has to offer.

Figure 1 Regional Context



*Study Area:* The study area is shown below. The predominant effort will be focused on the downtown area due to the significant amount of cross-border traffic into downtown Nogales.

Figure 2 Downtown Nogales Study Area & Vicinity

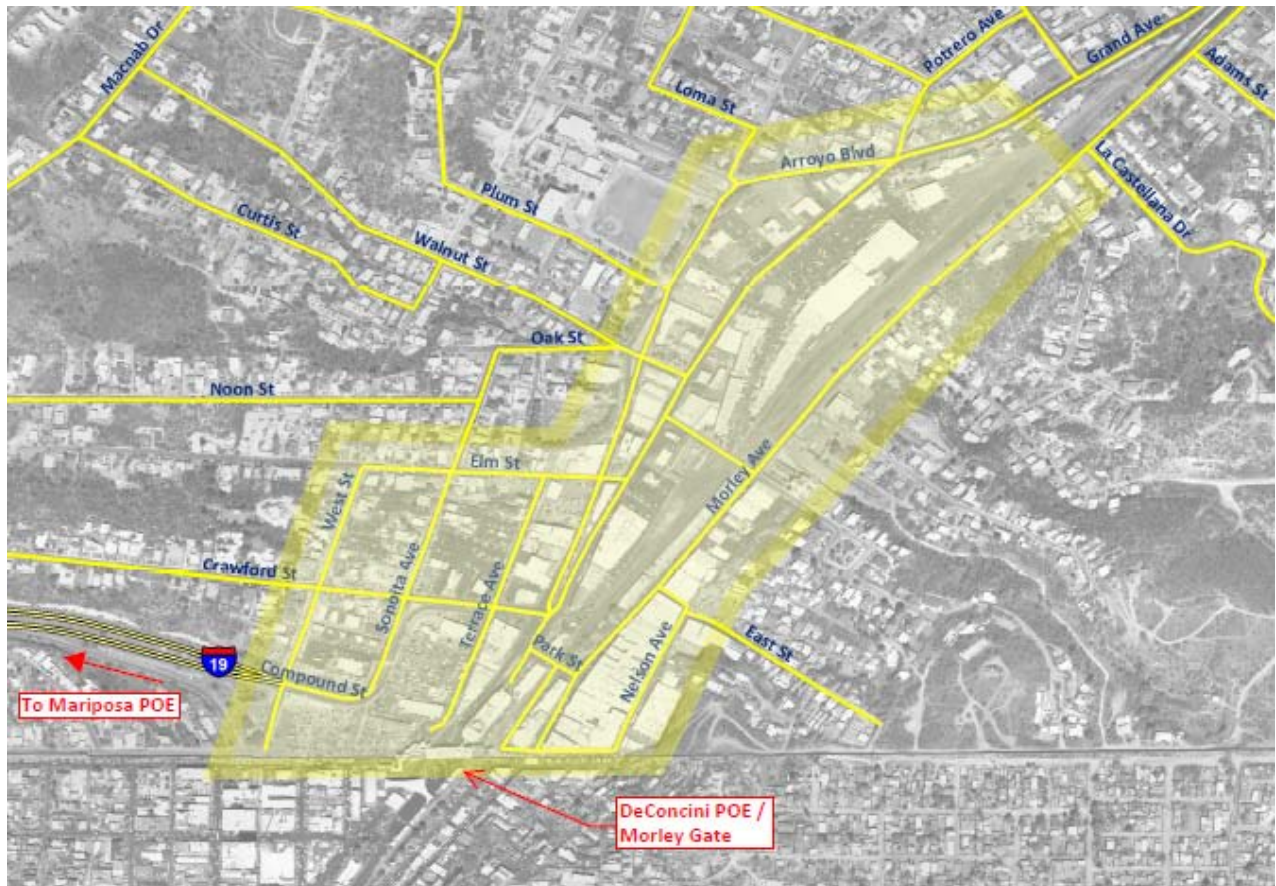
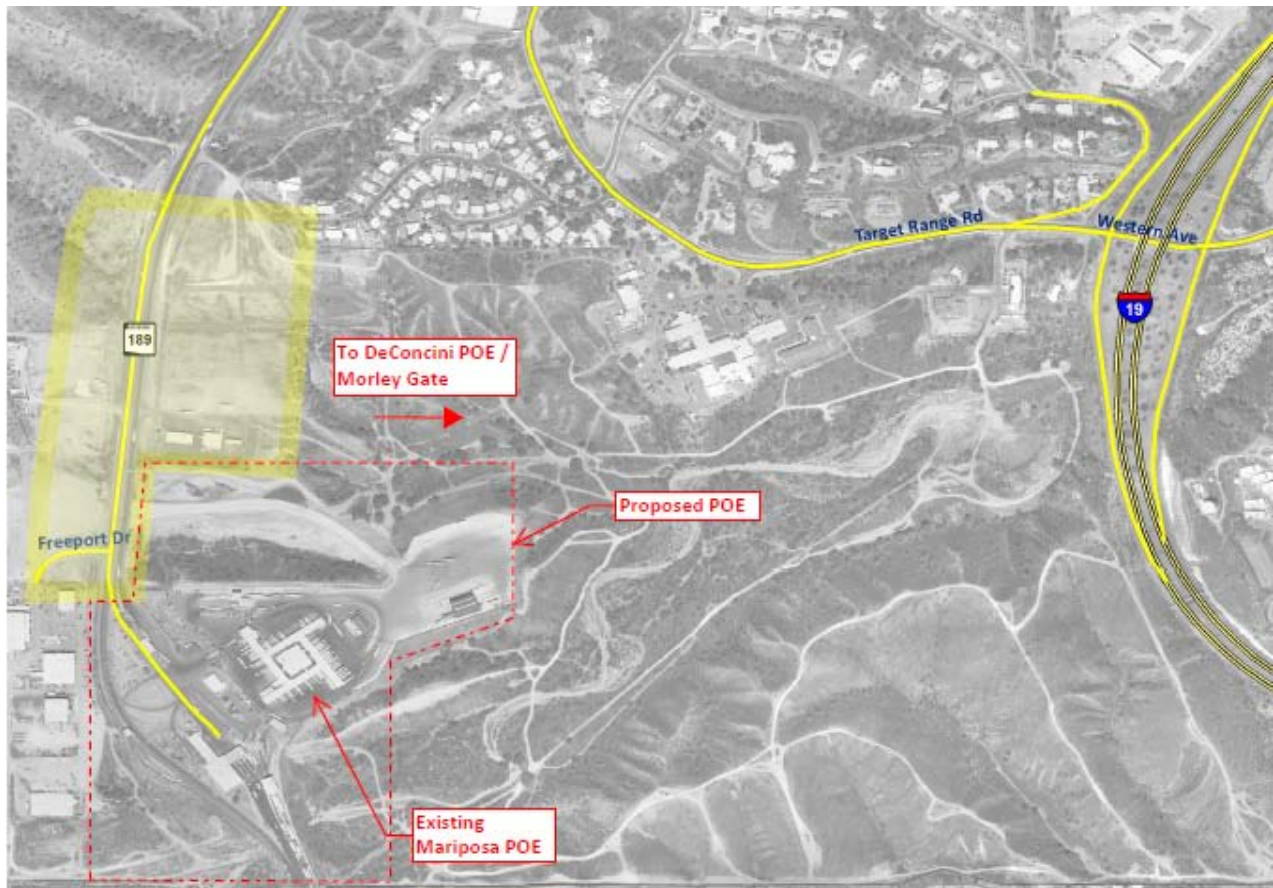


Figure 3 Mariposa Port of Entry Study Area &amp; Vicinity



Nogales did not originally develop around the primary use of the private automobile. Consequently, many of the streets in the older portions of the city, including those in the historic downtown area, were not designed to current roadway standards. For the most part, the sidewalks in the downtown area are in fair to good condition overall. Notably, very few of the sidewalks observed during the field visit were noted to be in poor condition. The City has provided most of the downtown area sidewalks with accessible ramps at street corners and crosswalk locations. The lack of accessible ramps at some locations suggests the need for the City to continue their program to identify and mitigate barriers to the disabled. Consideration needs to be given to conveniently located restroom facilities, shade covers, ample seating, and directional wayfinding and signage.

While most pedestrians crossing the border will not need parking, space for buses, vans, and taxis needs to be addressed. A properly designed and designated staging area is needed for intermodal connections to taxis, the local jitney bus services, and the intercity bus and van services. These locations can mature into full transit centers in the future, especially if the area develops public transportation services. There should be designated areas provided for pick-up and drop-off activities near the ports of entry, as well as additional short-term parking located close to the border for tourists visiting Nogales, Sonora.



## 1.4 Previous Plans and Studies

The precursor to this study is the *Unified Nogales Santa Cruz County Transportation Plan 2010*. That effort identified the need for a specific pedestrian study in the downtown and ports of entry areas. This study is the successor project for that purpose, and was funded by the Arizona Department of Transportation through their *Planning Assistance for Rural Areas* grant program. The *City of Nogales General Plan*, completed in August of 2010, provided much helpful direction and information to this study, as did the *Ambos Nogales Civic Planning Vision* charrette document. The stakeholder jurisdictions involved in the current effort have provided numerous other previously completed transportation related plans, studies, and reports.

Several tactics were employed in order to gather the available background information. First, the local liaisons for the project were asked to submit all study reports and background information that they were aware of for the City of Nogales, the Ports of Entry, and the ADOT. Technical Advisory Team (TAC) members were also asked for their input on identifying any reports or studies done in the area that might be pertinent to the purpose and need for this study. In a final effort to be sure that all studies were accounted for, stakeholders were asked during their interviews if they had any reports or studies. By including all local contacts in this process, the study team was able to compile a comprehensive library of applicable project and study reports that have been done in the study area. This effort creates continuity between this report and previous studies, and builds on the information already collected and planning efforts already completed to fully serve the residents of, and visitors to, Nogales. A full list of these studies and reports can be found in *Appendix 2 – Reference Documents*.

## 1.5 Community Involvement

The *Nogales Pedestrian Circulation at Ports of Entry* study public involvement plan was conducted as a cooperative planning process involving project stakeholders that include public agency staff, elected officials, and interested members of the general public. Public participation is an integral part of any transportation planning study. Study related information is presented to, and feedback solicited from, stakeholders throughout each phase of the study. ADOT's Communication and Community Partnerships Division (CCP) leads the public involvement effort with the aid of their consultant consortia firms. The following sections summarize key components of the public involvement and outreach plan.

### Morley Avenue Retail Stores



### 1.5.1 Technical Advisory Committee

A Technical Advisory Committee (TAC) was established to oversee and coordinate the study and to provide input and direction to the study team. Meetings with the TAC were scheduled and conducted after the submittal of each draft working paper for the purpose of reviewing and discussing the findings and recommendations and to receive comments on the documents and input into the planning process. Draft working papers and deliverables were distributed to the TAC for review and

comment ahead of each TAC meeting. Pertinent comments and requests are addressed and incorporated into the final versions of the working papers and the final report documents.

The following individuals were members of the TAC for this study:

- |   |   |
|---|---|
| Rudy H. Perez, Jr.<br>ADOT Office of International Affairs<br><i>ADOT Project Manager</i> | Kathy Boyle, Intergovernmental Affairs Manager<br>ADOT Communication & Community Partnerships |
| Juan Guerra, P.E., CFM, City Engineer<br>City of Nogales<br><i>Local Study Manager</i>    | Luke Droeger, Transportation Planner<br>Southeastern Arizona Governments Organization         |
| Walter J. Breitenstein, P.E., CFM<br>Santa Cruz County Public Works Department            | James B. Manson, Chairman<br>Greater Nogales /Santa Cruz County Port Authority                |
| Olivia I. Ainza-Kramer, President and CEO<br>Nogales-Santa Cruz Co. Chamber of Commerce   | Thomas Yearout, Asst. Director Field Operations<br>U.S. Customs & Border Protection, US DHS   |
| Linda Ritter, Public Involvement Officer<br>ADOT Communication & Community Partnerships   | Yvonne Delgadillo, CEcD, Executive Director<br>Nogales Community Development Corporation      |
| Mark R. Hoffman<br>ADOT Multimodal Planning Division                                      | Melissa Reuter, Environmental Planner<br>ADOT Environmental Planning Group                    |
| Todd A. Emery, P.E., District Engineer<br>ADOT Tucson District                            | Tim Bolton, Planner III<br>Arizona State Land Department                                      |
|   | Randall Overmyer<br>Wilbur Smith Associates<br><i>Study Team Project Manager</i>              |

**1.5.2 Public Open Houses**

Public open houses were scheduled to be held after submittal of study *Draft Working Paper #2, Future Conditions and Deficiencies*, and after submittal of study *Draft Working Paper #3, Evaluation Criteria and Improvement Plan*. These public meetings were advertised in the local newspaper and announcements posted in prominent locations in the City, as well as through direct notification of the TAC members, stakeholders, and local agency representatives. These meetings served as a means to communicate with the general public throughout the planning process to make sure that their concerns were being heard and addressed as appropriate, and also to apprise the public of the progress and findings of the study. Public input is important to the overall planning process, as members of the public can help to account for any issues, concerns, or background information that might have otherwise been overlooked by the project team and the technical advisory committee.



Crawford Street – Looking West

**1.5.3 Stakeholder Interviews**

Stakeholder meetings were held during the development of this plan. These meetings were used to solicit and receive input from individuals that may or may not be members of the TAC, but who are stakeholders for, and have an interest in, the study. The study team conducted these interviews with the participants to learn about issues of concern to them, solicit their input, identify pedestrian related needs, and to answer any questions that they may have regarding the study. Each stakeholder was given a list of questions to think about before the meeting so that they had time to gather their thoughts on the pedestrian circulation issues and information that they wanted to discuss. The list of questions and the summarized meeting notes from the interviews can be found in *Appendix 1 – Stakeholder Interview Notes*.

**2.0 Current Conditions Inventory**

Overall current conditions for the City of Nogales are well documented in the recently completed *Unified Nogales Santa Cruz County Transportation Plan 2010*. Pertinent specifics related to this study are updated and included herein. A field review of the downtown study area and the Mariposa Port of Entry study areas was conducted on November 11, 2010. The field review concentrated on viewing sidewalks, crosswalks, pedestrian amenities, informational signage, locations of taxi service and transit providers, and pedestrian crossings of the railroad.



The Union Pacific Railroad runs north and south through the downtown area. The rail line serves to bifurcate the community. When trains are operating, they can create a major barrier to pedestrian movement and circulation within the study area. Stakeholders report that the average length of time the trains will block a particular crossing can range from 20 to 30 minutes, and occasionally it can be longer. Additionally, this presents a potential safety hazard for pedestrians and precludes the passage of public safety emergency response vehicles. Stakeholders have mentioned that occasionally people will crawl through the moving train cars to cross the tracks.

A high priority for the community is the provision of a railroad overpass structure to enable pedestrians to safely cross the railroad tracks when trains are present. A railroad overpass study was completed



Source: *Nogales Railroad Small Area Transportation Study, 2007*

in April 2007 that identified possible locations for such an overpass in the downtown area. The pedestrian crossing could be collocated with a vehicle crossing as well.

**2.1 Land Use, Population and Socioeconomics**

**2.1.1 Land Use**

The land use within the study area is varied. The downtown study area surrounding the Morley and DeConcini POEs is primarily comprised of retail and service retail (such as banks and auto service) uses. There are also some office uses in the area. Although limited, some residential uses are present.

**2.1.2 Social and Population Characteristics**

According to the Arizona Department of Commerce, the current population estimate for Nogales is 22,863; up from the 2000 Census count of 20,878. The Nogales Census County Division (CCD) is the metropolitan area, and includes Rio Rico, Tubac, Tumacacori, and Amado. That larger metro area has a current population estimate of 46,746. The following table summarizes social characteristics of Nogales, based on data from the 2000 Census:

**Informational Kiosk at the DeConcini Port of Entry**



**Table 1 Social Characteristics**

Social Statistics for 2000	Nogales	National Average
Less than 5 years old	8.8%	6.8%
18 years and over	65.4%	74.3%
65 years and older	10.8%	12.4%
Disabled	18.6%	19.3%

Of the population that is 25 years or older, the 2000 Census collected data on educational achievement in the study area. Based on this data, 47.7 percent of the population was a high school graduate or higher, versus 81 percent in Arizona, and 80.4 percent nationwide. Bachelor’s degrees or higher were 9.4 percent of the population compared to the state and national average numbers of 23.5 percent and 24.4 percent, respectively. The percentage of elderly and persons with disability are very close to the national average as shown in the above table.



The above information is for the Nogales, Arizona area. Nogales, Sonora has a current estimated population of 190,000; up from 159,000 in the 2000 Mexico census. The U.S. Consulate has an office in Nogales, Sonora, to serve an area between Agua Prieta and San Luis Rio Colorado, Sonora within 60 miles of the U.S. Border. The Consular District estimates a population in that portion of the Mexican state of Sonora at 800,000. The Consular District is shown in *Figure 4 Consular District of Nogales* found on the next page.

Figure 4 Consular District of Nogales



**2.1.3 Economic Characteristics**

The Arizona Department of Commerce reports that the 2008 civilian labor force (population 16 years and older) in the study area totaled 10,611; which is about 54 percent of the total population. The average unemployment rate in Nogales in 2000 was 10.2 percent, significantly more than the state and national averages, both of which were 4.0 percent at that time. By 2008, the unemployment level had climbed to 12.1%. In 2000, 30.8% of households were at or below the poverty level. The workforce in Nogales is employed in the categories shown in *Table 2 Workforce Employment Categories 2008* located on the following page. (Totals do not equal 100%):

According to the 2000 US Census data, workers in Nogales drove an average of 16 minutes to work. This is slightly lower than both the state and national commute times of 24.9 and 25.5 minutes, respectively. A report, *The Economy of Nogales*, developed for the Arizona Department of Commerce in 2008, reports that the area has significantly more retail activity than would be anticipated for a community of a comparable size. That, and the significance of produce warehousing in the employment mix, are indicative of the extensive cross border trade implications of the much larger market south of the border that is centered on *Ambos Nogales*.

Table 2 Workforce Employment Categories 2008

Workforce Category	Percentage of Workforce
<b>Public Sector</b>	<b>24%</b>
Health and Social Service	6.4%
Retail	19%
Accommodations and Food Service	8.4%
Construction	3%
Manufacturing	3%
Professional	1.5%
Transportation and Warehousing	10%
Administration and Support	3.3%
Finance and Insurance	2%
Professional and Technical	2%
Wholesale	12%

Note: Table does not total 100%.

The *City of Nogales General Plan* reports that in 2001, Mexican visitors to Arizona spent an estimated \$963 million. Of that amount, 41% was spent in department, clothing, and other wares stores, and 25% was spent in grocery stores. A great deal of the extraordinary retail activity in Nogales is, therefore, due to cross border business transactions. The stakeholders interviewed confirmed this extensive cross border trade activity. While not all of this business occurs in border areas (Pima and Maricopa County received about 31% and 13% of the trade, respectively, in 2001), Santa Cruz County receives about 25% of the total cross border retail trade in Arizona. In 2001, this amounted to approximately \$240.75 million.

## 2.2 Pedestrian Activity in the Study Area

The Nogales ports of entry handle over 50% of the pedestrian crossings through all Arizona POEs. Most of this pedestrian activity is centered on the Morley Gate and DeConcini POEs in the downtown Nogales area. While about 5% of the pedestrian crossings occur at the Mariposa POE, conversations with U.S. Customs and Border Protection (CBP) staff have provided the insight that bus passengers going through the Mariposa facility must exit the bus and walk through the crossing, thereby increasing the number of pedestrians counted at that location. Most of these passengers are not traveling to destinations within the study area. CBP staff also reported that some of the pedestrians crossing through the border are doing business at the port of entry and don't leave the port facility area. Others are workers for companies with facilities on both sides of the border and the worker is temporarily assigned to the unit on the opposite side of the border. These itinerant workers are usually picked up at the port of entry and driven to the place of business.





2.2.1 Current and Historical Pedestrian Crossing Volumes

Currently (2009 data), there are about 4 million pedestrian crossings into Nogales, Arizona from Nogales, Sonora per year. This number is lower than historical averages over the past decade. Recent history has shown the number of annual pedestrian crossings to be in excess of seven million. *Table 3 Pedestrian Crossings per Year* shows historical pedestrian counts in previous years.

Table 3 Pedestrian Crossings per Year

Year	Pedestrian Crossings
1995	4,698,049
1996	4,864,717
1997	4,643,538
1998	4,796,884
1999	4,806,076
2000	4,677,819
2001	4,874,738
2002	5,911,866
2003	5,583,533
2004	6,131,407
2005	6,930,198
2006	7,726,045
2007	7,722,877
2008	6,568,207
2009	4,038,356

Note: Crossing counts are northbound only.

2.2.2 Current Pedestrian Crossing Congestion and Delay

Pedestrian delay information was obtained from U.S. Customs and Border Protection officials. CBP provided their *Border Wait Time Detail Report* that shows the typical wait times experienced by a person entering the U.S. by the hour for each day of the year. Data was provided and reported on for the period from September 25, 2009 through September 24, 2010. *Table 4 Pedestrian Delay in Minutes at POEs*, found on the next page, shows the average wait time and the maximum wait time recorded during the day time hours shown for the entire 21 month period.

The longest average delays were experienced from 10:00 a.m. to 3:00 p.m. These times correspond well with the peak retail store shopping hours. The highest average delay during the sample period was experienced at the DeConcini Port of Entry at 10:00 a.m. The maximum delay recorded was 99 minutes at 3 p.m. and 4 p.m. at the Morley Gate and at 3 p.m. at the DeConcini POE. The maximum delay times were recorded during the week leading up to Christmas.

Table 4 Pedestrian Delay in Minutes at POEs

Time	Morley Gate POE		DeConcini POE	
	Average Delay	Maximum Delay	Average Delay	Maximum Delay
8 a.m.	0	0	8	45
9 a.m.	1	60	12	60
10 a.m.	13	60	18	45
11 a.m.	10	60	16	60
Noon	9	90	16	60
1 p.m.	9	90	15	60
2 p.m.	9	90	17	60
3 p.m.	9	99	16	99
4 p.m.	7	99	13	60
5 p.m.	4	60	11	90
6 p.m.	0	0	9	60
7 p.m.	0	0	6	60
8 p.m.	0	0	4	60

Source: US Customs and Border Protection Border Wait Time Detail Report, 09/25/2009 through 09/24/2010

**2.2.3 Automobile Crash History involving Pedestrians and Bicycles**

Crash data from a five year period, 2005 through 2009, was obtained from the ADOT ALISS database and reviewed to identify pedestrian involved crashes and the severity of the crash. *Figure 5 Crash Injury Severity by Location*, found on the next page, illustrates the locations of pedestrian and bicycle injury crashes by severity. *Table 5 Crash Numbers and Severity*, shown on the page following the next page, lists the number of crashes by their severity type.

During this period, 44 crashes involving pedestrians and 3 crashes involving bicyclists occurred in Nogales. Of these, 42 were in the immediate study area. Many of these crashes were located in the downtown area, although one pedestrian fatality occurred along SR 189 to the west of I-19. High frequency locations included Grand Avenue with 10 crashes, Crawford Street with 7 crashes, Morley Avenue with 4 crashes, and Court Street with 4 pedestrian involved crashes.

The *2009 Motor Vehicle Crash Facts for the State of Arizona* provide statistics for pedestrian involved crashes. Based on these statistics, the average pedestrian crash rate, statewide, in 2009 was 22.35 crashes per 100,000 in population. For Nogales during the five year period from 2005 through 2009, the annual average pedestrian crash rate was 38.8 per 100,000 in population using a 2009 population of 22,659. This pedestrian crash rate far exceeds the state average. However, the study area is influenced by the significant number of pedestrians crossing into Nogales from Mexico annually. During 2009, the pedestrians entering Nogales totaled 4.0 million. This would equate to an effective increase in population of approximately 11,064 people. Taking this pedestrian influx into account, the pedestrian involved crash rate for Nogales would be 26.1 per 100,000 in population. This effective crash rate still exceeds the statewide average by approximately 17%. ADOT’s *Pedestrian Safety Action Plan, May 2009*, states a goal of zero pedestrian fatalities for Arizona and lists countermeasures that can be employed to help achieve this goal.

The 2009 Motor Vehicle Crash Facts for the State of Arizona also provides statistics for bicycle involved crashes. Based on these statistics, the average bicycle crash rate, statewide, in 2009 was 29.28 crashes per 100,000 in population. For Nogales during the five year period from 2005 through 2009, the annual average bicycle crash rate was 2.6 per 100,000 in population using a 2009 population of 22,659. This bicycle crash rate is far less than the state average. Note that there is a negligible amount of bicycle traffic entering the US from Mexico.

Figure 5 Crash Injury Severities by Location

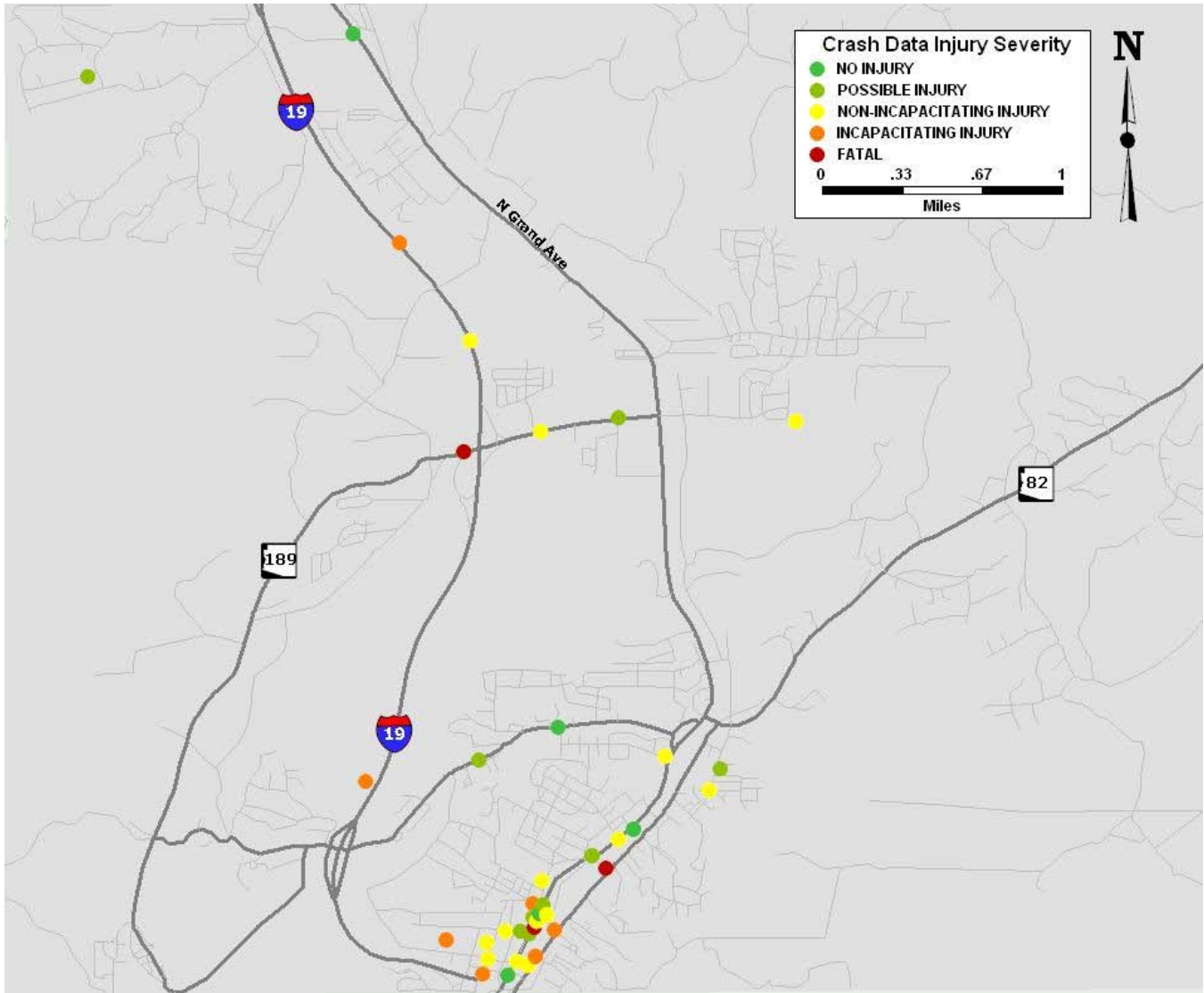


Table 5 Crash Numbers and Severity

Crash Severity	Pedestrian	Bicycle	Total
No Injury	5	1	6
Possible Injury	12	1	13
Non-Incapacitating Injury	14	1	15
Incapacitating Injury	10	0	10
Fatality	3	0	3
Totals	44	3	47

2.3 Roadway and Pedestrian Infrastructure Conditions

A field inspection of the study area was conducted on November 11, 2010. The field visit is summarized in the following comments:

- Sidewalk widths are not consistent within the downtown area.
- Sidewalk materials are not consistent; most sidewalks are concrete, but some areas of terrazzo stone exist as sidewalks in front of a few stores, which can be slippery when wet.
- Along Morley Avenue, drains covered with steel grates cross the sidewalks in numerous locations.
- Most sidewalks are in fair to good condition.
- Some pedestrian crosswalks use contrasting brick or “Bomanite” stamped/textured pavement.
- Crosswalk striping is badly worn in some locations and repainting is needed.
- Most crosswalks are painted rather than marked with heat transfer applications.
- Not all curbing at crosswalks include ramps for the disabled. Some intersections have single 45-degree ramps rather than two 90 degree ramps, requiring wheelchair users to weave beyond the crosswalk stripes.
- There are no crosswalks across southbound Grand Avenue at Walnut Street.



- At-grade railway crossings at Court and Park Streets do not include crosswalks, but only crossing pads.
- Pedestrians have been observed crossing the railroad tracks north of Park Street.
- Public restrooms are found in the small park along the west side of Morley Avenue north of Park Street. There are no directional or wayfinding signs to these facilities anywhere in the area. This location also has the only drinking fountain in the area.

- Along the northern edge of this park there were several food vendors operating out of trailers. This was the only place to buy food in the downtown study area except for the two fast food located franchises west of Terrace Avenue.
- There is a bench located in front of the Post Office on Morley Avenue. There is also one at the southeast corner of Beck Street and Morley Avenue. There are some benches at the park located at the northwest corner of Morley Avenue and Park Street. The low retaining walls at this park can also be used as seating. This is the only seating available in the downtown area that was noted during the field visit. There was no seating observed west of Morley Street.
- There is no sidewalk along the west side of Morley Avenue north of Court Street. This is likely due to railroad right of way and car parking along this side of the street.
- There is a failing stair wall along the east side of Morley Avenue north of Beck Street.
- There are no sidewalks along SR 189, Mariposa Road. One pedestrian fatality was noted here.
- Along the east side of Arroyo Avenue, from Terminal Street south to Walnut Street, there is not a continuous sidewalk.
- There is no park and ride area or other public location to pick up or drop off pedestrians along SR 189 Mariposa Road near the Mariposa POE.
- There is not adequate signage along I-19 approaching the downtown area warning of a pedestrian crosswalk located immediately around the curve ahead. The two curves before and at Crawford Street are a potential pedestrian hazard, especially combined with the heavy foot traffic to and from the two fast food franchises located in this area. Pedestrian accidents were noted at these locations as well.



Seating along Morley Avenue

Crosswalk on Sonoita Avenue



## 2.4 Public Parking Locations and Quantities

Most roadways in the study area have on-street parallel parking permitted. All on-street parking in the downtown area is metered. Generally, the on-street parking that is located west of Sonoita Avenue is not metered and is used by people willing to walk from this more remote location to downtown or for longer term parking by residents or people crossing the border into Mexico.

Privately owned public parking facilities are found in the vicinity of the Sonoita Avenue and Crawford Street intersection as shown in *Figure 6 Privately Owned Public Parking Lots* shown on the next page. This parking is primarily used by tourists crossing the border into Nogales, Sonora. The current cost for parking at these lots is \$4 US per 8-hours.

Figure 6 Privately Owned Public Parking Lots



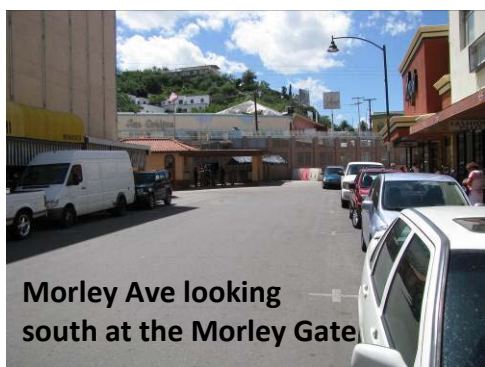
No publicly owned public parking currently exists in the study area. Public offices and many larger retail businesses provide on-site parking for their patrons and employees. It is possible that these private lots may be used by pedestrians crossing the border into Sonora, but they do so at their own risk. The Nogales Community Development Corporation owns several parking lots at the northeast corner of East Street and Nelson Avenue that are leased to businesses in the downtown area for employee parking.

## 2.5 Port of Entry Operations, Facilities, and Conditions

*Morley Gate:* Remodeling is pending for the Morley Gate pedestrian port of entry. The concept plans for the Morley Gate Pedestrian Upgrade (dated July 23, 2010) are included in the stakeholder interview notes for Thomas Yearout, CBP, found in Appendix 1. U.S. Customs and Border Protection (CBP) have issued design standards for new ports of entry in recent years that require a buffer zone between the port of entry facilities and private properties. The two downtown crossings do not comply with these standards, as the urban structure is built right up to the international crossings. The Morley POE

remodeling is further complicated by the fact that the structure is listed on the National Register of Historic Places, limiting what can be done and requiring that work not compromise the historic character of the structure.

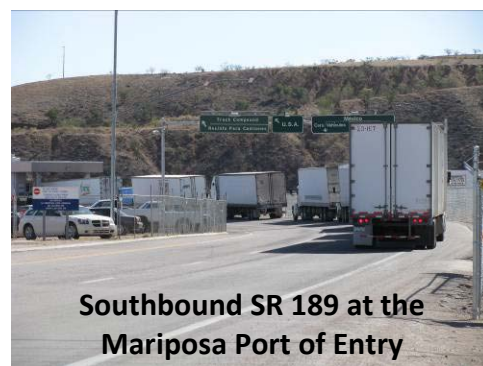
Pedestrians passing through the Morley Gate pedestrian port of entry immediately exit onto International Street, an active heavily used thoroughfare in downtown Nogales. Currently the pedestrians can directly cross the street and be on the sidewalk located on the east side of Morley Avenue which is effective as this is the predominant shopping area in downtown and the east side has the most stores along its length. The upgrade plans will have the pedestrians exiting more to the northwest across International Street from the sidewalk on the west side of Morley Avenue. Since most of the pedestrians will likely cross over to the east side, these movements will need to be safeguarded with strategically positioned crosswalks.



There has been some discussion about closing International Street and making the area in front of the Morley Gate a pedestrian plaza and welcoming gateway into Nogales, Arizona. This concept would have major implications to traffic circulation in the downtown area and is not supported by the *Ambos Nogales Civic Planning Vision* document. A means to safeguard pedestrians and maintain traffic should be developed for the Morley Gate area.

**Mariposa POE:** The Mariposa Port of Entry is currently under construction for a major expansion project. When completed, this commercial POE will have 20 lanes for northbound traffic (8 commercial + 12 POV lanes) and 2 lanes for southbound traffic. Currently there are 4 commercial and 4 POV lanes. There are plans for three inspection lanes for the two southbound lanes: one for trucks, one for cars, and one for additional use. CBP officials would like to see 4 to 6 inspection booths for southbound traffic inspections.

Current GSA plans show an outbound (southbound) pedestrian sidewalk through the Mariposa POE located on the west side of SR 189 and an inbound (northbound) pedestrian sidewalk located between the northbound POV lanes on the west and the northbound commercial/truck lanes on the east. As northbound pedestrians leave the POE on the east side of SR 189, they will have to cross an access road to a POE employee parking lot (located opposite Freeport Drive), then cross the commercial/truck lanes exiting the POE onto SR 189, then cross State Port Drive providing access to the ADOT inspection facility, and then cross the driveways to the Shell Gas Station situated on the east side of SR 189 immediately north of the POE property. There are no existing sidewalks on either side of SR 189 to connect the POE sidewalks to.



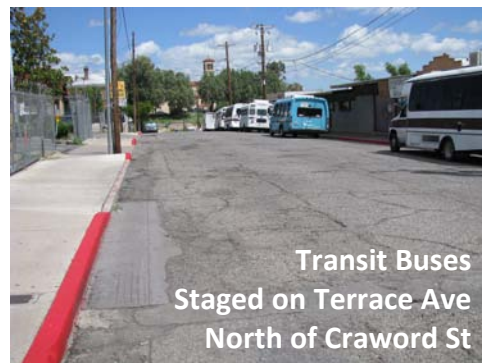




pedestrians are bus passengers. People on buses exit the bus and are processed as pedestrians within the POE, then they re-board the bus on the other side of the border. There are currently 10 to 20 buses a day that use the Mariposa POE. In addition, there are itinerant workers from the maquiladora businesses, and other pedestrians, using this port to enter the U.S. These people are typically picked up and dropped off somewhere near the port of entry. GSA reports that the Mexican officials were planning on constructing a pedestrian overpass to allow pedestrians to cross over the vehicular traffic lanes to a parking lot that will be used for pick-up and drop-off purposes.

## 2.6 Transit Operations and Facilities

The various public transit providers in the study area are all privately owned and operated. While a number of bus and taxi operations have city business licenses, none have their operations regulated or directed by local, county or state governments. Public livery service is not regulated in Arizona, except for the requirements of liability insurance and driver licensure. The companies shown in *Table 5 Private Transit Companies Licensed by the City of Nogales* are those holding business licenses with the City of Nogales. No business relationship, operating directions, or regulations exist between these companies and the City of Nogales, or any other public agency.



Public transit studies for the Nogales area have been done in the past. These have identified the need for such service within Nogales proper, and also the need for commuter service connecting the Tubac and Rio Rico communities with the city core. Public transit operations typically only recover about 25-30% of their operating costs in fare box revenues, requiring subsidies from public monies. ADOT provides federal grant funding for rural operations, but competition for these funds is keen. State funding for this program historically came from the *Local Transportation Assistance Fund (LTAf)* generated by lottery proceeds; but this funding source was recently “swept” by the state legislature to assist in budget balancing due to the current economic conditions.

Nogales is also served by a number of privately owned and operated intercity bus and shuttle services, including Greyhound. Most of these are either over the road coach services connecting cities further south in Mexico to major U.S. destinations, or are shuttles to Tucson and Phoenix, serving the airports in those cities. There are also a number of taxi operators in Nogales. Taxis congregate along the west side of Morley Avenue just north of Park Street.

Local transit operators provide service between the downtown area and major retailers, such as Walmart and Kmart located further north in Nogales in the vicinity of Mariposa Road between I-19 and Grand Avenue (B-19). Walmart has installed passenger shelters and a transit stop along the western entry to their parking area, in an attempt to structure bus circulation through their property. Bus operators in the past have congregated along Terrace Avenue south of Crawford Street. This is also the location for the local Greyhound station. However, this segment of Terrace Avenue is being reconstructed under a grant



received through the *Transportation Enhancement Grant Program*. Currently, the jitney buses are using Terrace Avenue north of Crawford Street for staging purposes.

**Table 6 Private Transit Companies Licensed by the City of Nogales**

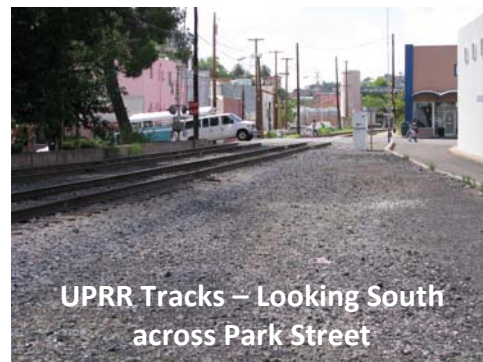
Company Name	Location	Company Name	Location
Acosta Taxi	288 W. Third St.	Gama Shuttle	30 N. Terrace
A&R Shuttle	35 N. Terrace	Garcia’s Shuttle	49 N. Terrace
Armenta’s Taxi	468 International	GCL Shuttles	49 N. Terrace
Arvizu Taxi	35 N. Terrace	Gera’s City Bus	828 N. Briggs Place
Ayala’s Shuttle	35 N. Terrace	JG Shuttle	266 W. Mix
B Lopez Shuttle	45 N. Terrace	LM Shuttle	42 N. Terrace
Beltran Shuttle	32 N. Terrace	Lolita’s Shuttle	95 E. Beck Street
Beltran Taxi	35 N. Terrace	Lopez Taxi	Rio Rico, AZ
Benitez Shuttle	42 N. Terrace	Macias Cab	259 E. Durango
Benjamin’s Shuttle	35 N. Terrace	Maverick Shuttle	45 N. Terrace
Carlos Dabdoub Bus Service	71 E. Bungalow Ct.	Monica’s Shuttle	35 N. Terrace
Castro’s City Bus	246 W. Third St.	Morena Shuttle	42 N. Terrace
Chavez Express Shuttle	266 W. Mix St.	Natty’s Shuttle	266 W. Mix Street
C. B. Chandler Shuttle	Chandler, AZ	Nogales Border Shuttle	30 N. Terrace
City Taxi Service	288 W. Third St.	Nogales Shuttle Express	45 N. Terrace
Compadres City Bus	41 N. Terrace Ave.	Osorio Bus Service	930 N. Grand Ave.
Cuba Taxi	32 N. Terrace	Quihui’s Taxi	Rio Rico, AZ
Dabdoub Bus Services	277 W. Third St.	RBC Shuttles	49 N. Terrace
DJ Cab	35 N. Terrace	Sahuaro Shuttle	35 N. Terrace
D&W Shuttle	45 N. Terrace	Sahuaro Road Runner	45 N. Terrace
8A’s Taxi	923 W. Kelsey	Sam’s Taxi	35 N. Terrace
El Indio	45 N. Terrace	Santos Bus Service	Rio Rico, AZ
El Moreno	449 W. Noon	Shuttle Mexico LLC	Mesa, AZ
Encinas Taxi	288 W. Third	Silva Shuttle	45 N. Terrace
Express Nogales Shuttle	48 N. Terrace	Sofia’s Taxi	441 N. Grand Ave.
Fiesta Shuttle	266 W. Mix	Taxis Hernandez	266 W. Mix Street
4Aces Shuttle	35 N. Terrace	Transporte Supremo LLC	Phoenix, AZ
Frontera Nogales	49 N. Terrace	Union Transportes de Nogales	42 N. Terrace
Frontera Shuttle Service	49 N. Terrace	Zurdo’s Taxi	Terrace Avenue

There are no designated bus stops, pullouts, or signs in the study area. There are a number of shelter structures that were installed in the past at various locations, but they are not used nor were they correctly located or provided with pullouts. Study stakeholders have stated that these shelters were primarily installed by a private entity for advertising purposes. Buses tend to stop in the traffic lane for passengers, or pull into available on street parking or off street private lots. The bus operations cause some degree of traffic congestion due to the lack of signage and designated pullout locations.

## 2.7 Rail Operations and Impacts on Pedestrian Circulation

The Union Pacific Railroad line crosses the border between the Morley Gate and the DeConcini POEs; between Morley Avenue on the east and Grand Avenue on the West. Traffic on this line consists of “unit trains” of approximately 100 cars each. These trains are about 5,000 feet in length. As the trains cross the border, each individual car is x-rayed to determine content. If concerns about an individual car are raised, the train is stopped along the siding north of town near Rio Rico. Because of the border security operation, and conflicts with at-grade pedestrian and street crossings in town, these trains travel through the study area at 5 miles per hour. This slow speed causes significant delay along roadways crossing the railroad at grade and for pedestrians wanting to cross the railroad tracks as well. This condition is worsened when trains travel through the downtown area during peak travel periods. Train schedules change based on demand, but currently 7 trains a day, operate in this corridor. Total delay at any given crossing is reported to approximately 20 to 30 minutes for each train. This can add up to nearly three hours a day total.

Previous studies have identified the need for a grade separated crossing of the railroad within the study area to accommodate vehicular and pedestrian traffic. A pedestrian crossing in the downtown area would help address pedestrian connectivity as well. There is a relatively new pedestrian crossing of the railroad tracks and arterial streets in Nogales, Sonora near the border. While no train/pedestrian accidents were found in the ADOT ALISS crash data, local stakeholders report that pedestrians often cross the tracks in mid-block locations, especially to the north of Park Street in the vicinity of the extension of Crawford Street to the east. The extension of Crawford Street has been envisioned as one of the possible locations for a grade separated crossing of the railway. The *Unified Nogales Santa Cruz County Transportation Plan 2010* also recommended a grade separated pedestrian crossing of the railroad at Court Street.



## 2.8 Bicycle Facilities

There are no developed bicycle facilities on the study area. During the field inspection, no bike lanes, routes, signage, or racks were noted in the immediate study area. While some local stakeholders did mention bicycle traffic in the area, most commented that there was very limited bicycle use. However, it was acknowledged that the limited bicycle use in the downtown area might be attributed to the lack of bicycle facilities. The crash data analyzed did produce evidence of some bicycle crashes as well. As bicycles crossing the border must use the automobile lanes through the POEs, it is inferred that almost all bicycle traffic in the area is generated on this side of the border.

3.0 Cultural and Historical Conditions



*Ambos Nogales* is, in part, an old, historic community. The towns have been here since the railroads met at the international border in 1881. In the downtown area, there are a number of structures listed on the National Register of Historic Places.

The National Register of Historic Places is the Nation's official list of cultural resources worthy of preservation. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources. Properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The National Register is administered by the National Park Service.

In the downtown study area, there is a “Multiple Resource District”, which is bounded by the International Border on the south; Oak, Plumb, Quarry, and Ellis streets on the north; Wayside and Summit Avenue on the east; and Grinnell, Grand View, West and Chenoweth Avenues on the west. Individual listed properties include the Nogales Post Office at the northeast corner of Hudgins Street and Morley Avenue, the old Nogales City Hall (now the Pimeria Alta Museum) at the northeast corner of Grand Avenue and Crawford Street, the Santa Cruz Court House at the northeast corner of Morley Avenue and Court Street, and the U.S. Customs House at the northwest corner of Terrace Avenue and International Streets. In the downtown area, the State Historic Preservation Office has identified 32 individually listed properties including the ones noted in the above paragraph.

There are two “Historic Residential Districts”, Crawford Hill dated between 1880 and 1935, and Marsh Heights, dated between 1909 and 1930. The former includes 216 structures of which 164 are contributing in character, and the latter includes 23 properties, of which 17 are contributing in character.

The *Juan Bautista de Anza National Historic Trail* is along the Santa Cruz River near the study area. This was the first overland route from Mexico to the settlement of San Francisco, originally crossed in 1775. There is an “Anza Trailhead Room” in the old 1904 Nogales Court House located at 21 East Court Street.



#### 4.0 Programmed Improvements

The Transportation Improvement Program (TIP) of the SouthEastern Arizona Governments Organization (SEAGO) includes no projects within the City of Nogales. The Santa Cruz County Public Works Department does not maintain a current TIP due to the lack of funding for any projects. The County spends their available monies on maintaining the current system. This is also the case, for the most part, with the City of Nogales.



Local Landmark

The *Unified Nogales Santa Cruz County Transportation Plan 2010* includes a listing of short, medium and long range projects for the City of Nogales inclusive of pedestrian and bicycle projects. These programs include a number of needed projects within the study area.

#### 5.0 Stakeholder Identified Issues and Needs

The stakeholders interviewed identified a number of improvements they felt should be made to the pedestrian circulation system within the study area. Some of the identified needs were common to many of the stakeholders, representing good local support for most of the identified needs. Many of these same concepts were also cited by local public agencies as needed pedestrian circulation system improvements. The indication is that the public will support most, if not all, of these improvements when funding becomes available from any and all sources. Sometimes divergent opinions were found on some issues which are to be expected.

Key specific needs identified by the stakeholders are summarized below:

- Wayfinding is needed in the downtown area; wayfinding should help people find the library, city hall, old city hall, post office, police station, retail district, grocery stores, shopping plazas, public restrooms, transit services, etc.; wayfinding signage needs to be bilingual with maps and directions.
- More visible and prominent street name signs are needed.
- North of the Food City store and Terminal Street, between the railroad tracks and the library on the east side of Grand Avenue, there is a large privately owned parking lot that is little used – the City or merchants could explore providing a shuttle service for people (or possibly employees) parking in this location during peak periods.
- There needs to be designated areas near all the port of entries for pick-up and drop-off purposes.
- Improvements are needed at the Morley Gate area to provide for safe and convenient crossing of International Street and Morley Drive.



Public Restrooms Downtown



- There needs to be a specific and suitable staging area for the jitney buses to better organize and control this activity.
  - Regulate the bus services so the dependability and quality of service are improved, the equipment is safe, that reasonable guidelines are followed, and an additional source of revenue is gained.
  - Provide bus pull-outs at major destination points for safe pick-up and drop-off of passengers.
- The pedestrian sidewalks at the new Mariposa Port of Entry (under construction) will terminate at the POE property line; there is a need to provide connectivity of these walks for pedestrians to connect to the developed areas of town via sidewalks/paths, pick-up/drop-off activities, and to transit services.
- The Nogales community has a large bicycle ridership population and there is an opportunity for Nogales to plan to add bike lanes on appropriate routes and there could be a multiuse/bike path running from the Mariposa POE along SR 189 and along Grand Avenue to the downtown POEs; connecting with the high school, the Walmart shopping area, City Hall/services, the Library, grocery stores, and the downtown shopping areas.
- Public transit would provide good connectivity between downtown, the Walmart shopping area, and the Mariposa port of entry.
- The crosswalks on the major streets such as Grand Avenue, Arroyo Avenue, Morley Avenue, Sonoita Avenue, Crawford Street, and Park Street need to have some kind of lights to warn drivers of the presence of pedestrians such as push button activated ped crossing signals and/or in-pavement LED lights; the crosswalks should be constructed with stamped and colored paving and/or heat transfer applications instead of with paint.
- There needs to be at least one pedestrian bridge over the railroad tracks in downtown Nogales to provide for pedestrian circulation and safety when trains are operating; barriers need to be



- installed to preclude people from cutting across the railroad tracks at locations other than designated crossing routes.
- Improve any of the sidewalks where the sidewalk is rough; where the surface may be slick when wet; and where drain, basement opening, or utility covers may create a trip hazard.
- The crosswalk on Sonoita Avenue between Compound Street and Crawford Street (in front of the Burger King restaurant) is a concern due to high speed traffic coming off I-19 rounding a curve immediately ahead of the crosswalk; advance warning and speed control on the route is needed.
- Additional crosswalks on Grand Avenue are needed in the vicinity of the Food City grocery store and Alamo Plaza area.

- The crosswalks on Crawford Street at Terrace Avenue are a safety concern and advance warning and speed control on this street is needed.
- The crosswalks at the Grand Avenue and Crawford Street intersection are very long due to the number of lanes being crossed and the traffic is very heavy – there is a need to consider mid-crossing refuge islands; the wait time for a legal crossing signal is too long encouraging crossing against the light – adequate pedestrian signal timing needs to be provided.
- Locations needing crosswalks include:
  - Across Grand Avenue on the north side of Park Street.
  - Across Grand Avenue at Elm Street.
  - Across Arroyo Avenue on the north side of Plum Street.
- Provide for more, conveniently located parking proximate to downtown.
- Install sidewalks where missing to make connect routes.
- Crosswalk locations need to be provided with ADA accessibility ramps to accommodate the disabled people using the facilities.



Following the subsequent section, *6.0 Findings*, there is a series of exhibits (*Figures 8A through Figure 8F Identified Pedestrian Circulation Needs*), in 11" x 17" format, that show the location of some of the identified pedestrian infrastructure needs, such as crosswalks, on aerial photographs of the downtown study area. *Figure 9 Study Area Photographs* includes a sampling of photographs taken during several field visits to Nogales as part of this study. These photographs are intended to provide an enhanced perspective on the nature and type of pedestrian infrastructure present in the study area in Nogales.

Also included in the exhibits section is *Table 7 Sidewalk Information* that shows sidewalk locations, widths, and condition for a number of the roadway segments within the downtown study area. The table does not show all sidewalks in the study area, but is a wide representative sample. These sidewalks were field inspected on November 11, 2010.



**6.0 Current Condition Findings**

This paper identifies and describes the current conditions of the pedestrian circulation system in Nogales for the study area that is contiguous to, and in the vicinity of, the three land ports of entry on the international border with Mexico: the Morley Gate pedestrian port, the DeConcini vehicle and pedestrian port, and the Mariposa commercial port. Nogales is a thriving, vibrant retail center drawing many consumers across the border from Nogales, Sonora for shopping, groceries, goods, and services. The downtown area is rich in history, culture, and social activities. The area also draws a lot of visitors to the community; some of which cross the border into Nogales, Sonora as well. There is an incredible amount of foot traffic intermingled with heavy vehicular traffic made up of local traffic circulation, visitor travel, and significant traffic crossing through the vehicular port of entry. Enabling and enhancing the pedestrian’s ability to safely circulate around the downtown area, and to find transit opportunities, is paramount to the economic and social fabric of the community. Some of the more important findings of this study of current conditions of pedestrian circulation include the following:

- Generally the sidewalks in the study are in fair to good condition.
- For the most part, the streets in the study area are provided with sidewalks on both sides; however there are some gaps where sidewalk is missing.
- There are some locations where sidewalk ramps meeting ADA criteria are needed to provide good circulation and accessibility for the disabled.
- Other than at Karam’s Park at the northwest corner of Park Street and Morley Avenue, there are very few pedestrian amenities provided in the downtown area such as benches, shade, water fountains, trash receptacles, bike racks, etc.
- There is an existing public restroom located along Morley Avenue in Karam’s Park, but there is not one located anywhere to the west of Grand Avenue.
- There is an information kiosk at Herald’s Square located on the south side of Crawford Street between Grand Avenue and Terrace Avenue and another one located to the south near the steps up from the DeConcini Port of Entry to Terrace Avenue; however, there are no other signage and wayfinding facilities in the community.
- Most of the crosswalks in the downtown area are painted and many are in need of repainting or upgrading with heat transfer markings.
- There are locations where no crosswalks exist, but are needed.
- There are locations where crosswalks exist, but need to be enhanced and provided with advance warning and speed control measures on the street approaches.
- There is not a grade -separated crossing structure for the UPRR tracks in downtown Nogales to safeguard the public when trains are operating on the railroad tracks.





- The private bus transit providers are currently unregulated and the service is reported to not always be reliable and the safety of the equipment is unknown.
- There currently are no community facilities provided for the private bus operators such as pull-out for safe pick-up and drop-off of passengers or a well planned staging area.
- There seems to be a fair supply of parking in downtown Nogales consisting of metered and unmetered on-street parking and pay parking in private lots, with more remote lots currently underutilized.
- There are no bicycle facilities or amenities in downtown Nogales.
- There have been a number of crashes involving pedestrians in the study area, including some fatalities and those locations need to be investigated for pedestrian safety improvements.
- There are no facilities for pedestrians along SR 189 north of the Mariposa Port of Entry.

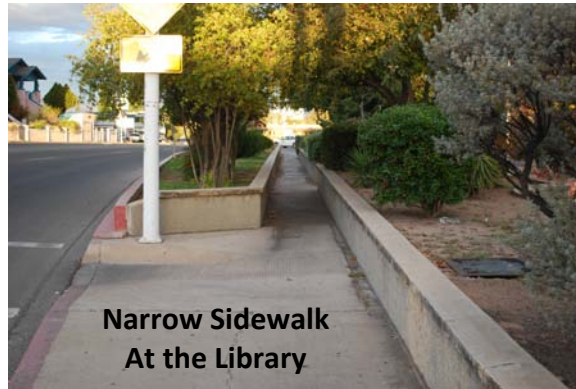


Figure 8A Identified Pedestrian Circulation Needs

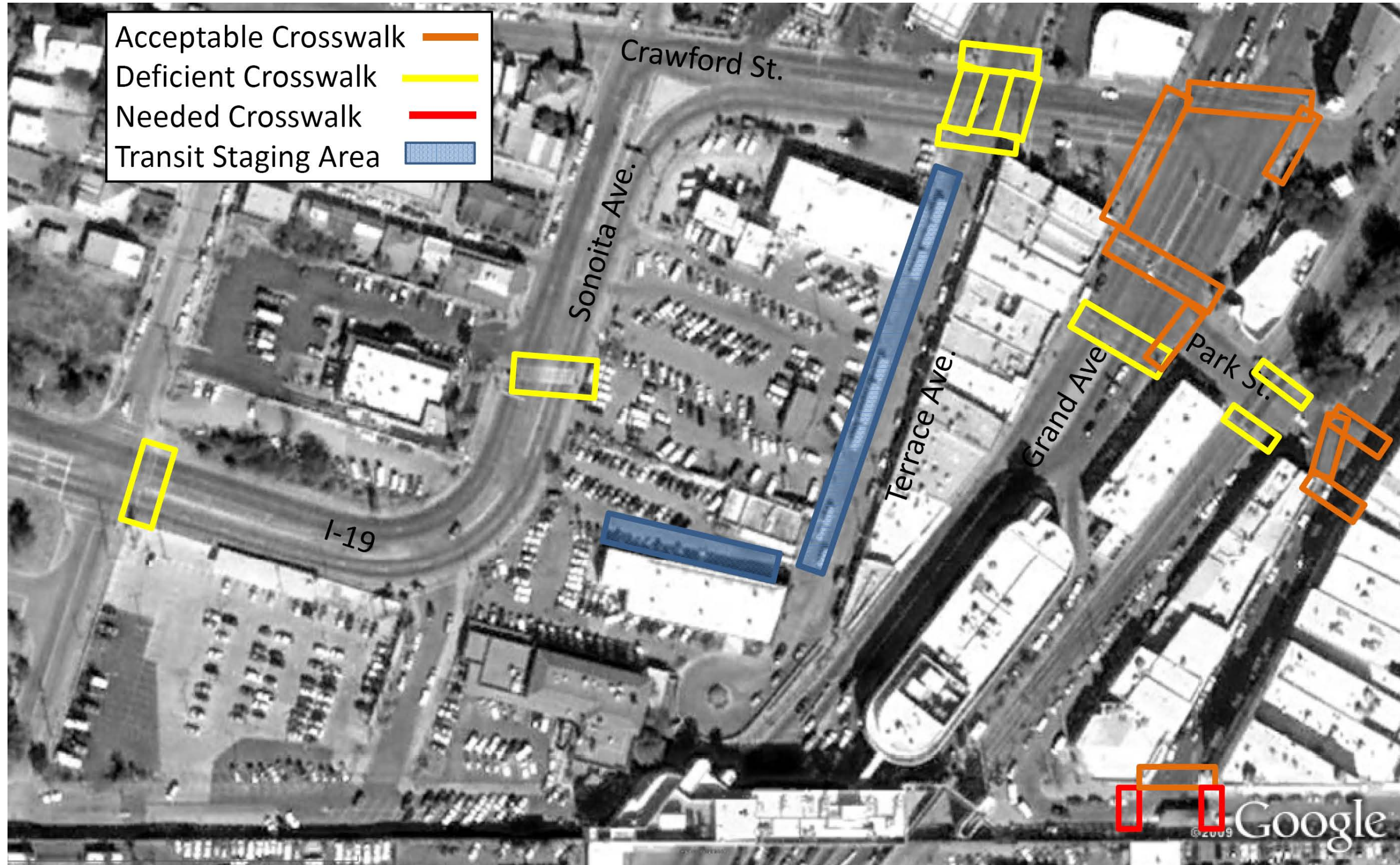


Figure 8B Identified Pedestrian Circulation Needs

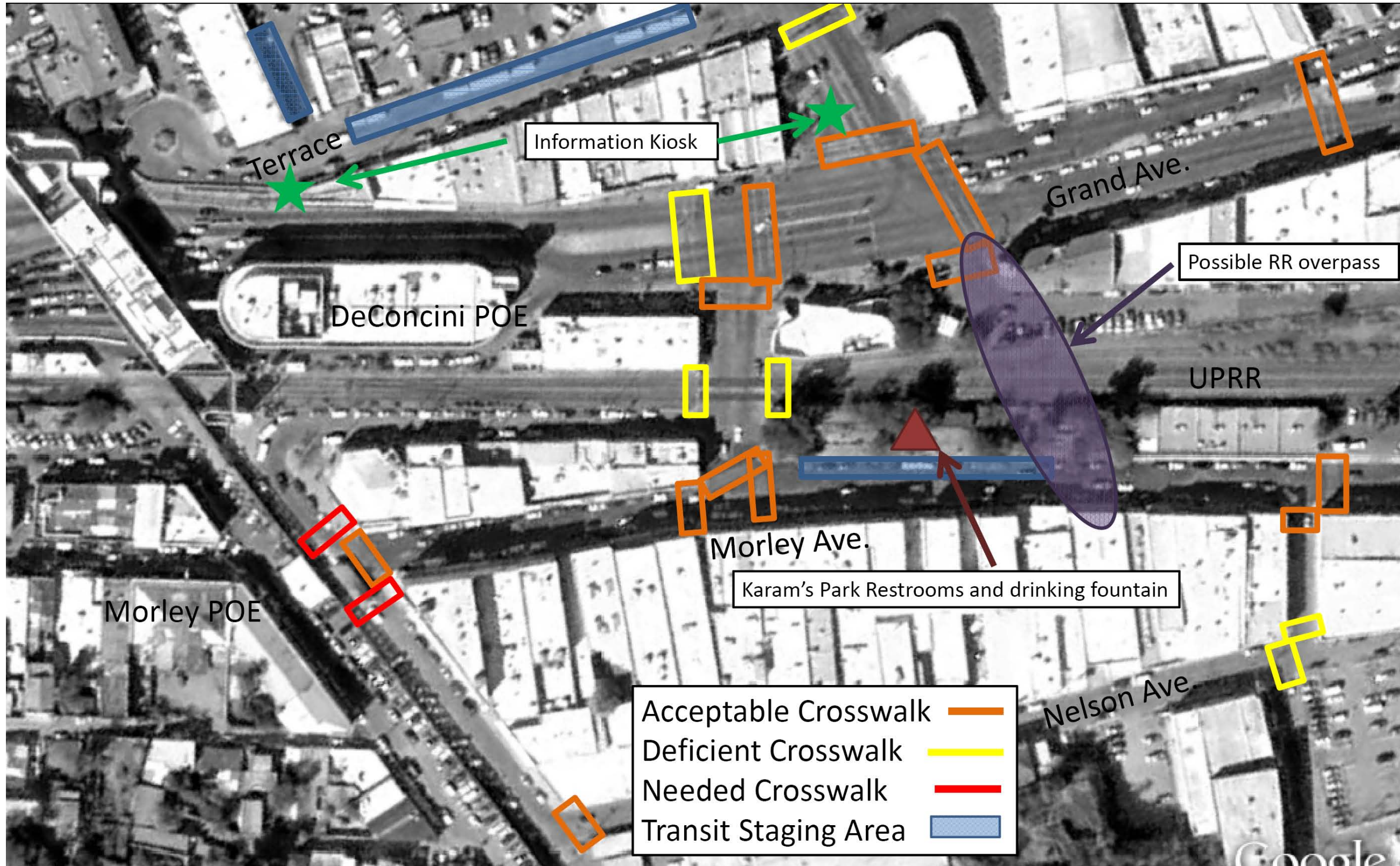


Figure 8C Identified Pedestrian Circulation Needs

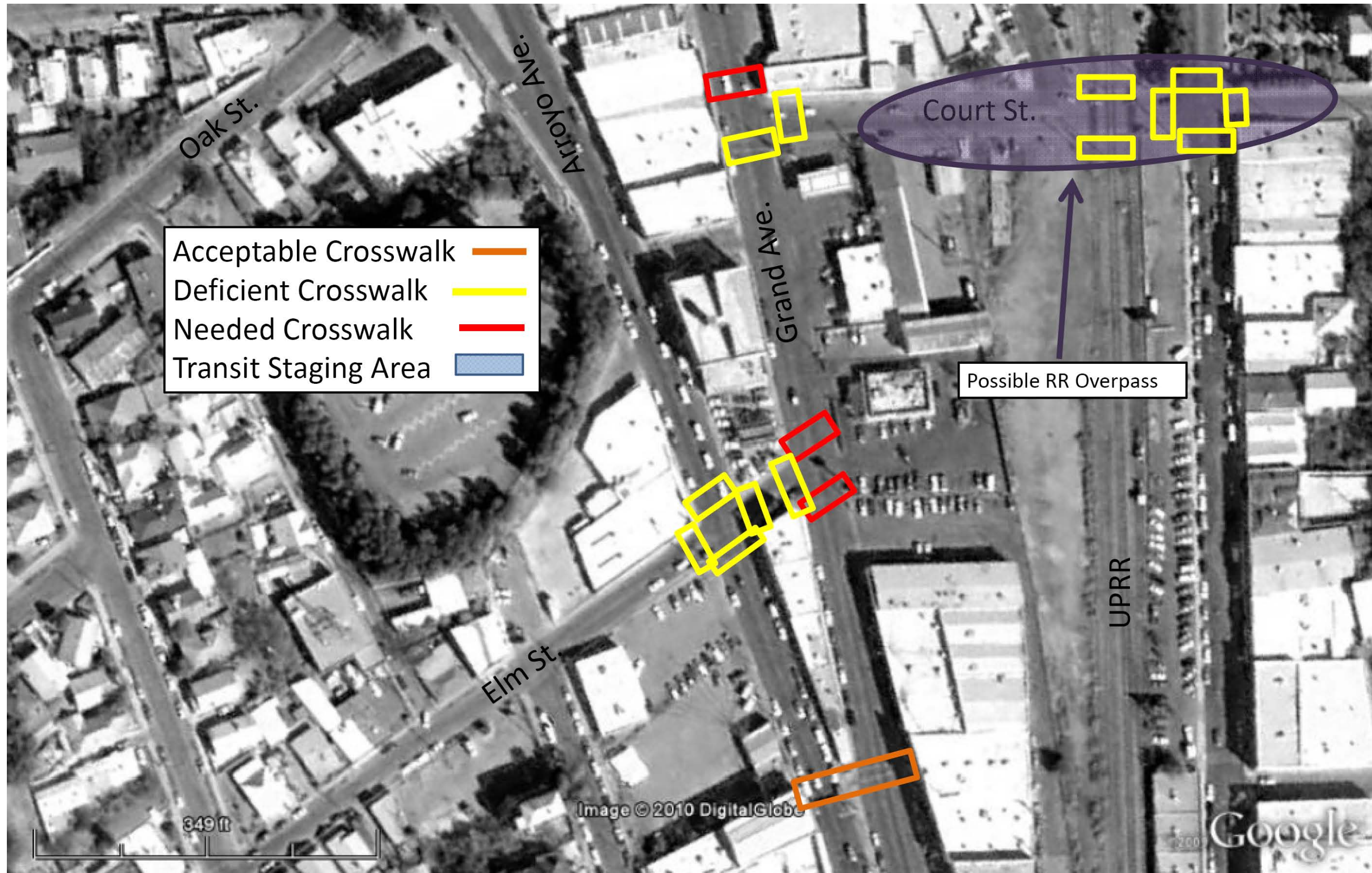


Figure 8D Identified Pedestrian Circulation Needs



Figure 8E Identified Pedestrian Circulation Needs



Figure 8F Identified Pedestrian Circulation Needs



Figure 9 Study Area Photographs
















					
COURT @ ARROYO – LKG E	CRAWFORD @ TERRACE – LKG W	TYPICAL CROSSWALK	E SIDE MORLEY AVE – LKG S	W SIDE MORLEY AVE – LKG S	E SIDE GRAND @ LIBRARY - N
					
E SIDE GRAND @ LIBRARY - S	GRAND @ POTRERO – LKG N	GRAND @ QUARRY – NO X-WALK	GRAND @ QUARRY – NO X-WALK	GRAND @ QUARRY	INTERNATIONAL/NELSON – W
					
JAYWALKER ON MORLEY @ PARK	MORLEY @ PARK – LKG N	MORLEY @ PARK – LKG S	GRAND @ PARK – LKG N	PARK @ MORLEY – LKG W @ RR	MORLEY N OF BECK – LKG S
					
METERED ON-STREET PARKING	STEPS - GRAND TO TERRACE	NWC CRAWFORD & SONOITA	CRAWFORD @ TERRACE – LKG E	SONOITA X-WALK @ BK	PARK @ UPRR – LKG N

Table 7 Sidewalk Information

Street	From	To	Side	Width in feet	Condition	Side	Width in feet	Condition	Comments
Nelson Avenue	International St.	East St.	West	6'	Fair	East	5.5	Fair	No ramps at corners
Morley Avenue	International St.	Park St.	West	8	Fair	East	7 to 8	Good	Terrazzo material on east side
Morley Avenue	Park St.	East St.	West	7.5"	Fair	East	8.5	Fair	Some mismatched pavement types on east side
Morley Avenue	East St.	Court St.	West	6-7.5	Good	East	8.5-9	Fair	Drains across sidewalk with covers
Morley Avenue	Court St.	Hudgins St.	West	None	N/A	East	8.5	Good	No sidewalks on West side due to UPRR
Morley Avenue	Hudgins St.	Beck St	West	None	N/A	East	8.5	Fair	No sidewalks on West side due to UPRR
Morley Avenue	Beck St.	Wayside Dr	West	None	N/A	East	6	Fair	Stair wall failed ~40 ft. north of Beck St.
Robins Avenue	International St.	Park St.	West	None	N/A	East	None	N/A	One way street no parking on east, loading for building rear entries, UPRR on west
Grand Avenue	Crawford St.	Elm St.	West	11 to 7	Fair	East	10	Fair	
Grand Avenue	Elm St.	Walnut St.	West	6 to 7	Fair	East	None	N/A	Only spotty sidewalk on East side, many parking lots
Grand Avenue	Walnut St	Plum St.	West	6	Good	East	6	Good	
Arroyo Ave.	Crawford St.	Elm St.	West	11 to 7	Fair	East	8	Fair	
Arroyo Ave.	Elm St.	Walnut St.	West	6	Fair	East	6	Fair	
Terrace	South End	Crawford St.	West	N/A	N/A	East	6 to 7	Fair	West side under construction during field tour
Terrace	Crawford St.	Elm St.	West	7.5	Fair	East	7.5	Fair	
West St.	I-19	Crawford St.	West	7.5	Good	East	8.5	Good	
International St.	Robins Ave.	Morley Ave.	North	13.5	Good	South	3.5	Good	Brick pavers on North side
International St.	Morley Ave.	Nelson Ave.	North	11	Fair	South	3.5	Good	
Park St.	Grand Ave.	Robins Ave.	North	7.5	Good	South	8.5	Fair	
Park St.	Robins Ave.	Morley Ave.	North	7.5	Fair	South	8.5	Fair	
Crawford St.	Sonoita Ave.	Grand Ave.	North	5	Good	South	5	Good	
East St.	Morley Ave.	Nelson ave.	North	4.5	Fair	South	4.5	Fair	
Elm St.	Terrace Ave.	Grand Ave.	North	5	Fair	South	5	Fair	
Court St.	Grand Ave.	Morley Ave.	North	5.5	Good	South	5.5	Good	
Walnut St.	Arroyo Ave.	Grand Ave.	North	7.5	Fair	South	7.5	Fair	



**7.0 Future Conditions Inventory**

**7.1 Land Use and Population**

**7.1.1 Future Population Projections**

The Arizona Department of Commerce is responsible for official population projections for Arizona cities, towns, and counties. *Table 8 Population Projections for the Study Area* shown below contains the population projections for the years 2015, 2020, and 2030 for the City of Nogales and the Nogales Census County Division (CCD). The CCD is the Nogales metropolitan area, and includes Rio Rico, Tubac, Tumacacori, and Carmen. Also included for comparison are the current 2011 population estimates for the City and its CCD.

**Table 8 Population Projections for the Study Area**

Year	City of Nogales	Nogales CCD
2011	23,065	47,885
2015	23,662	52,338
2020	24,783	57,534
2030	26,336	66,368

The growth rate for the CCD is much higher than for the City. The city is projected to grow at less than one percent (0.7%) per year, while the CCD areas outside the city (primarily Rio Rico) are projected to grow at 3.37% per year. While this should translate into economic growth for the Nogales community in general, and the study area specifically, most of the pedestrian traffic in the area is from the border crossings through the POEs. For this reason, population projections for Nogales, Sonora and for the State of Sonora are also worthy of note. These population projections are provided in the following table.

**Table 9 Population Projections for Nogales, Sonora and the State of Sonora**

Year	City of Nogales Sonora	State of Sonora, Mexico
2010	218,948	2,532,639
2015	242,335	2,631,985
2020	263,454	2,716,953
2030	297,932	2,841,311

*Source: Mexico’s Instituto Nacional de Estadística y Geografía (INEGI)*

The City of Nogales, Sonora is projected to grow at a rate of 1.8% per year, and the State of Sonora is projected to grow at a slower rate of 0.06% per year.

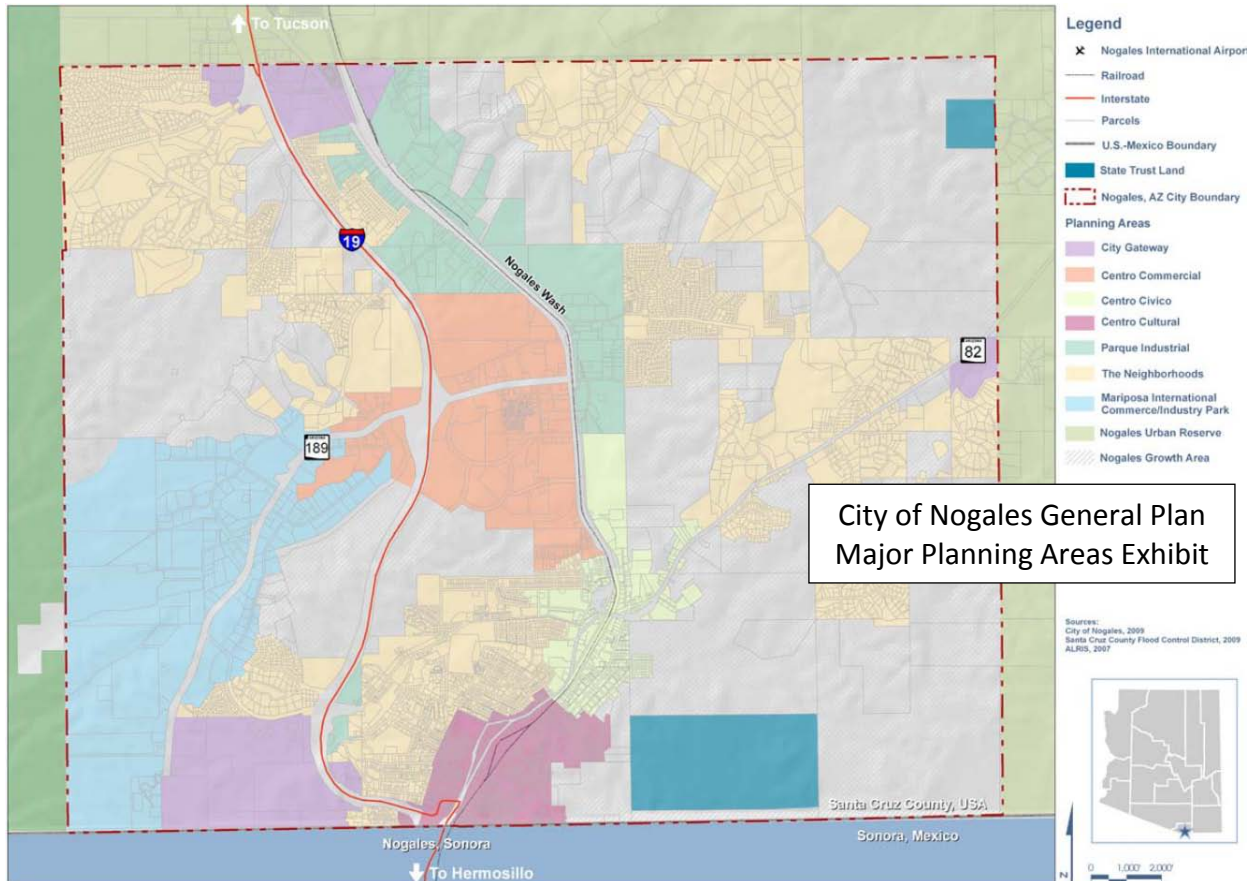


**7.1.2 Land Use and Employment**

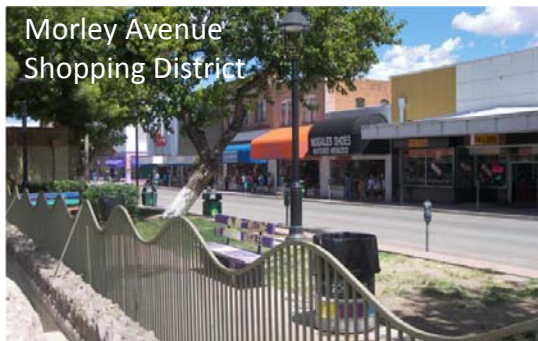
The land use within the study area is somewhat varied. The downtown study area surrounding the Morley and DeConcini POEs is primarily comprised of retail and service retail (such as banks and auto service) uses. There are also some office uses and government uses in the area. Although limited, some residential uses are also present. The *Unified Nogales Santa Cruz County Transportation Plan 2010* included the development of a travel demand sketch plan model that was used to forecast future traffic levels in 2030. The development of this model used population projections and future employment projections and trends based on planned land use.

During the preceding study, the magnitude and distribution of future employment was estimated by Wilbur Smith Associates. For 2007-2008, there were 1.04 employees per housing unit. Assuming this ratio remains constant, and applying it to the 23,800 housing units forecast for 2030, results in a 2030 forecast of 24,746 employees for western Santa Cruz County. This represents an increase of 10,218 employees (70%) over the estimate of 14,500 for 2007-2008.

The new *City of Nogales General Plan 2010* contains a land use element that focuses on smaller specific planning areas within the city rather than using traditional fixed land use designations. New development would then utilize an application and process for Planned Area Development approval with specific attention paid to conformance with the Plan policies and design standards rather than on an exclusive list of allowed land uses.



One area of focus in the General Plan is the *Centro Cultural Planning Area*, including the historic downtown and the Morley and DeConcini POEs vicinity. The Plan calls for reinvestment and revitalization efforts to enhance the economic viability of this area as a destination center while preserving its cultural and historic heritage. The Plan also focuses on the *Centro Commercial Planning Area*, which includes the regional retail area surrounding the northern segment of Mariposa Road. The Plan supports actions to promote this area as the regional commerce center of Nogales. The *Mariposa International Gateway Planning Area* includes the Mariposa POE area, much of the Mariposa Road/SR 189 corridor, and the areas around Carondelet Holy Cross Hospital and surrounding health care facilities. The General Plan identifies a number of other specific planning areas including the *Centro Civico* surrounding the city governmental complex and the *Parque Industrial Grand* and *Parque Industrial Mariposa*, targeting industrial areas along the northern segment of Grand Avenue and the industrial areas north of the Mariposa POE respectively.



Morley Avenue  
Shopping District

The Nogales General Plan also includes a *Growth Areas Element*. This includes goals, policies and implementation strategies designed to transform Nogales into the “Premier International Port of Entry” that may serve as a model for other border communities to emulate. These goals include the following:

1. Solidify the City’s position as a premier center for commerce and international trade in the Canada/Mexico (CANAMEX) corridor;
2. Use the railroad to the City’s benefit for ancillary industry and border trade;
3. Revitalize downtown as an attractive, mixed-use, historic urban core that capitalizes on the DeConcini and the Morley Gate Ports of Entry;
4. Take full competitive advantage of the Mariposa Port of Entry;
5. Create the employment and retail base needed to secure the long term fiscal vitality of the City;
6. Provide a safe and efficient multimodal transportation system that includes fully integrated ports of entry, vehicular, transit, pedestrian and bicycle modes;
7. Conserve significant natural resources and open spaces while taking full advantage of eco-tourism opportunities;
8. Support the phased infrastructure expansion and updates required to serve the existing and anticipated growth of the City and its floating population of 55,000;
9. Promote the public and private construction of timely and financially sound infrastructure expansion through the use of infrastructure funding and financial planning that is coordinated with development activity; and
10. Identify, pursue and secure grants and other funding sources to successfully implement this General Plan.

Employment and business development activities in the areas identified for growth by the City’s General Plan will require not only improved pedestrian facilities but also transit connectivity to a number of areas not currently served by the existing shuttles. The shuttle buses primarily focus on retail areas rather than employment destinations.



**7.2 Future Pedestrian Activity in the Study Area**

The Nogales POEs currently handle over 50% of the pedestrian crossings through all Arizona POEs. Most of this pedestrian activity is centered on the Morley and DeConcini POEs in the downtown Nogales area.

In 2009, there were about 4.24 million pedestrian crossings into Nogales, Arizona from Nogales, Sonora. This number is lower than historical averages over the past decade. *Table 10 Historical Pedestrian Crossings per Year* below shows the historical pedestrian counts in the previous decade.

**Table 10 Historical Pedestrian Crossings per Year**

Year	Pedestrian Crossings
2000	4,677,819
2001	4,874,738
2002	5,911,866
2003	5,583,533
2004	6,131,407
2005	6,930,198
2006	7,726,045
2007	7,722,877
2008	6,568,207
2009	4,240,000

**7.2.1 Projected Future Pedestrian Crossing Volumes**

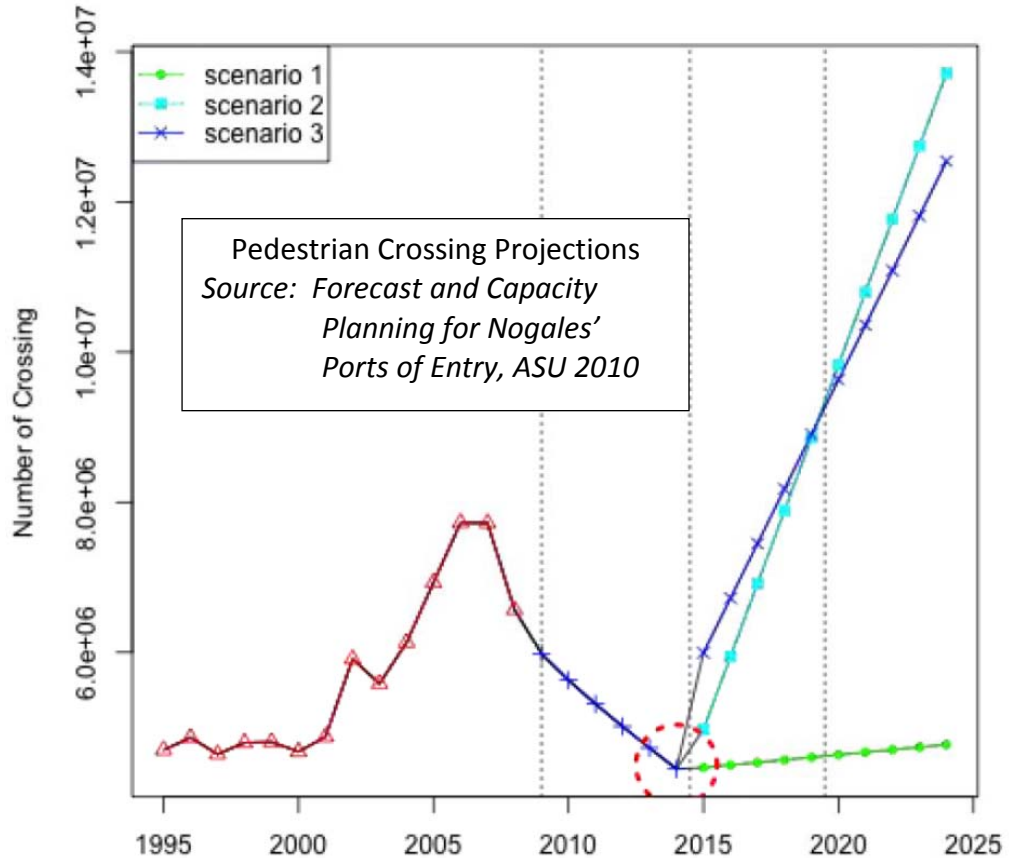
In 2008 and 2009, Arizona State University (ASU), Department of Industrial Engineering and Department of Supply Chain Management conducted a study to forecast activity levels by mode at the Nogales Ports of Entry. This study was funded by a grant from ADOT. The study included efforts to predict future pedestrian crossing activities. The study determined that personal vehicle crossings and pedestrian crossings were especially sensitive to economic conditions; much more so than commercial traffic. The report also noted that the increased security measures following the events of September 11, 2001 had a significant effect on personal vehicle crossings, more than on pedestrian crossings.

The report projected short term (five year), medium term (ten year), and longer term (fifteen years) pedestrian crossing levels. The report noted that the level of personal vehicle crossings, based on longer-term trends, was expected to increase following recovery from the recent economic downturns. The key question, beyond the scope of the study, was when the recovery would begin, and when the economic conditions would return to “normal”, and what the “new normal” would be. For the five year projections, a trends analysis was done, and for the medium and long term projections, the study used a more complex analysis beyond a point of economic recovery placed in

2015 for analysis purposes. This more complex analysis included an index of industrial production and an evaluation of the exchange rate between the dollar and the peso. This analysis yielded three economic scenarios for border crossing activity, one extremely pessimistic and two more optimistic and closer to a long term trends evaluation based on the period from 1995 to 2007.

Their short term model predicted a decline of pedestrian crossings to a low of about 3,500,000 annually for the five years after their study (2010-2014). This is not significantly removed from the current drop to 4.24 in 2009 and the further drop to 3.67 million in Fiscal Year 2010 (full year ending 9-30-2010).

The long range projection for the extremely pessimistic projection showed 4.77 million annual pedestrian crossings in the year 2024. Of note is that this projected amount is lower than the peak year in 2006. The two more optimistic scenarios, which produced almost identical results, projected an increase ranging from 12.54 million to 13.72 million pedestrian crossings by 2024. Both of the more optimistic scenarios significantly exceed the historic peak pedestrian crossings of 7.73 million in 2006.



Pedestrian delay information at the Ports of Entry was obtained from U.S. Customs and Border Protection officials and reported on in the current conditions section. Average delays of up to 12 minutes for pedestrian crossings at the Morley POE and 18 minutes at the DeConcini POE were reported in 2010, with short period delays of up to 90 minutes also being reported. If these delays occurred with a crossing level under 4 million per year, additional capacity would of course be needed to accommodate the forecast levels in the future or, alternately, delay time would be expected to increase accordingly.

Many of the pedestrians crossing the border at the Mariposa POE are bus passengers who must alight from the buses and cross through the POE on foot being processed as pedestrians. Others are business clients for port related enterprises and nearby industries.

**7.2.2 Pedestrian Origin and Destination Survey**

A survey of pedestrian destinations and opinions on needed improvements was conducted at the three Nogales Ports of Entry. Representatives of the Nogales Community Development Corporation conducted this survey. At the Morley Gate POE, 51 pedestrians were surveyed; at the DeConcini POE, the number was 52; and at the Mariposa POE, 38 pedestrians were surveyed. Trip origins were assumed to be the POEs, as the study area does not extend southward beyond the border. The respondents were asked about their primary destinations, other secondary destinations, whether bus or taxi service would be used in their trip, pedestrian improvements they felt were needed for the area, and any hazards to pedestrians perceived.

The actual survey form is included as an appendix to this report.

**Summary of Responses**

Note: Responses shown do not equal the total number of people surveyed due to multiple responses to some categories.

**Morley Gate POE - 51 surveys completed**

<u>Primary Destination</u>	<u>No. of Responses</u>
General shopping in area	31
Varied specified retailers	5
Food City	4
Payless	3
Walmart	2
Destination outside the area	3
Bank	1
Home in area	1
Visit friends and relatives	1
Work	1
<u>Secondary Destination</u>	<u>No. of Responses</u>
None	32
Walmart	7
Food City	7
Other merchants	3
Tucson	1
<u>Bus or Taxi Used</u>	<u>No. of Responses</u>
No	35
Yes	12
Picked up by private auto	4
<u>Pedestrian Improvements Needed</u>	<u>No. of Responses</u>
Restrooms	13
Wider Sidewalks	7



Shuttle Bus Staging Area along North Terrace Avenue



Pedestrian Bridge over Railroad	6
More/Closer/Free Buses	3
Signs to Restrooms	2
Faster border crossing	2
Move trains to evenings/night	2
More parking	2
Auto free zone 1 block north of border	2
None	15

<u>Pedestrian Hazards Identified</u>	<u>No. of Responses</u>
None	36
Boxes/Merchandise on Sidewalks	5
Train operations	4
Sidewalk repairs	3
“The people who work at the gate”	1

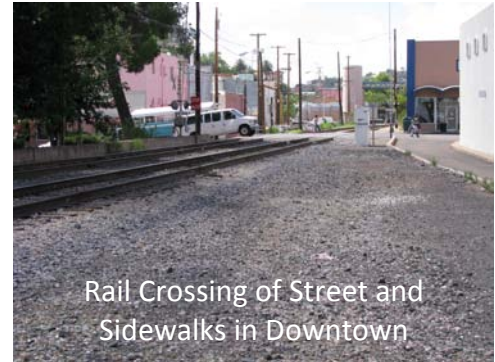
**DeConcini POE - 51 surveys completed**

<u>Primary Destination</u>	<u>No. of Responses</u>
General shopping in area	34
Varied specified retailers	8
Destination outside the area	6
Home in area	2

<u>Secondary Destination</u>	<u>No. of Responses</u>
None	30
Walmart	15
Food City	7
Visit Friends/Family	3
J.C. Penney	2
K-Mart	1

<u>Bus or Taxi Used</u>	<u>No. of Responses</u>
No	31
Yes	12
Picked up by private auto	9

<u>Pedestrian Improvements Needed</u>	<u>No. of Responses</u>
Restrooms	13
Wider Sidewalks	2
Pedestrian Bridge over Railroad	7
More parking	6
Closer bus stops	4
Auto drop off staging area	3
Signs to restrooms	2
Drinking water	2



Rail Crossing of Street and Sidewalks in Downtown



Public Restrooms

Longer walk cycle on signals	2
More roadway capacity	1
None	26

<u>Pedestrian Hazards Identified</u>	<u>No. of Responses</u>	
None	45	
Sidewalk repairs	7	
Road Construction	1	(assumed along South Terrace Avenue)

**Mariposa POE - 38 surveys completed**

<u>Primary Destination</u>	<u>No. of Responses</u>
Walmart	11
Destination outside the area	5
J.C. Penney	4
Home in area	4
Customs Broker	4
To work in the area	3
Auto Zone	3
Free Trade Zone Businesses	2
General shopping	2
Visit friends and relatives	2
Warehouse	1

<u>Secondary Destination</u>	<u>No. of Responses</u>
None	34
Morley Avenue shopping district	3
J.C.Penney	1

<u>Bus or Taxi Used</u>	<u>No. of Responses</u>
No	34
Yes	1
Picked up by private auto	9

<u>Pedestrian Improvements Needed</u>	<u>No. of Responses</u>
Public Transportation to downtown Nogales Retail Areas	23
None	15

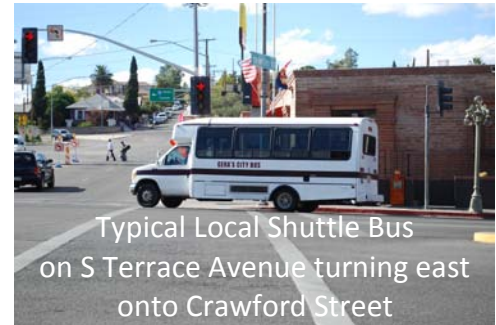
<u>Pedestrian Hazards Identified</u>	<u>No. of Responses</u>
None	38



**7.2.3 Pedestrian Origin and Destination Survey Findings**

Many of the findings from the surveys confirmed issues that were identified in the current conditions report. Others raise additional issues to be evaluated further in this study. The responses provide numerous options for alternatives evaluation and possible future projects.

**Transit Connectivity** – The most notable finding perhaps is the high response on the need for transit connectivity between the Mariposa POE and the downtown and north Mariposa Road retail areas. Bus riders indicated the need for easy connections to both local shuttle buses and to intercity coach and shuttle services to Tucson, Phoenix, and other external destinations. The local shuttle bus services have been staging along Terrace Avenue in the block north of Crawford Street and the regional bus depot is located on Terrace Avenue South of Crawford Street. The local shuttle bus do circulate around the downtown area to pick up and drop off passengers especially along Grand Avenue near the DeConcini POE, along Morley Avenue and International Street near the Morley Gate POE, and along the south end of Terrace Avenue opposite the walkway from the DeConcini POE. Ideally, the bus and taxi staging areas would be in close proximity to the POEs, but that might prove to be impractical or too expensive to accommodate. Regardless of the location of the transit staging areas, better directional signage and a centralized operation center is desirable.



Typical Local Shuttle Bus  
on S Terrace Avenue turning east  
onto Crawford Street

**Railroad Overpass** – The need for a pedestrian grade separation across the railroad was a major response at both downtown POEs.

**Pick-Up and Drop-Off Areas** – Another notable finding is the number of pedestrians crossing the border who continue their trip via private automobile. Pick-up and drop-off areas protected from through traffic lanes will need to be explored. This will be a continuing issue at the Mariposa POE as well due to the number of people picked up or dropped off there. A combined “Kiss-and-Ride” pick-up and drop-off area and a Park-and-Ride facility located near the Mariposa POE is a good solution, along with a similar facility in the downtown area near each POE.

**Pedestrian Amenities** – The need for more public restrooms and directional signage to find them in the downtown area is clear from the great number of responses. Since water service is needed for restrooms, this is also a logical location for drinking fountains. In Arizona, shade structures and benches are especially important to encourage more pedestrians.



Benches at Karam's Park

**Other Topics** – As is typical with surveys, some responses are in conflict with others. A number of pedestrians indicated the need for wider sidewalks clear from merchandise and delivery storage. In the downtown area, this can only be done at the expense of on-street parking in those locations. As parking was also a clearly defined need, there is a balance of sufficient parking versus wider sidewalks with more pedestrian amenities. If adequate locations can be found for several close-in public parking lots, this could allow removal of some on street parking, such as along sections of Morley Avenue; especially within a few blocks of the Morley Gate POE. Several respondents at the Morley Gate POE suggested an auto-free zone for a block north of the border crossing. Replacing those parking spaces could play a role in creating a pedestrian plaza that could enable street fairs and events. Such an

option would necessitate close coordination with and cooperation by merchants to reroute deliveries or reschedule them to off peak hours.

Comments were also made on the need for longer times for pedestrian crossings where traffic and pedestrian signals exist. These remarks correspond with the stakeholder input received and reported on in the current condition section of the report for median refuges, crosswalk flashers, and pedestrian activated crosswalks.

### 7.3 Future Roadway and Pedestrian Infrastructure Conditions

The sketch plan travel demand model used for the *Unified Nogales Santa Cruz County Transportation Plan 2010* predicts future traffic volumes. These volumes are then used to analyze the street carrying capacities using a measuring tool called Level of Service (LOS). Beginning in 1965, the Highway Capacity Manual divided street LOS into six letter grades, "A" through "F," with "A" being the best and "F" being the worst. With the "A" through "F" LOS scheme, traffic engineers are better able to explain to the general public and elected officials the operating and design concepts of highways. The LOS letter scheme caught on so well that it is now used throughout the United States in transportation. Small urban and rural areas typically seek to achieve a Level of Service "C" or better for roadway operations. It is useful to understand the volume of traffic projected on major streets in the downtown area. The amount of traffic has a distinct impact on pedestrian movements and safety.

The *Unified Nogales Santa Cruz County Transportation Plan 2010* provided forecasts showing the gradual increasing of traffic congestion in the broader area, which also includes the current study area. Increased traffic is caused not only by population and employment growth in the area, but also by increased levels of border crossing traffic. Excerpted from that report, *Figure 10 2007 Level of Service*, shown on the next page, illustrates the LOS in Nogales present in 2007. *Figure 11 Predicted 2030 Level of Service*, also found on the next page, shows the projected worsening LOS on study area roadways in 2030. By that time, traffic conditions will worsen significantly on Grand Avenue and on Arroyo Avenue north of Crawford Street, and on Morley Avenue from East Street to Grand Avenue, both major pedestrian use and circulation areas. Increased traffic levels here will affect pedestrian crossings and signal operations making it more difficult for pedestrians to safely and conveniently navigate these roadways.

Traffic volumes will increase and congestion will also worsen on Western Avenue and on Mariposa Road/SR 189. The increased traffic on Mariposa Road will make both pedestrian and bicycle travel far more hazardous without both additional roadway capacity and specific provisions for pedestrians and bicyclists.

The current conditions section reported on the condition of the existing pedestrian infrastructure adjacent to roadways in the study area. Those current conditions, unless addressed, will remain as future deficiencies. Those individual deficiencies are listed in tabular form in Section 8 of this report. In addition to those deficiencies previously noted, there is a need for pedestrian seating along a number of primary pedestrian routes in the downtown area.



These routes are also identified in Section 8.

Figure 10 2007 Level of Service

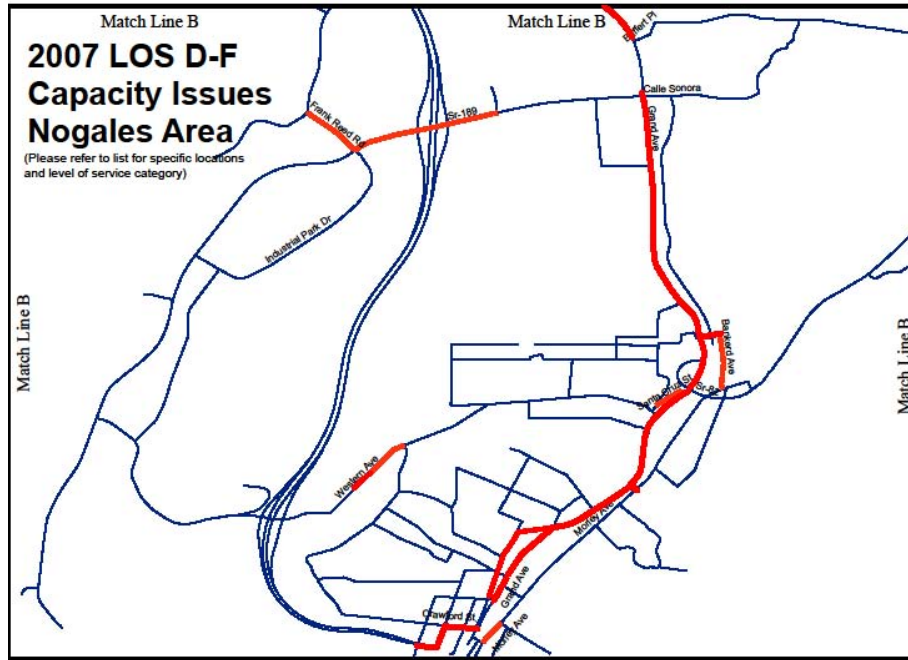
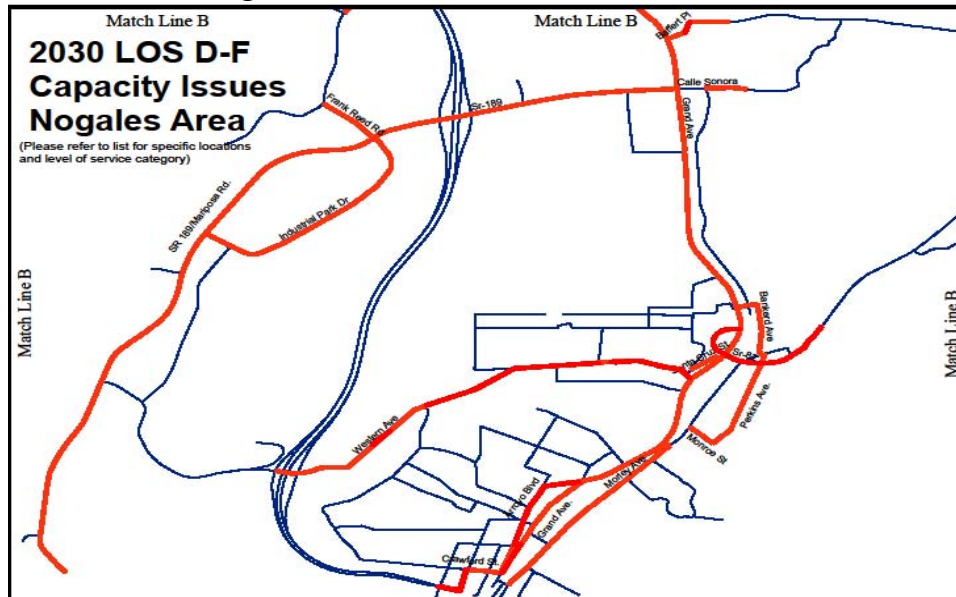


Figure 11 Predicted 2030 Level of Service



One of the current deficiencies is the condition of crosswalk striping throughout the study area. Both the climate and the high traffic volumes contribute to rapid wear of painted striping. Most of the striping in the study area is painted. While this is inexpensive, paint wears quickly compared to thermoplastic striping. The thermoplastic materials are more expensive up front, but the longer



life cycle repays the initial investment in reduced maintenance cost and fieldwork. It is suggested that, as funding permits, the City budget an annual line item for striping, especially for pedestrian crosswalks.

Southbound inspection backs up traffic on SR 189 to Target Range Road at peak times and to the new gas station on the west side of Mariposa Road during typical traffic loads. It was suggested that Mariposa Road needs to be widened to provide additional southbound lanes to accommodate this demand.

The Mariposa POE was not originally intended to have pedestrian traffic, but it has always seen some pedestrians pass through. The reconstruction will provide for six lanes of pedestrian traffic. Many of the pedestrians are brokers, people who are doing business at the POE, bus passengers, Maquiladora industry employees, and people crossing to be picked up on the U.S. side. People on buses exit the bus and are processed as pedestrians within the POE. Then they re-board the bus on the other side of the border. There are some 10 to 20 buses a day that use the Mariposa POE. On the Sonoran side of the crossing, there are plans for the construction of a large parking lot and park and ride facility for border crossers. Once this facility is operational, the number of pedestrian crossings may well rise significantly. At this time, there are no similar facilities planned for the U.S. side of the border in the vicinity of the Mariposa POE. This study will examine such facilities in the subsequent working paper.

A review of site plans for the expansion of the Mariposa POE finds that pedestrians crossing into Arizona must cross multiple lanes of traffic where commercial vehicles exit from CBP or ADOT inspections. Conflicts between increased pedestrian volumes and large commercial vehicles are likely. Design concepts to help provide safe crossings by pedestrians may warrant consideration. Lanes could be narrowed in the vicinity of the crosswalks or speed tables at crosswalks could keep traffic moving slowly. Broad expanses of pavement could be provided with pedestrian safety refuges. Lighted and signalized crosswalks can also be provided. Warning signs and bright crosswalk markings would also be in order.



Approaching the Mariposa POE

With plans for a large park and ride facility on the Sonoran side of the Mariposa POE, the need for a pedestrian staging area on the Arizona side is evident. This facility should also include space for pick-up and drop-off of pedestrians by private vehicles, short term parking, and space for buses to pick up and drop off passengers. Seating, shelter, restrooms and drinking water would be important amenities as well as information signage and wayfinding assistance.

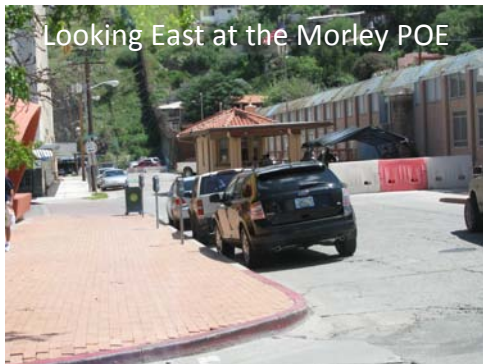
ADOT is currently designing both interim and long term improvement plans for SR 189 in the vicinity of the POE. ADOT reports that pedestrian and bicycle facilities are to be incorporated in the long term plans for the highway. As plans are reviewed, it is important for pedestrian and bicyclist improvements to be fully considered in the design. This includes:

- Sidewalks set back from curb
- Crosswalks with pedestrian activated countdown signals

- Bike lanes

#### 7.4 Future Port of Entry Operations, Facilities and Conditions

Remodeling is pending for the Morley POE and a major expansion project is currently underway for the Mariposa POE. The U.S. Customs and Border Protection (CBP) have design standards for new POEs. The two downtown crossings do not comply with these current standards, as the urban structure is built right up to the facilities. The Morley Gate POE remodeling is complicated by the fact that the structure is listed on the National Register of Historic Places, limiting what can be done, and requiring that work not compromise the historic character of the structure. The proposed improvements at



Morley will increase its capacity to handle the pedestrian flows through the border.

A copy of the concept plan for the Morley POE improvements is included as an appendix to this report. The operation there will expand from two to four inspection lanes. As previously discussed, there is the possibility to consider rerouting vehicular traffic and then use the area in front of the Morley POE to provide for a pedestrian plaza and gateway features.

The Mariposa POE, when fully reconstructed, will have 20 lanes for northbound traffic and 2 lanes for southbound traffic. There are three inspection lanes for the two outbound lanes: one for trucks, one for cars, and one for additional use. CBP officials would like to eventually see 4 to 6 inspection booths for southbound traffic.

An outbound pedestrian sidewalk will be located on the west side of SR 189 within the POE and an inbound pedestrian sidewalk will be located on the east side between the commercial and privately owned vehicle lanes. As the pedestrian walks north through the POE, the person will need to cross an access drive to an employee parking lot, the outbound commercial lane onto SR 189, and the drive to the State Port facility. A crosswalk with a proposed push button light is located south of Freeport Drive and will enable pedestrians to cross Mariposa Road between the inbound and outbound walks.

#### 7.5 Future Transit Operations and Facilities

The various public transit providers in the study area are all privately operated. A number of bus and taxi operations have city business licenses, as well as permits issued by the City of Nogales. As a part of this permit process, buses are inspected and drivers surveyed to assure proper licensure.

On February 1, 2011, a meeting was held with officials from the City of Nogales (including the Chief of Police), Nogales Community Development Corporation, and ADOT. Concerns that were raised at that meeting included:

- There are no posted schedules or routes for the buses as they are routed according to passenger demand, and do not begin to run until a sufficient passenger load is on board.
- Buses park along the streets in parallel parking spaces, often exceeding the stay limit while taking up prime parking spaces that could be used by shoppers.

- The circulating buses contribute to the traffic congestion in the downtown area.
- The large vehicles parking at the curb may cause sight distance problems for both pedestrians and other motorists.
- There are no designated bus stops or pullouts.
- Buses for the most part do not serve non-retail activity centers.
- Buses are not accessible to the disabled.
- Not all desired destinations are served, or during hours that merchants and the city may wish.
- Buses are not adequately signed and their cleanliness and age does not reflect well on the city.
- There is a perception that there are a large number of private operators pursuing a limited amount of revenues, with the result that none of the operators is earning enough to do an adequate job or provide more up-to-date equipment.
- The city is interested in exploring options to address this issue.



Public transit studies for the Nogales area have been done in the past. These have identified the need for broader service within Nogales. Public transit operations typically only recover about 25% to 30% of their operating costs in farebox revenues, requiring subsidies from public monies. ADOT provides federal grant funding for rural and small urban operations, but competition for these funds is keen. State funding for this program from the Local Transportation Assistance Fund (LTAF) generated by lottery proceeds was recently “swept” by the state legislature to assist in budget balancing and is likely not to come back, or at least not for a very long time.

Regardless of the operations solution ultimately selected, there are a number of short term transit and related needs that will assist pedestrians in reaching their destinations. These include:

- A bus route connection to the Mariposa POE Area, specifically to a new transit center/park and ride facility on the Arizona side.
- A transit center in the downtown area to serve the DeConcini and Morley Gate POEs that could ultimately accommodate intercity bus services, but, at a minimum, should provide space for service route vehicles, access for private vehicles picking up and dropping off pedestrians, short term parking for park and ride patrons, restrooms, drinking water, and bilingual informational signage on routes, schedules and wayfinding in the downtown area.
- Space limitations strongly suggest that a downtown transit center cannot be placed immediately next to either downtown POE necessitating the need for effective signage and wayfinding to easily reach the nearby location of the transit center.
- Designated bus stops along streets in the downtown area should be provided. Narrow sidewalks and the proximity of buildings to the roadways in downtown Nogales does not permit





the construction of bus pullout bays in many locations, but the bus stop locations along the curb with signs and curb striping to restrict the space for buses only can be accommodated. Signs at these locations should identify the space as a bus stop, prohibit auto parking, and identify destinations served from this stop (e.g., DeConcini POE, Morley Gate POE, Downtown Shopping, etc.). Designated stops will come at the expense of a number of parking spaces in the downtown area. The exchange should prove of value when compared to the frequent random loss of parking spaces to these buses that occurs currently.

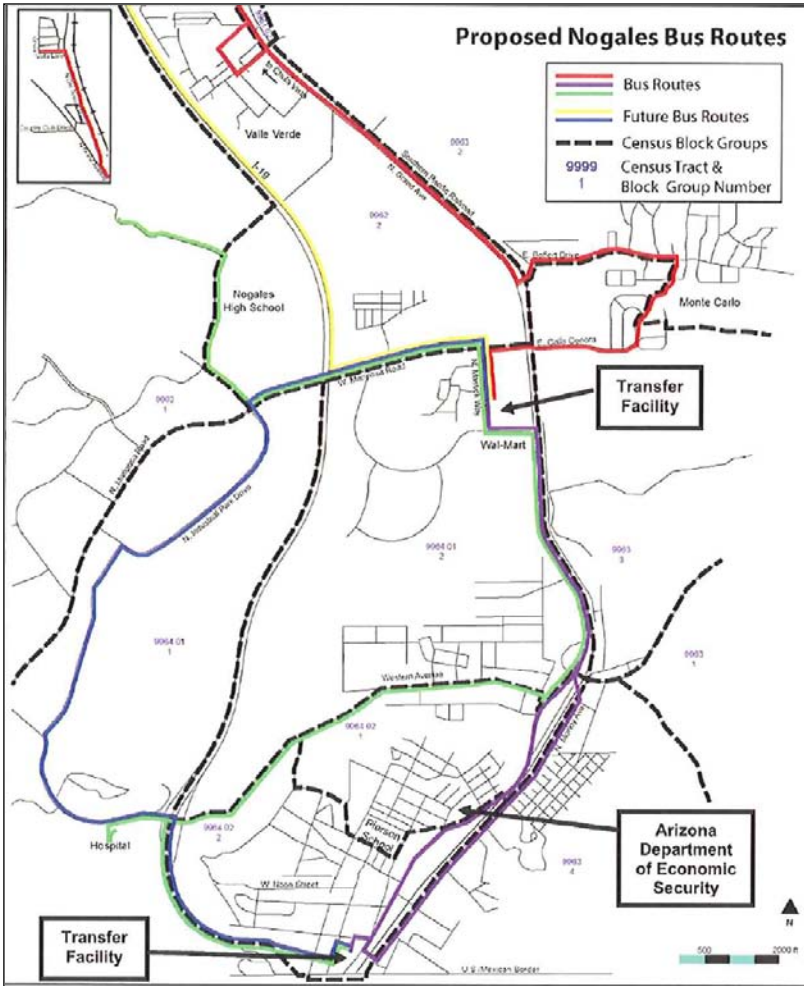
- Designated bus stops adjacent to major retail destinations in the vicinity of the north end of Mariposa Road. Walmart has constructed a private bus stop with a covered shelter along the access lanes to their parking lot. The City could work with other merchants and shopping centers in this area to provide similar amenities. Some public subsidy or incentives could be provided to assist with this effort as needed and appropriate. Since this area is primarily “big box” retail, with stores set back some distance from the roadway, it is more effective to have the buses turn into these destinations rather than stop along busy Mariposa Road. Covered shelter, route locations, posted schedules, and wayfinding is important here, but restrooms and drinking water fountains are typically provided to patrons by the retailers.

Current bus operators may resist the adoption of fixed schedules and routing. If designated stops are only for the use of those operators willing to follow a set route and schedule, and restrictions for other downtown parallel parking spaces are rigorously enforced, willingness to set and follow a route and schedule may not be too difficult to adopt. The City could also choose to limit the overall number of licenses to issue, providing more income to the licensed operators to better enable them to offer some level of fixed route and schedule to the public. Once the new park and ride facility on the Sonoran side of the Mariposa POE opens, and when a similar service location for pedestrians on the Arizona side of this POE can be achieved, the increased level of patronage at that location should assure that one or more operators may be willing to extend service to that location without a public subsidy.



It should be noted that the City of Nogales should be cautious in discussions with current operators. The Americans with Disabilities Act (ADA) requires that any public agency that operates, or contracts for, fixed route bus service needs to provide “complementary paratransit service” for those within  $\frac{3}{4}$  mile of the route whose disability prevents them from accessing the bus stops. This means that a “dial-a-ride” service must be instituted to pick up such clients at their location and take them to the bus, or their destination. Alternatively, the bus route may be converted to a “deviated fixed route” that travels off-route to pick up such patrons on demand. If the local public agency contracts for service or pays an operating subsidy to a private operator, that operator will likely be seen as “standing in the shoes” of the city by federal regulatory agencies. If a formal contractual relationship with one operator initiates regulatory compliance issues, such relationships with multiple operators would be problematic.

At some future time, the City of Nogales may elect to explore funding for a more comprehensive transit system than exists today, including service for residential areas, public facilities, and outlying areas such as Rio Rico and Tubac. The 2006 *Nogales Transit Feasibility Review and Implementation Plan* investigated and priced a number of such options. If the plan was implemented, current operators could respond to a procurement solicitation for contract operations, but would have to comply with all ADOT and Federal Transit Administration regulations.



The 2006 *Nogales Transit Feasibility Review and Implementation Plan* investigated and priced a number of such options. If the plan was implemented, current operators could respond to a procurement solicitation for contract operations, but would have to comply with all ADOT and Federal Transit Administration regulations.

**7.6 Future Rail Operations and Impacts on Pedestrian Circulation**

The Union Pacific Railroad runs north and south through the downtown area and bifurcates the community. When trains are operating, they can create a major barrier to pedestrian circulation within the study area. Additionally, this presents a potential safety hazard for pedestrians and significantly delays the response time of public safety emergency vehicles as well. A high priority for the community is the provision of a

railroad overpass structure to enable pedestrians to cross the railroad tracks, and do it safely, when trains are present. A railroad overpass study was completed in April 2007 that identified possible locations for such an overpass.

The Union Pacific Railroad line crosses the border between the Morley and DeConcini POEs, just west of Morley Avenue and east of Grand Avenue. Traffic on this line consists of “unit trains” of approximately 100 cars each. These trains are about 5,000 feet in length, traveling through the study area at 5 miles per hour. This slow speed causes significant delay along roadways crossing the railroad at grade. Railroad crosswalks are typically blocked for 20 to 25 minutes each occurrence. This condition is worsened when trains travel through the downtown area during peak travel periods. Train schedules change based on demand, but currently seven trains a day, operate in this corridor. Total delay can add up to two to three hours per day.



Recent discussions with Union Pacific officials were held to discuss their plans and forecasts of future freight volumes along this corridor. As a private entity, their specific client and freight data is proprietary. Train schedules may vary based on customer demand and time of year. Current freight volumes on this line are down from levels occurring about five years ago. The Nogales line is limited by the single track in their right of way, and the size of existing sidings between Nogales and Tucson. The volume of freight handled on this line is directly tied to the number of automobiles manufactured in Hermosillo, and the amount of freight entering Mexico through the seaport of Guaymas. If Guaymas becomes a larger player in the international trade business, that could translate into more freight coming through Nogales on rail.

There is a need for a grade separated crossing of the railroad within the study area to accommodate vehicular traffic. A pedestrian overpass in the downtown area would help address pedestrian connectivity as well. While no train/pedestrian accidents were found in the ADOT ALISS crash data, local stakeholders report that pedestrians often cross the tracks in mid-block locations in the downtown area and have been seen crawling through the slow moving cars to cross the tracks. Crawford Street is one street that has been envisioned for a grade separated crossing of the railway. The *Unified Nogales Santa Cruz County Transportation Plan 2010* also recommended a grade separated pedestrian crossing of the railroad at Court Street.

## 8.0 Deficiency Findings and Inventory

### 8.1 Roadway Related Pedestrian Infrastructure Deficiencies

Primary pedestrian corridors in the study area are:

- Grand Avenue from the border to the Arroyo Avenue split
- Morley Avenue from the border to Beck Street
- Arroyo Avenue from Crawford Street to Grand Avenue
- Terrace Avenue from the cul-de-sac near the border to Elm Street
- Sonoita Avenue from Compound Street (B-19) to Crawford Street
- Robins Avenue from International Avenue to Park Street
- Nelson Avenue from International Avenue to East Street
- International Street from Robins Avenue to Nelson Avenue
- Compound Street (B-19) from West Street to Sonoita Avenue
- Park Street from Grand Avenue to Morley Avenue
- Crawford Street from Sonoita Avenue to Grand Avenue
- Court Street from Grand Avenue to Morley Avenue
- Walnut Street from Arroyo Avenue to Grand Avenue

These corridors are shown in *Figures 12a and 12b Primary Pedestrian Needs*. These figures can be found at the end of this section. Specific deficiencies along these corridors are noted in the following

tables. *Table 11 Crosswalk Deficiencies* below lists the locations of deficient crosswalks in the downtown area.

**Table 11 Crosswalk Deficiencies**

Number of Crosswalks	Roadway Crossing	At	Condition
1	Compound St.	West Ave	Deficient
1	Sonoita Ave.	Burger King	Deficient
4	Crawford St.	Terrace Ave.	Deficient
1	Grand Ave.	Park St. –South Side	Deficient
2	Park St.	UPRR	Deficient
2	International St.	Morley Ave.	<b>Needed</b>
2	Nelson Ave.	East St.	Deficient
4	Elm St.	Arroyo Ave.	Deficient
1	Elm St.	Grand Avenue	Deficient
2	Grand Ave.	Elm St.	<b>Needed</b>
1	Grand Avenue	Court St. – South Side	Deficient
1	Grand Ave.	Court St. – North Side	<b>Needed</b>
1	Court St.	Grand Avenue	Deficient
2	Court St.	UPRR	Deficient
4	Court St.	Morley Ave.	Deficient
2	Grand Ave.	Walnut St.	<b>Needed</b>
1	Walnut St.	Grand Ave.	Deficient
1	Grand Ave.	North of Walnut St.	Deficient
1	Arroyo Ave.	North of Walnut St.	Deficient
1	Hudgins St.	Morley Ave.	Deficient
1	Beck St.	Morley Ave	Deficient
2	Grand Ave.	Food City	<b>Needed</b>

*Table 12 Sidewalk Deficiencies*, found at the end of this section ahead of the figures, lists the locations of deficient sidewalks in the downtown area. Additionally, benches should be added along these routes wherever sidewalk or right-of-way width back of curb permits. In some locations, where the right-of-way is too narrow to permit seating, short walls may do double duty in this regard. SR 189/Mariposa Road needs sidewalks, bike lanes or paths, and pedestrian crosswalks at signalized and stop controlled intersections. Pedestrian actuated crosswalks signals and warning lights may be warranted due to the high volume of large heavy trucks on this route.

**8.2 Ports of Entry Related Pedestrian Infrastructure Deficiencies**

An adequate number of pedestrian lanes at the POEs should be fully manned as needed to minimize delays. While this might require additional lanes be constructed in the future, the primary concern at the present time expressed by the public and stakeholders appears to be unmanned lanes. Both downtown POEs need improved informational signage and wayfinding to direct pedestrians to parking, restrooms, water, primary destinations, and transit services.

The POE expansion site plan could be refined to provide safe internal pedestrian crossings of internal roadways and drives. The Mariposa POE also needs the same sort of signage and wayfinding information as the downtown POEs. POE related pedestrian infrastructure needs are shown in *Figures 12a and 12b Primary Pedestrian Needs* and *Figure 13 Mariposa POE Area Pedestrian and Bicycle Needs*.

### 8.3 Transit Infrastructure and Operations Deficiencies

Most transit service in Nogales is either intercity in nature or shuttle operations taking shoppers from the downtown area near the POEs to destinations further north on Grand Avenue and to large scale stores on White Park Road and the north end of Mariposa Roads. The downtown area needs a transit center, park-and-ride lot, and pedestrian pick-up and drop-off facilities nearby. The Mariposa POE needs a transit center, park-and-ride, and pedestrian drop off and pick up facility nearby. This combined facility should be located adjacent or near the POE. This combined public transportation facility should be as close to the downtown POEs as possible. Primary transit corridors relevant to this study, along with major destinations, and a target area in which to locate a transit center, are shown in *Figure 14 Transit Infrastructure and Operational Needs*.



### 8.4 Railway Related Pedestrian Infrastructure Deficiencies

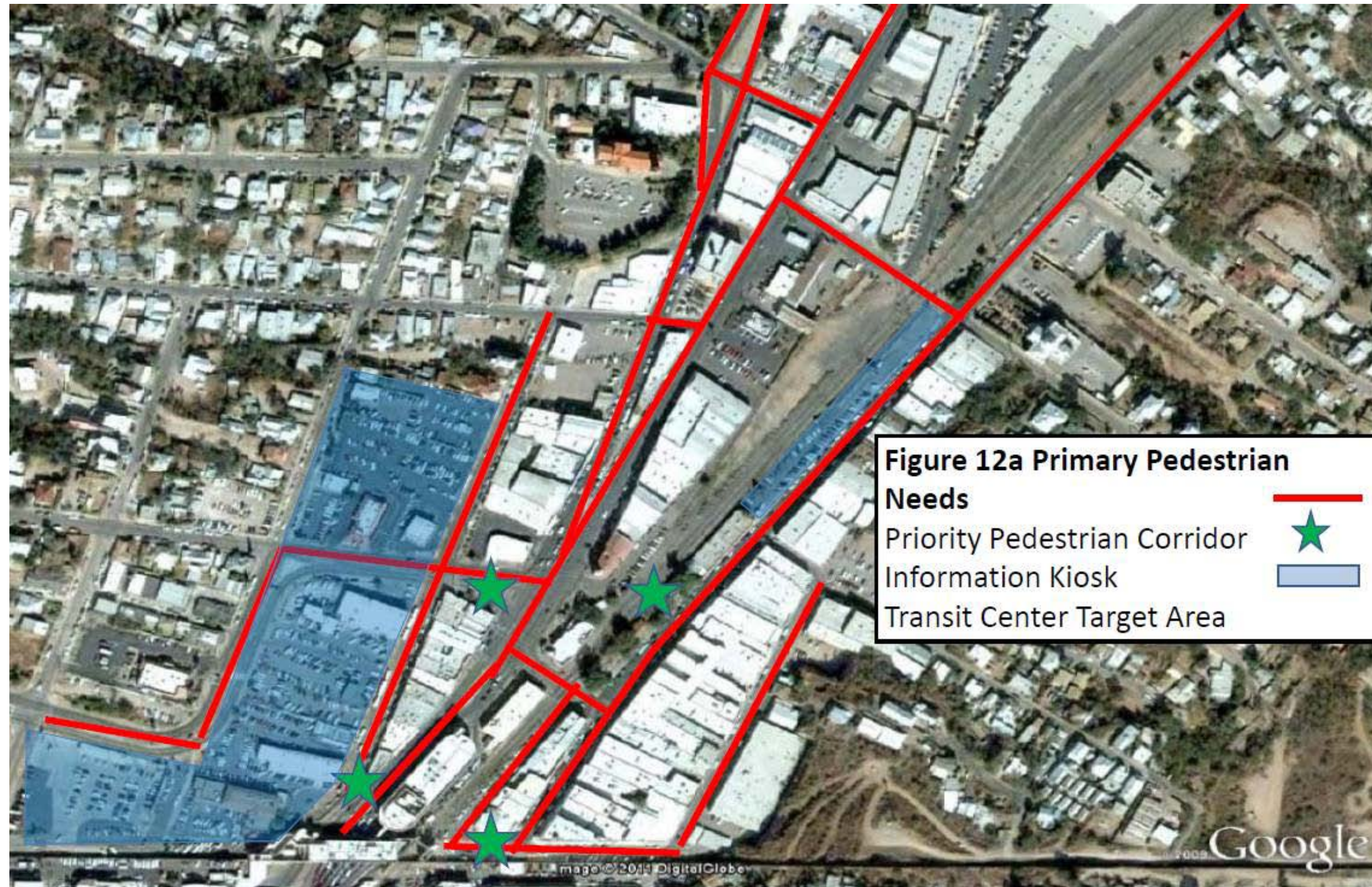
Increased traffic on the Union Pacific Nogales Branch may become an even greater barrier to safe and effective pedestrian circulation in the downtown area. The need for a pedestrian grade crossing will increase in the future as train activities increase. Court Street is one proposed location of a pedestrian overpass. The existing at-grade crossings of the railroad at Park Street, Court Street, and at Banks Bridge need improved crosswalks. Additionally, walls, fences and railings on top of existing low walls adjacent to the railroad right of way should be considered to prevent pedestrians from trespassing across the railway right-of-way between signed and marked crosswalks. These needs are shown in *Figure 15 Railroad Related Pedestrian Infrastructure Needs*.

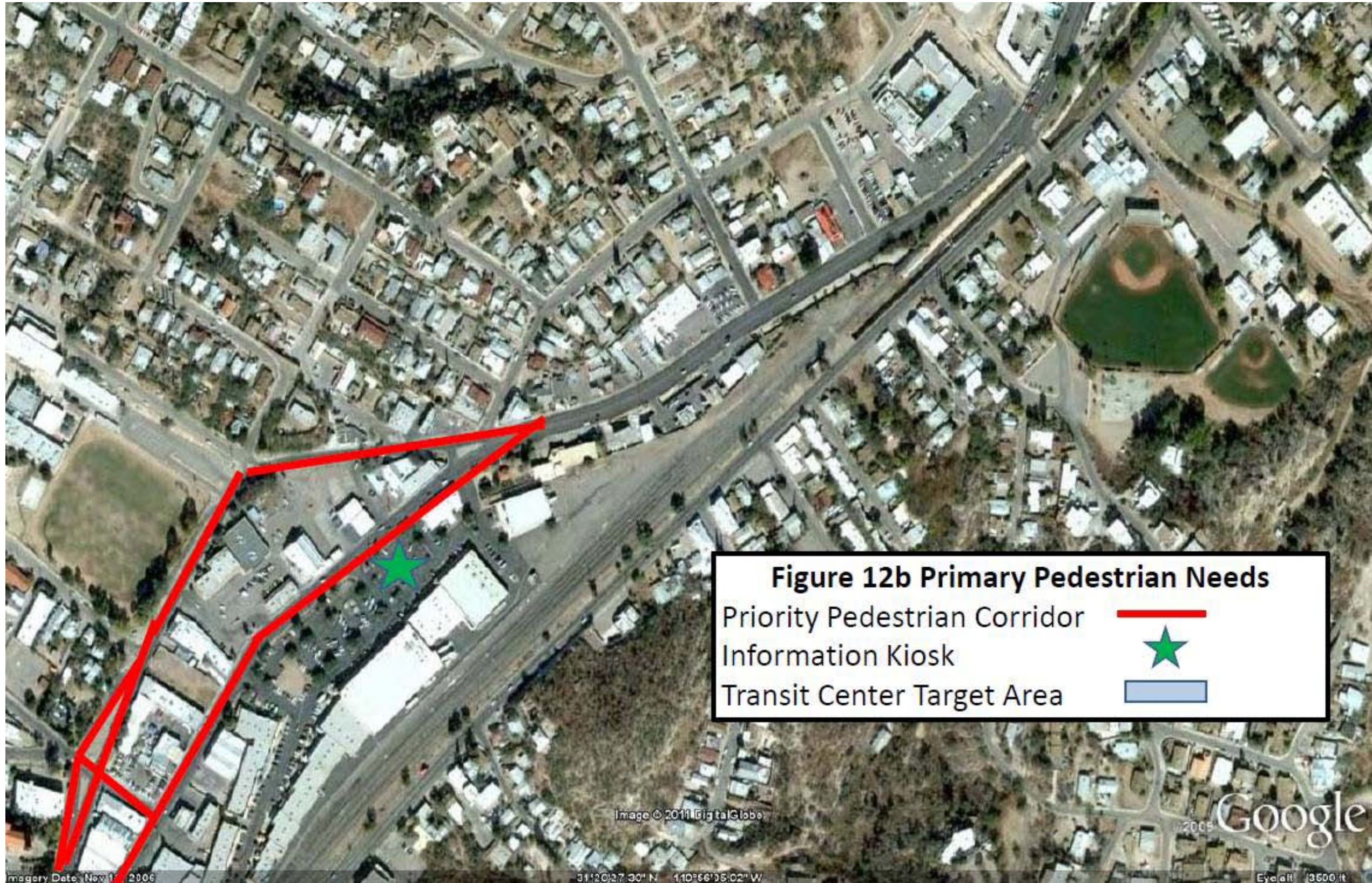
## 9.0 Future Conditions Summary

This report section sets forth the future conditions of the study area as it relates to pedestrian circulation within downtown Nogales and in the vicinity of all three Nogales Ports of Entry. Together with the current conditions, this collective information provides the basis for development of recommended infrastructure improvements associated with safe and convenient pedestrian movements and circulation within the study area. The next section will identify solutions to mitigate issues, provide needed infrastructure, and enhance safety. In addition, each project will have a planning level budgetary cost associated with it and will be prioritized and categorized into a short term (5-year) program, a mid-term (10-year) program, and a long-term (20-year) program. As an outcome, the City of Nogales will be equipped with an implementation program.

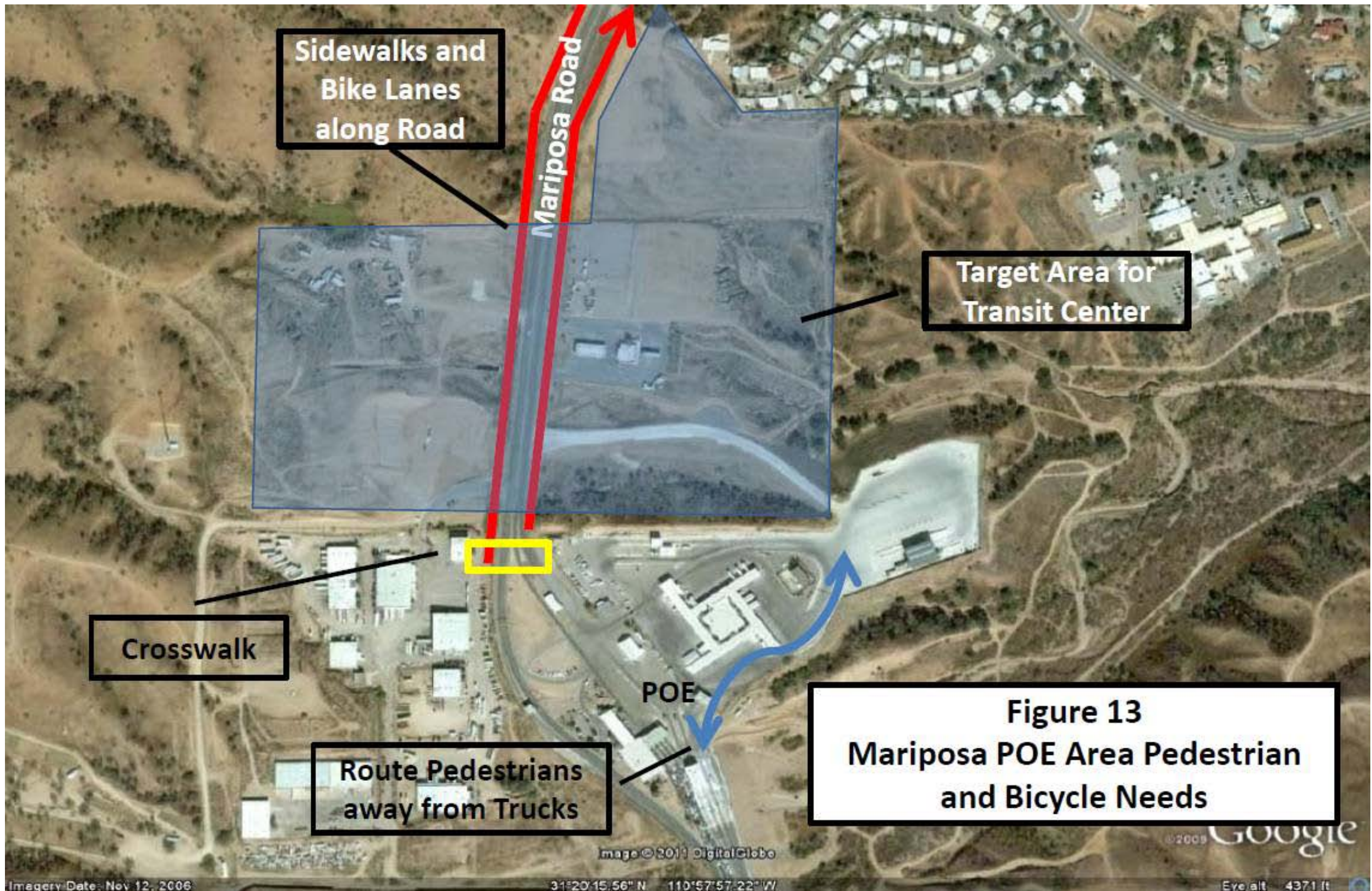
Table 12 Sidewalk Deficiencies

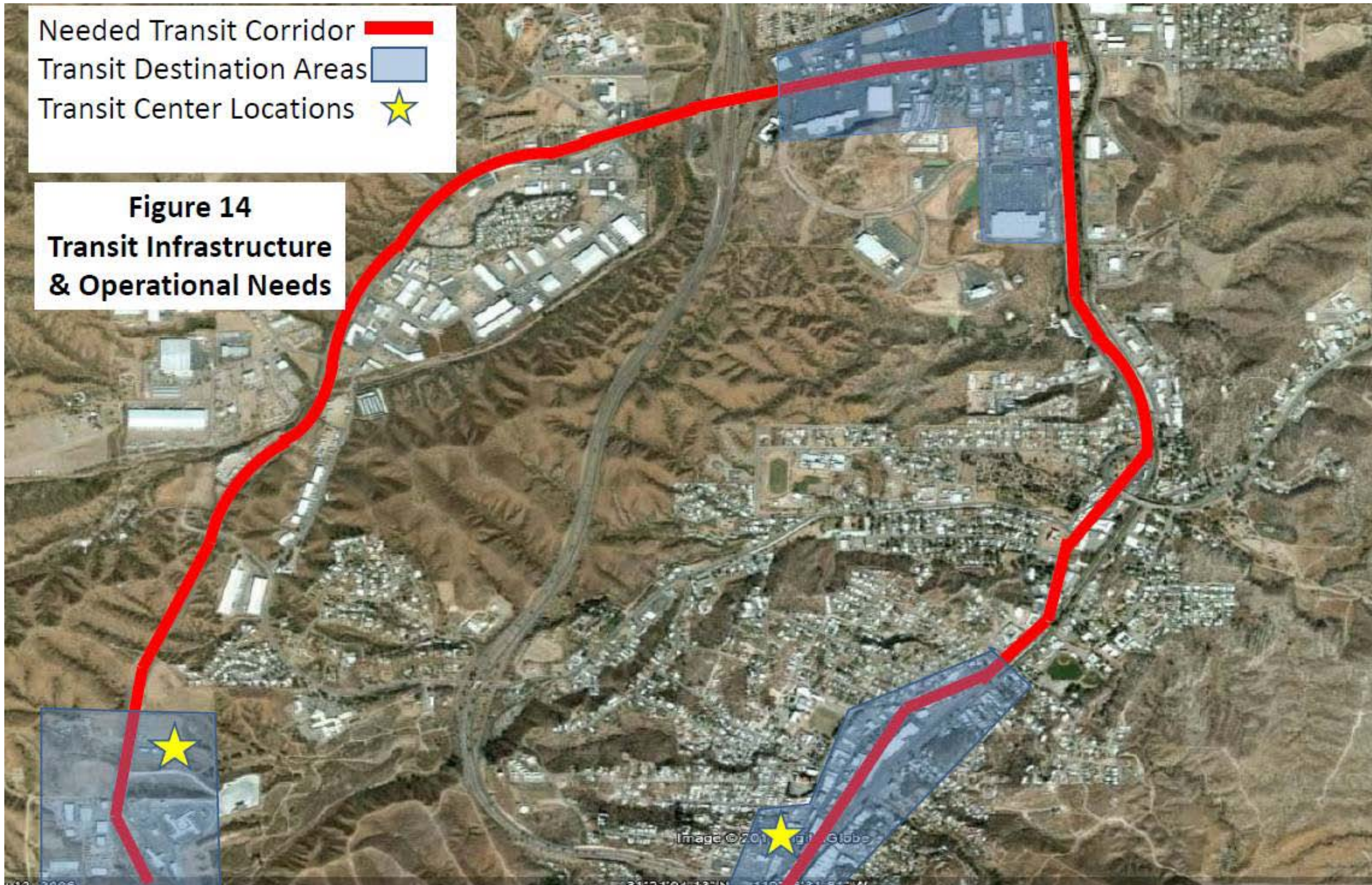
Street	From	To	Side	Width in feet	Condition	Side	Width in feet	Condition	Comments
Nelson Avenue	International St.	East St.	West	6'	Fair	East	5.5	Fair	No ramps at corners
Morley Avenue	Park St.	East St.	West	7.5"	Fair	East	8.5	Fair	Some mismatched pavement types on east side
Morley Avenue	East St.	Court St.	West	6-7.5	Good	East	8.5-9	Fair	Drains across sidewalk with covers
Morley Avenue	Hudgins St.	Beck St	West	None	N/A	East	8.5	Fair	No sidewalks on West side due to UPRR
Morley Avenue	Beck St.	Wayside Dr	West	None	N/A	East	6	Fair	Stair wall failed ~40 ft. north of Beck St.
Robins Avenue	International St.	Park St.	West	None	N/A	East	None	N/A	One way street no parking on east, loading for building rear entries, UPRR on west
Grand Avenue	Crawford St.	Elm St.	West	11 to 7	Fair	East	10	Fair	
Grand Avenue	Elm St.	Walnut St.	West	6 to 7	Fair	East	None	N/A	Only spotty sidewalk on East side, many parking lots
Arroyo Ave.	Crawford St.	Elm St.	West	11 to 7	Fair	East	8	Fair	
Arroyo Ave.	Elm St.	Walnut St.	West	6	Fair	East	6	Fair	
Terrace	South End	Crawford St.	West	N/A	N/A	East	6 to 7	Fair	West side under construction during field tour
Terrace	Crawford St.	Elm St.	West	7.5	Fair	East	7.5	Fair	
Park St.	Grand Ave.	Robins Ave.	North	7.5	Good	South	8.5	Fair	
Park St.	Robins Ave.	Morley Ave.	North	7.5	Fair	South	8.5	Fair	
East St.	Morley Ave.	Nelson Ave.	North	4.5	Fair	South	4.5	Fair	
Elm St.	Terrace Ave.	Grand Ave.	North	5	Fair	South	5	Fair	
Walnut St.	Arroyo Ave.	Grand Ave.	North	7.5	Fair	South	7.5	Fair	

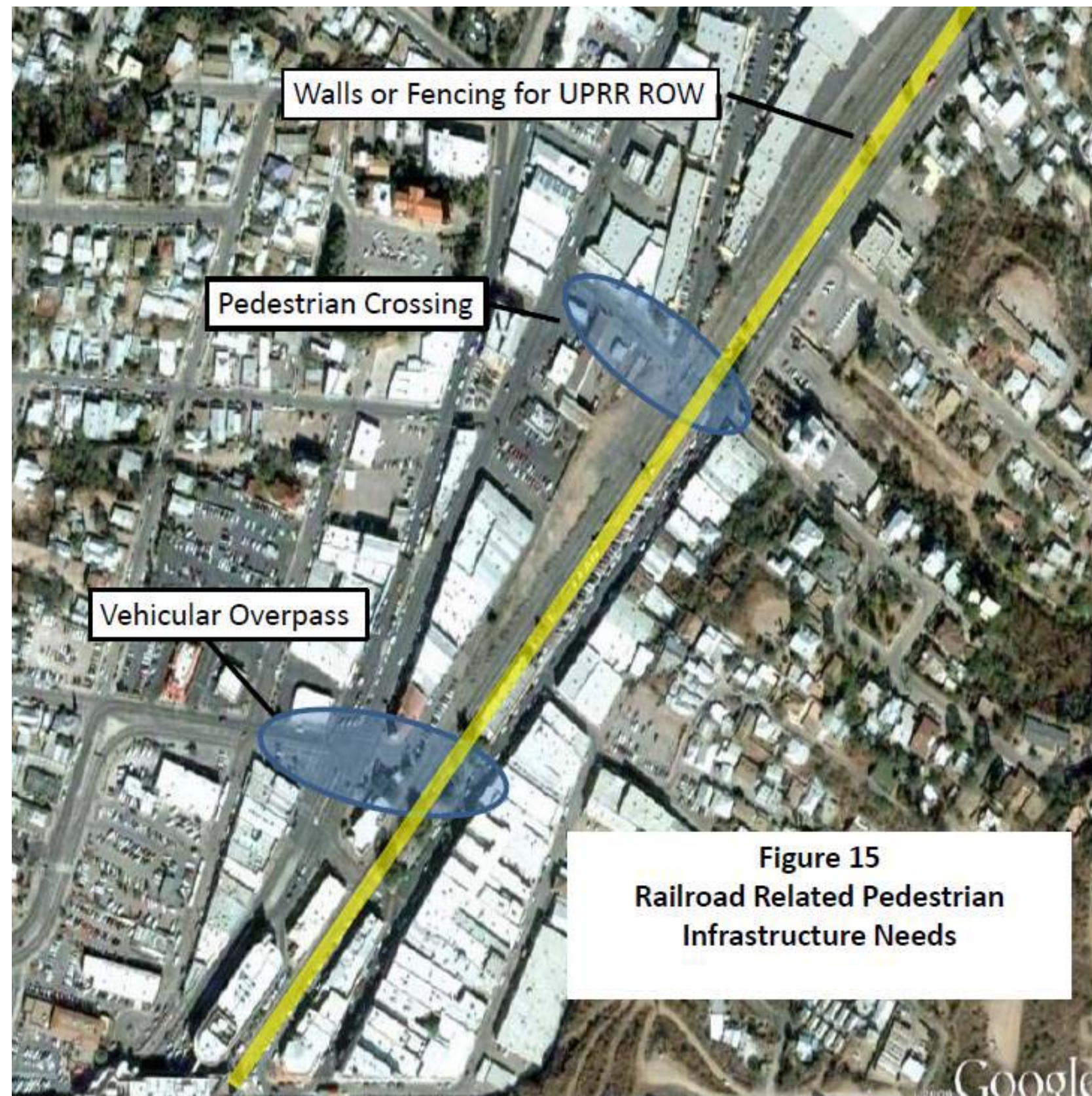














**10.0 Project Needs**

This section discusses the various project needs identified to improve pedestrian facilities and access throughout the area. Potential project needs include new structures, crosswalks, sidewalks, transit and parking access, pedestrian information, and pedestrian amenities.

**10.1 Structural Projects**

Several structural projects are needed in the area. Primary among these are grade separated crossings of the Union Pacific Railroad line in the downtown area. These include both pedestrian only and vehicular crossings. While this study focuses on pedestrian needs, a high priority vehicular overpass of the railroad could also include pedestrian sidewalks. Recommended projects are two pedestrian overpasses and one vehicular overpass that could also be used by pedestrians; along with security fencing along the railroad. While the vehicular overpass is a high local priority, it should be noted that the location is further north than much of the pedestrian pressure across the railroad in the downtown area. Another project is a pedestrian underpass along the east side of SR 189 at the northern end of the Mariposa POE. These projects are summarized in Table 13 below which is followed by individual work sheets on the projects.

**Table 13 Structural and Related Projects Summary**

Project No.	Project Location	Planning Level Cost
	Project Description	
1	<i>Grand Avenue and Morley Avenue south of Library</i>	\$12,100,000
	Vehicular/Pedestrian Overpass	
2	<i>Crawford Street at UPRR</i>	\$ 5,000,000
	Pedestrian Overpass	
3	<i>Court Street at UPRR</i>	\$ 5,000,000
	Pedestrian Overpass	
4	<i>SR 189, at Mariposa POE</i>	\$8,000,000
	Pedestrian Grade Separation with interim enhanced Pedestrian Crosswalk with Z-Offset	
5	<i>Along UPRR Right of Way</i>	\$ 180,000
	Raised Fencing	
<b>TOTAL</b>		<b>\$30,280,000</b>

**Project No. 1**

**Project Type:** Vehicular/Pedestrian Overpass of the Union Pacific Railroad

**Location:** Grand Avenue to Morley Avenue south of Public Library





**Solution Description:** The need for a vehicle overpass has been identified in the vicinity of the public library in downtown Nogales to provide continuous and safer access over the Union Pacific Railroad. The overpass structure would require one-quarter mile approaches, up to approximately 4 blocks on each side, for the grade separation ramps leading up to the overpass structure. The location is approximately midway between Wayside Drive and Beck Street. The proposed alignment for the overpass is an open area south of the existing Nogales Public Library and north of a retail shopping center. The west end of the overpass will then extend to Grand Avenue, creating a new intersection connection in a roundabout configuration, which will increase safety and capacity at the intersection. The east side will consist of elevated ramps branching off the new overpass in the north and south direction connecting with Morley Avenue. Care must be taken during design to minimize the number of affected properties and any access restrictions to businesses.

Additional infrastructure that would be required such as frontage roads and noise walls will also be included and will be minimized to avoid excessive impacts on adjacent properties. Right-of-way acquisition will also be included with this project. The overpass bridge will meet Union Pacific Railroad requirements of 23-feet and 4-inches of vertical clearance, and a minimum of 9-feet of horizontal clearance from the center of the rail line. The crossing structure will also satisfy requirements for slopes and drainage, and will be coordinated with any other state and railroad regulations. The design and alignment evaluation process will look at minimizing engineering conflicts, addressing utilities, coordinating regulatory and railroad approvals, obtaining environmental clearances, and utilizing available right-of-way wherever possible. The project will also include sidewalks and bike lanes, and will satisfy ADA requirements for slopes and landing areas. The crossing will also be lighted to allow for use during all hours.

**Planning Level Cost Estimate  
Vehicular/Pedestrian Overpass**

DCR/EA, Design and Construction Engineering	\$1,650,000
Construction	\$9,250,000
Right of Way Acquisition/Legal	\$1,200,000
<b>TOTAL =</b>	<b>\$12,100,000</b>



**Project No. 2**

**Project Type:** Pedestrian Overpass of the Union Pacific Railroad

**Location:** Park Street at UPRR

**Solution Description:** Approximately 1,500 pedestrians per day on a Saturday cross the Union Pacific Railroad and Grand Avenue in the vicinity of Park Street. This is the most heavily used crossing location in downtown Nogales outside of the border crossing. When trains go by, the ability for pedestrians to cross is blocked for significant amounts of time, causing delay and safety concerns. An overpass was identified as a potential solution to facilitate the ability for pedestrians to cross safely and unimpeded; however, an underpass may also be an option. In addition, the exact location of the crossing in the vicinity of Crawford Street or Park Street should be evaluated based on the feasibility of engineering details and any other design elements that may be determined during the initial process. The crossing should also be lighted to allow for use during all hours. The pedestrian overpass bridge will meet UP Railroad requirements of 23-feet of vertical clearance, and a minimum of 9-feet of horizontal clearance from the center of the rail line. The crossing structure will satisfy ADA requirements for slopes and landing areas.

Planning Level Cost Estimate

**Pedestrian Overpass**

DCR/EA, Design and Construction Engineering	\$950,000
Construction	\$4,050,000
<b>TOTAL =</b>	<b>\$5,000,000</b>





**Project No. 3**

**Project Type:** Pedestrian Overpass of the Union Pacific Railroad

**Location:** Court Street at UPRR

**Solution Description:** Approximately 550 pedestrians per day on a Saturday cross the Union Pacific Railroad at Court Street. When trains go by, the ability for pedestrians to cross is blocked for significant amounts of time, causing delay and safety concerns. An overpass was identified as a potential solution to facilitate the ability for pedestrians to cross safely and unimpeded; however, an underpass may also be an option and should be studied. The west end of the structure would be adjacent to private commercial uses presenting partnership opportunities and possible right-of-way challenges. The east end of the crossing structure would be near the courthouse which may provide the opportunity to coordinate aesthetic and cultural enhancements into the design that complement the courthouse architecture. The crossing should also be lighted. The pedestrian overpass bridge will meet UP Railroad requirements of 23-feet of vertical clearance, and a minimum of 9-feet of horizontal clearance from the center of the rail line. The crossing structure will satisfy ADA requirements for slopes and landing areas.

Planning Level Cost Estimate

**Pedestrian Overpass**

DCR/EA, Design and Construction Engineering	\$950,000
Construction	\$4,050,000
<b>TOTAL =</b>	<b>\$5,000,000</b>





**Project No. 4**

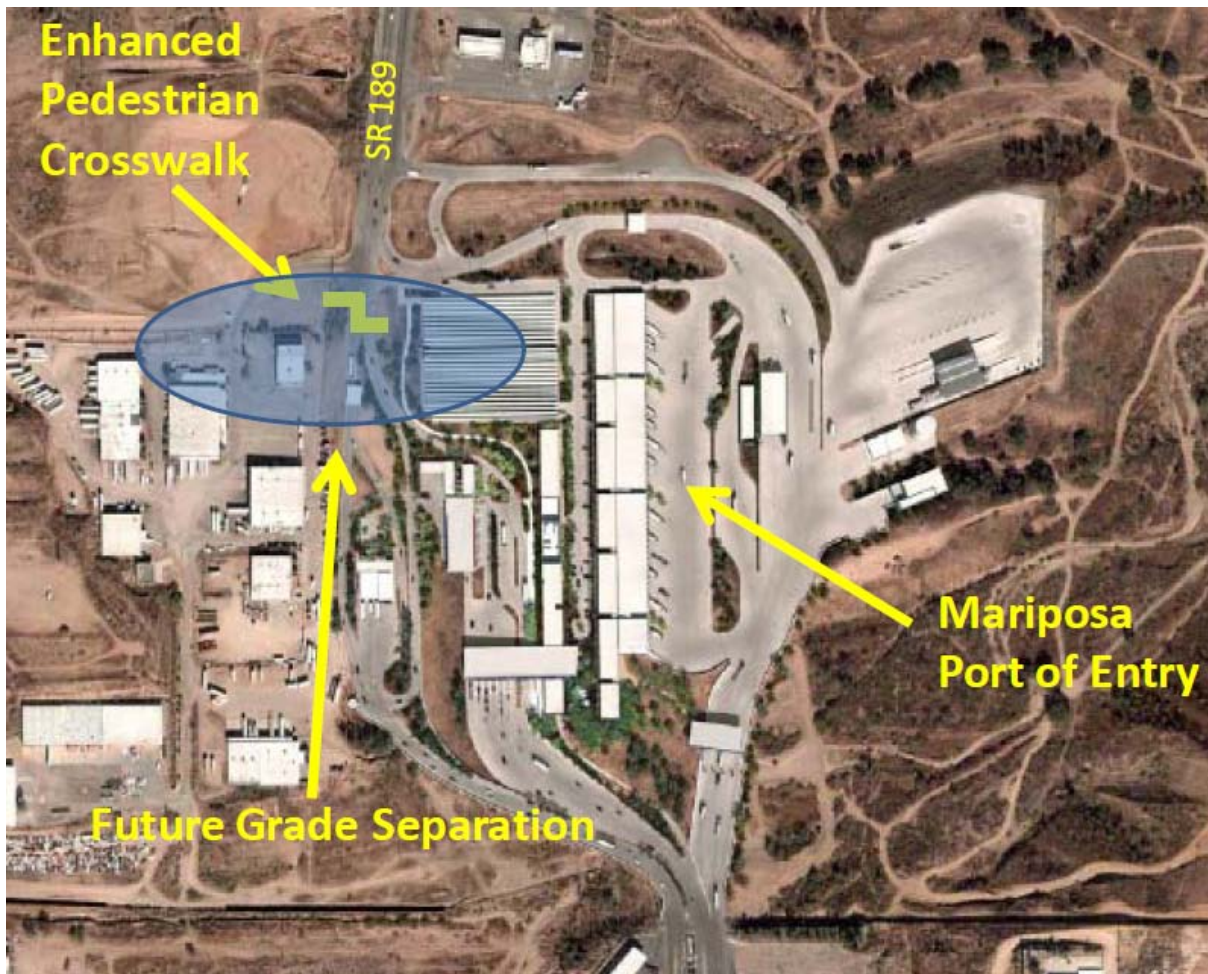
**Project Type:** Pedestrian Grade Separation near the Mariposa POE Facility

**Location:** SR 189 at the north end of the Mariposa POE

**Solution Description:** Increased pedestrian crossings at the Mariposa POE will lead to conflicts between commercial vehicles and pedestrians traveling north along SR 189. A long term solution would be the rerouting of pedestrian traffic in the POE away from highway and driveway conflicts. Since this is not currently feasible, a grade separated crossing with an interim enhanced pedestrian crosswalk of SR 189 should be considered, with a sub cost of \$12,000. This should include an offset in the median with protective bollards.

Planning Level Cost Estimate  
**Pedestrian Grade Separation at Mariposa POE**

DCR/EA, Design and Construction Engineering	\$2,400,000
Construction and drainage work	\$5,600,000
<b>TOTAL =</b>	<b>\$8,000,000</b>





**Project No. 5**

**Project Type:** Security Fencing

**Location:** West side of the Union Pacific Railroad from Park Street to north of Food City

**Solution Description:** Pedestrians cross the railroad in the downtown area between the existing at-grade crossings. This unsafe condition is a concern to local agencies as well as the Union Pacific Railroad. Block wall fencing exists along the west side of the railroad, but this barrier is not very high and can be easily climbed over. This project recommends ornamental steel fencing on top of the wall, to increase the height significantly.

Planning Level Cost Estimate  
**Fencing Along Railroad Corridor in the Downtown Area**

Design	\$30,000
Construction	\$150,000
<b>TOTAL =</b>	<b>\$180,000</b>



## 10.2 Crosswalk Projects

A number of crosswalk improvement needs were identified in previous sections. Some of these crosswalks are “passive”, needing new or upgraded markings. Four crossings, where high pedestrian crossings occur at mid-block locations, should be considered for “active” treatments, where flashing lights and even in-pavement lighting, should be incorporated into the design. Table 14 lists these locations, the number of crosswalks at each location, active or passive nature of the crossings, and planning level cost estimates.

**Table 14 Crosswalk Deficiencies**

Project No.	Number of Crossings	Roadway Intersection	At	Type	Cost
6	1	Compound St.	West Ave	Passive	\$1,000 to 3,000
7	1	Sonoita Ave.	Burger King	<b>Active</b>	\$7,000
8	4	Crawford St.	Terrace Ave.	<b>Active</b>	\$28,000
9	1	Grand Ave.	Park St. –South Side	Passive	\$1,000 to 3,000
10	2	Park St.	UPRR	Passive	\$1,000 to 3,000
11	2	International St.	Morley Ave.	Passive	\$1,000 to 3,000
12	2	Nelson Ave.	East St.	Passive	\$1,000 to 3,000
13	4	Elm St.	Arroyo Ave.	Passive	\$1,000 to 3,000
14	1	Elm St.	Grand Avenue	Passive	\$1,000 to 3,000
15	2	Grand Ave.	Elm St.	Passive	\$1,000 to 3,000
16	1	Grand Avenue	Court St. – South Side	Passive	\$1,000 to 3,000
17	1	Grand Ave.	Court St. – North Side	Passive	\$1,000 to 3,000
18	1	Court St.	Grand Avenue	Passive	\$1,000 to 3,000
19	2	Court St.	UPRR	Passive	\$1,000 to 3,000
20	4	Court St.	Morley Ave.	Passive	\$1,000 to 3,000
21	2	Grand Ave.	Walnut St.	Passive	\$1,000 to 3,000
22	1	Walnut St.	Grand Ave.	Passive	\$1,000 to 3,000
23	1	Grand Ave.	North of Walnut St.	Passive	\$1,000 to 3,000
24	1	Arroyo Ave.	North of Walnut St.	Passive	\$1,000 to 3,000
25	1	Hudgins St.	Morley Ave.	Passive	\$1,000 to 3,000
26	1	Beck St.	Morley Ave	Passive	\$1,000 to 3,000
27	2	Grand Ave.	Food City	<b>Active</b>	\$14,000
<b>Total</b>	39				<b>\$68,000 to 106,000</b>

**10.3 Sidewalk Projects**

A number of sidewalk improvement needs were identified in the previous sections. These projects are listed in Table 15 below, with planning level cost estimates included. Costs were based on \$5 per square foot for sidewalks. Also included in this category is a proposed multipurpose trail connecting the Mariposa Port of Entry area with the downtown area. A project is shown for curb ramps. It is suggested that an annual budget for this category be established.

**Table 15 Sidewalk Projects**

<b>Project No.</b>	<b>Street</b>	<b>From</b>	<b>To</b>	<b>Cost Estimate</b>
28	Nelson Avenue	International St.	East St.	\$45,000
29	Morley Avenue	Park St.	East St.	\$43,200
30	Morley Avenue	East St.	Court St.	\$56,000
31	Morley Avenue	Hudgins St.	Beck St	\$48,000
32	Morley Avenue	Beck St.	Wayside Dr	\$42,000
33	Robins Avenue	International St.	Park St.	\$27,000
34	Grand Avenue	Crawford St.	Elm St.	\$70,000
35	Grand Avenue	Elm St.	Walnut St.	\$42,000
36	Arroyo Ave.	Crawford St.	Elm St.	\$60,750
37	Arroyo Ave.	Elm St.	Walnut St.	\$36,000
38	Terrace	South End	Crawford St.	\$37,800
39	Terrace	Crawford St.	Elm St.	\$78,750
40	Park St.	Grand Ave.	Robins Ave.	\$10,000
41	Park St.	Robins Ave.	Morley Ave.	\$6,000
42	East St.	Morley Ave.	Nelson Ave.	\$6,500
43	Elm St.	Terrace Ave.	Grand Ave.	\$12,000
44	Walnut St.	Arroyo Ave.	Grand Ave.	\$13,500
45	Trail	Mariposa POE	Downtown	\$825,000
46	Curb Ramps	Various Locations	Downtown	\$120,000
<b>TOTAL</b>				<b>\$1,579,500</b>

**10.4 Transit and Parking Infrastructure Projects**

The previous sections of the report identified transit and parking capital infrastructure needs in the study area. The operational transit needs are, at least partially addressed by the current private operations in the area, and the City of Nogales has requested additional assistance from the Arizona Department of Transportation to update an operations business model for transit operations in the area. Table 16 below shows a summary of transit and parking projects, followed by individual work sheets on the projects.

**Table 16 Transit and Parking Projects Summary**

Project No.	<i>Project Location</i>	Planning Level Cost
	Project Description	
47	<i>Mariposa POE/SR 189</i>	\$1,825,000
	Mariposa Transit Center with Parking and Restroom	
48	<i>Downtown Area</i>	\$2,500,000
	Downtown Transit Center with Parking and Restroom	
<b>TOTAL</b>		<b>\$4,325,000</b>

**Project No. 47**

**Project Type:** Interim Transit Center with Parking and Restroom

**Location:** Freeport Drive near Mariposa POE

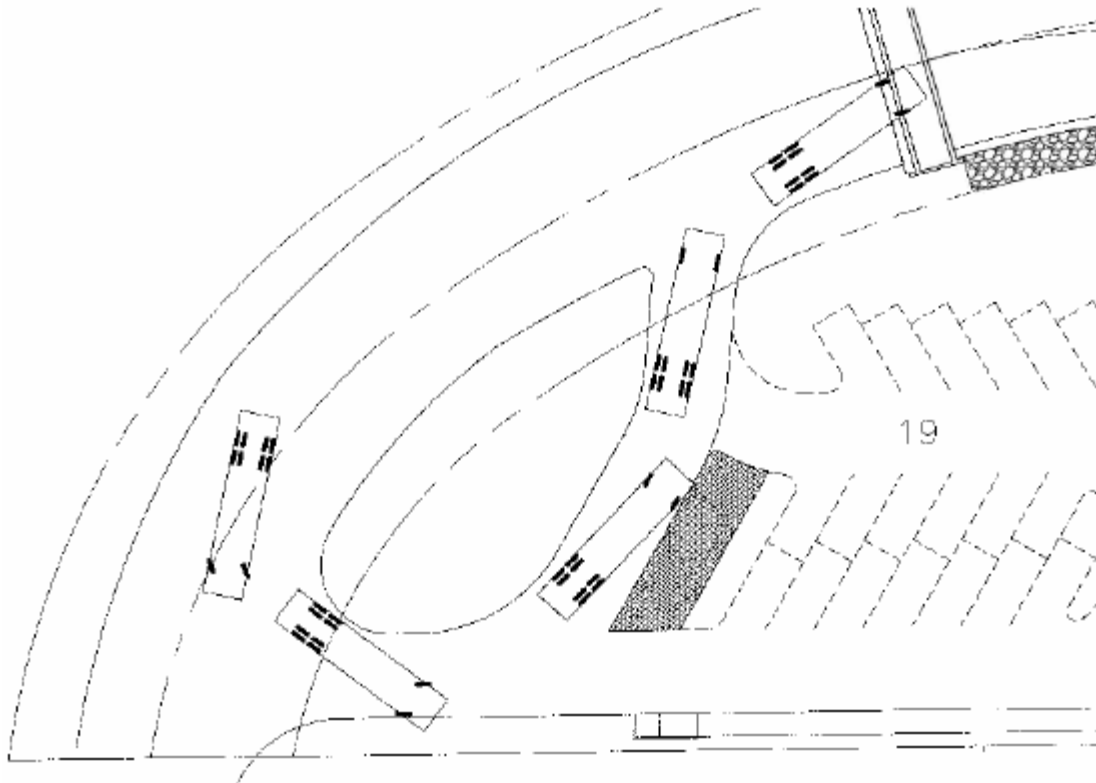
**Solution Description:** Anticipated increases in pedestrian traffic traveling through the expanded Mariposa Port of Entry in the future, will necessitate the addition of a park-and-ride, pedestrian drop-off and pick up and transit facility near this POE. An interim location near Freeport Drive and SR 189 is suggested. The site plan shown is one preliminary example.

Planning Level Cost Estimate

**Transit Center**

DCR/EA, Design and Construction Engineering	\$365,000
Construction	\$1,460,000
<b>TOTAL =</b>	<b>\$1,825,000</b>

Project 47 Interim Mariposa Transit Center



**Project No. 48**

**Project Type:** Transit Center with Parking and Restroom

**Location:** Downtown Area with site to be finalized later

**Solution Description:** A transit center is needed in the downtown area to collect passengers, provide a base for vehicle boarding and alighting off the roadways, provide a location for the pick up and drop off of pedestrians by private vehicles, and provide some limited parking in support of these operations. It has been suggested by stakeholders that the location be proximal to downtown retail areas.

Planning Level Cost Estimate

**Downtown Transit Center**

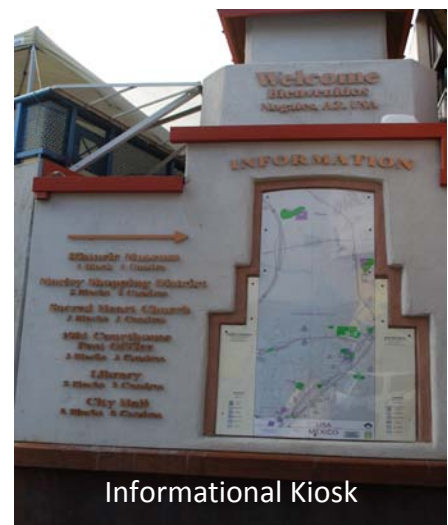
DCR/EA, Design and Construction Engineering	\$500,000
Construction	\$2,000,000
<b>TOTAL =</b>	<b>\$2,500,000</b>

Project 48 Downtown Transit Center



10.5 Information Projects

Information projects include signage with way finding information and traveler information kiosks at key locations. These kiosks can provide information on transit and taxis, maps, containers for marketing materials from merchants, public service information and other features. Table 17 summarizes these projects with planning level cost estimates and the following illustration shows suggested kiosk locations. Locations for individual signs are not shown, as these should be set in the field by local staff.



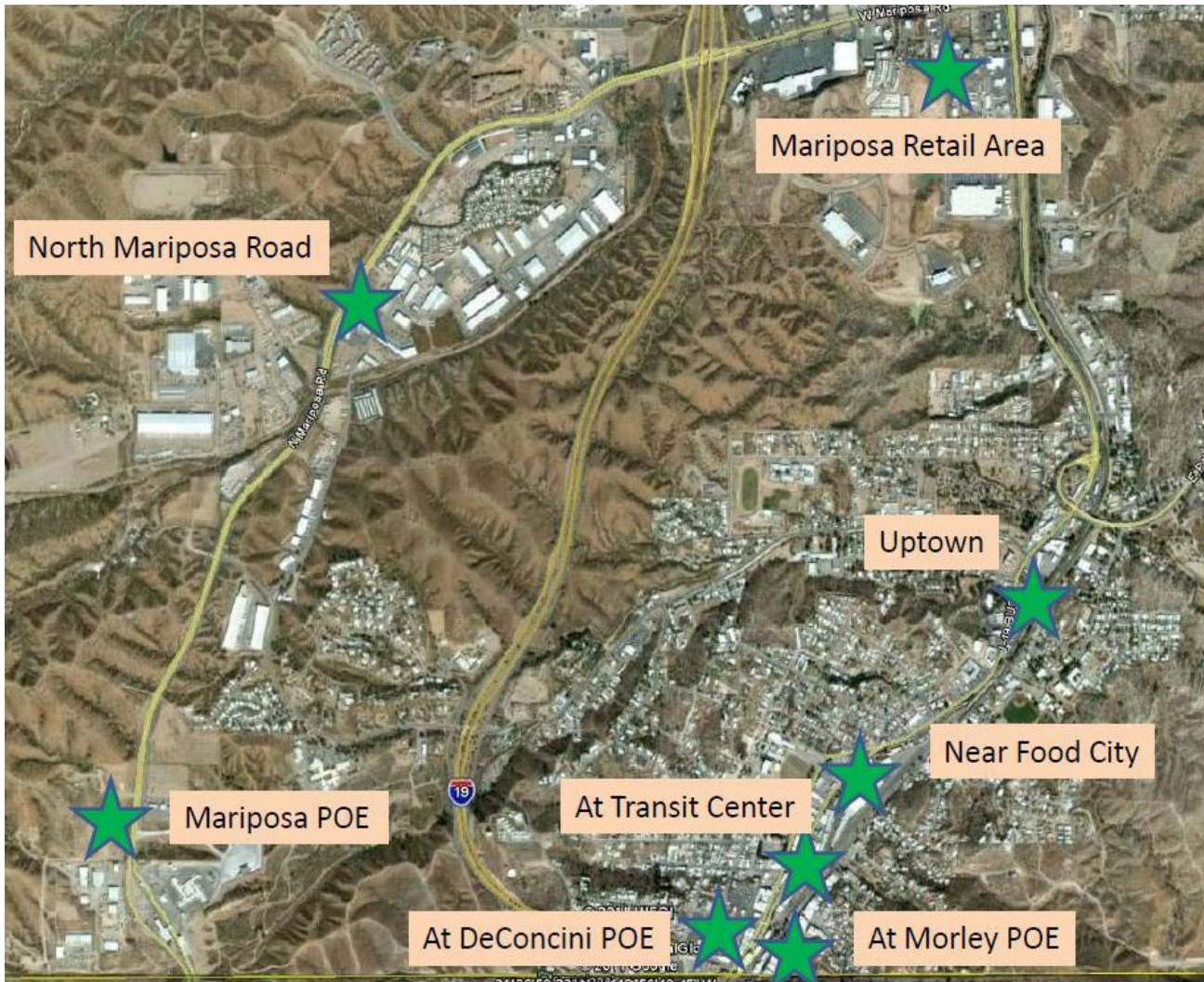
Informational Kiosk



Table 17 Information Projects Summary

Project No.	Project Location	Planning Level Cost
	Project Description	
49	Throughout Study Area	\$80,000
	Information Kiosks (eight locations shown)	
50	Throughout Study Area	\$15,000
	Information and Way finding Signage	
<b>TOTAL</b>		<b>\$95,000</b>

Project 49 Information Kiosks





10.6 Additional Pedestrian Amenity Projects

Additional pedestrian amenity projects include public restrooms, seating along downtown roadways, and transit shelters (with seating) along priority transit routes have been identified as needs. Shelters with advertising may be provided free if advertising firms are given the right to sell advertising space. Costs below reflect construction without such assistance. These routes include Grand, Arroyo and Morley Avenues and SR 189 Mariposa Road. Restrooms were included in the cost estimates for transit center facilities in the downtown area and near the Mariposa Port of Entry discussed above. An additional public restroom facility is warranted in the downtown area west of Grand Avenue. Just before the conclusion of this study, the Nogales City Council decided to close Terrace Avenue south of Crawford Street. A project was added to raise the street grade to match the sidewalks, and provide an replacement bus access onto Sonoita Avenue for the bus depot on Terrace, and additional traffic calming near that new driveway. Table 18 shows a summary of these projects and planning level costs.

Table 18 Additional Pedestrian Amenity Projects Summary

Project No.	Project Location	Planning Level Cost
	Project Description	
51	Downtown Area West of Grand Avenue	\$75,000
	Public Restroom Facility (1)	
52	Along Major Transit Corridors	\$80,000
	Shelters with Seating (\$5,000 each) (up to 16 needed)	
53	Throughout Study Area	\$7,500
	Pedestrian Benches (\$250 each) (30 needed)	
54	Terrace Avenue from South End to Crawford St.	\$45,000
	Convert street to Pedestrian Plaza	
<b>TOTAL</b>		<b>\$207,500</b>







## 11.0 Evaluation Criteria for Project Selection

The projects selected were based on stakeholder input, field investigations and the study objectives outlined in the current conditions section of the report. The primary objectives for the *Nogales Pedestrian Circulation at Port of Entries Study* are as follows:

1. Provide for convenient and safe pedestrian travel in downtown Nogales, and to and from the Nogales ports of entry.
2. Improve staging areas for vehicular transportation and transit services.
3. Enhance opportunities for multimodal accessibility for residents and visitors alike.
4. Identify multimodal connectivity between the Mariposa Port of Entry and major destination areas.
5. Set forth (bilingual) signage and way finding strategies to inform and direct pedestrians, including identification and information on destinations, how to get there, and how long it will take.
6. Coordinate the plan with local needs, economic development, and downtown revitalization efforts.
7. Identify a menu of potential resources to implement the plan.

In addition to the above, additional criteria include:

- Accommodate anticipated additional pedestrian volumes entering the area through the Mariposa Port of Entry.
- Minimize duplication of effort and rework by fully integrating the needs identified in this study with Design Concept Report (DCR) efforts for SR 189 now underway under the leadership of the Arizona Department of Transportation. Full inclusion of sidewalks, bike lanes, and crosswalks at stop controlled or signalized intersections along that roadway between the POE and I-19 will cost about \$234,000.



- It is understood that ADOT does not typically include sidewalk and bike lane improvements in highway design. Nonetheless, increased pedestrian and perhaps bicycle traffic in this corridor may well occur. During the design phase for the facility, such amenities could perhaps be included in the design, in back of ADOT Right of Way if needed, due to liability concerns. Wide shoulders could, in a worst case scenario, substitute for bike lanes.
- Reduction of bus/auto conflicts in the downtown area.
- Minimizing competition for parking spaces between buses and private vehicles by providing both transit facilities and designated stops with shelters.
- Increase the demand for retail shopping in Nogales by increasing pedestrian comfort in the area.
- Prioritize projects in the immediate vicinity of the three ports of entry due to higher congestion at these locations.

**12.0 Project Priorities**

Projects listed above have been broken down into short (five year), medium (ten year), and long term (twenty year) categories, so funding can be pursued for short term candidates. The following section present recommendations for such phasing. Prior to finalizing this report, input from the Technical Advisory Committee and the City of Nogales was used to make any needed revisions. While these project improvements are needed now, it is not practical to fund all of them within a five year period.

**12.1 Short Term Priorities**

Table 19 shows recommended short term projects. All crosswalk projects are in this group.

**Table 19 Short Term Projects  
Structural and Related**

Project No.	Project Location	Planning Level Cost
	Project Description	
2	Park Street at UPRR	\$5,000,000
	Pedestrian Overpass	
4	SR 189, at Mariposa POE	\$12,000
	Enhanced Pedestrian Crosswalk with Z-Offset	
5	Along UPRR Right of Way	\$ 180,000
	Raised Fencing	

Table 19 Continued, Crosswalks

Project No.	Number of Crossings	Roadway Intersection	At	Type	Cost
6	1	Compound St.	West Ave	Passive	\$1,000-3,000
7	1	Sonoita Ave.	Burger King	Active	\$7,000
8	4	Crawford St.	Terrace Ave.	Active	\$28,000
9	1	Grand Ave.	Park St. –South Side	Passive	\$1,000-3,000
10	2	Park St.	UPRR	Passive	\$1,000-3,000
11	2	International St.	Morley Ave.	Passive	\$1,000-3,000
12	2	Nelson Ave.	East St.	Passive	\$1,000-3,000
13	4	Elm St.	Arroyo Ave.	Passive	\$1,000-3,000
14	1	Elm St.	Grand Avenue	Passive	\$1,000-3,000
15	2	Grand Ave.	Elm St.	Passive	\$1,000-3,000
16	1	Grand Avenue	Court St. – South Side	Passive	\$1,000-3,000
17	1	Grand Ave.	Court St. – North Side	Passive	\$1,000-3,000
18	1	Court St.	Grand Avenue	Passive	\$1,000-3,000
19	2	Court St.	UPRR	Passive	\$1,000-3,000
20	4	Court St.	Morley Ave.	Passive	\$1,000-3,000
21	2	Grand Ave.	Walnut St.	Passive	\$1,000-3,000
22	1	Walnut St.	Grand Ave.	Passive	\$1,000-3,000
23	1	Grand Ave.	North of Walnut St.	Passive	\$1,000-3,000
24	1	Arroyo Ave.	North of Walnut St.	Passive	\$1,000-3,000
25	1	Hudgins St.	Morley Ave.	Passive	\$1,000-3,000
26	1	Beck St.	Morley Ave	Passive	\$1,000-3,000
27	2	Grand Ave.	Food City	Active	\$14,000

Table 19 Continued, Sidewalks

Project No.	Street	From	To	Cost Estimate
28	Nelson Avenue	International St.	East St.	\$45,000
29	Morley Avenue	Park St.	East St.	\$43,200
30	Morley Avenue	East St.	Court St.	\$56,000
31	Morley Avenue	Hudgins St.	Beck St	\$48,000
32	Morley Avenue	Beck St.	Wayside Dr	\$42,000
33	Robins Avenue	International St.	Park St.	\$27,000
34	Grand Avenue	Crawford St.	Elm St.	\$70,000
38	Terrace Avenue	South End	Crawford St.	\$37,800

Table 19 Continued, Transit & Pedestrian Amenities

Project No.	Project Location	Planning Level Cost
	Project Description	
47	Mariposa POE/SR 189	\$1,825,000
	Transit/Pedestrian Pick Up and Drop Off Center with Parking and Restroom	

Total cost for short term projects is \$7,454,000 to \$7,492,000

12.2 Medium Term Priorities

Table 20 shows recommended medium term projects.

Table 20 Medium Term Projects  
Structural and Related Projects

Project No.	Project Location	Planning Level Cost
	Project Description	
3	Court Street at UPRR	\$ 5,000,000
	Pedestrian Overpass	

Table 20 Continued, Sidewalks

Project No.	Street	From	To	Cost Estimate
35	Grand Avenue	Elm St.	Walnut St.	\$42,000
36	Arroyo Ave.	Crawford St.	Elm St.	\$60,750
37	Arroyo Ave.	Elm St.	Walnut St.	\$36,000
39	Terrace	Crawford St.	Elm St.	\$78,750
40	Park St.	Grand Ave.	Robins Ave.	\$10,000
41	Park St.	Robins Ave.	Morley Ave.	\$6,000
46	Curb Ramps	Various Locations	Downtown	\$120,000

Table 20 Continued, Transit, Parking, Information and Pedestrian Amenity Projects

Project No.	<i>Project Location</i>	Planning Level Cost
	Project Description	
48	<i>Downtown Area</i>	\$2,500,000
	Downtown Transit Center with Parking and Restroom	
49	<i>Throughout Study Area</i>	\$80,000
	Information Kiosks (eight locations shown)	
50	<i>Throughout Study Area</i>	\$15,000
	Information and Way finding Signage	
51	<i>Downtown Area West of Grand Avenue</i>	\$75,000
	Public Restroom Facility (1)	
53	<i>Throughout Study Area</i>	\$7,500
	Pedestrian Benches (\$250 each) (30 needed)	

Total medium range project costs are \$8,031,000

12.3 Long Term Priorities

Table 21 shows recommended long term projects.

Table 21 Long Term Priority Projects  
Structural and Related

Project No.	<i>Project Location</i>	Planning Level Cost
	Project Description	
1	<i>Grand Avenue and Morley Avenue south of Library</i>	\$12,100,000
	Vehicular/Pedestrian Overpass	

Table 21 Continued, Sidewalks

Project No.	Street	From	To	Cost Estimate
42	East St.	Morley Ave.	Nelson Ave.	\$6,500
43	Elm St.	Terrace Ave.	Grand Ave.	\$12,000
44	Walnut St.	Arroyo Ave.	Grand Ave.	\$13,500
45	Trail	Mariposa POE	Downtown	\$825,000



**Table 21 Continued, Information and Pedestrian Amenity Projects**

Project No.	Project Location	Planning Level Cost
	Project Description	
52	Along Major Transit Corridors	\$80,000
	Shelters with Seating (\$5,000 each) (up to 16 needed)	

Total Long Term project costs are \$13,037,000.

### 13.0 Revenue and Financing Alternatives

#### 13.1 Federal Funding

There are a number of federal funding programs that can be used to address transportation needs within the study area. These funds are typically distributed through and by the Arizona Department of Transportation (ADOT). In some cases, such as Transportation Enhancement Funds, regional Councils of Governments (COGs) rank the local applications. The Nogales area is represented by the SouthEastern Arizona Governments Organization (SEAGO).

Federal surface transportation programs are included in an omnibus funding program that is intended to be reauthorized every five years or so. The current program, The Safe Accountable Flexible Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), expired in 2009. A new bill has not yet been enacted by Congress. In such cases of a funding lag (which has also happened in the past), a series of short term “continuing resolutions” serve to bridge the gap until Congress agrees on the wording and policies of a new authorization bill.

The structure of the new authorization bill is not yet known. It will be influenced by Congress, the Obama Administration, and various transportation professional associations (such as the American Association of State Highway and Transportation Officials (AASHTO), and the American Public Transportation Association (APTA), as well as a variety of other transportation advocacy groups. The trend for the program appears to focus on modal balance, flexibility of funds between programs, and performance based funding decision making.

Since the recent economic downturn, the American Recovery and Reinvestment Act (ARRA) has also provided “stimulus funding” for projects including transportation. While these funds are most welcome, the requirements for rapid obligation and expenditure of these funds, while mandating adherence to all federal project requirements, makes it difficult to use these resources for projects that would require federal environmental clearance. Environmental reviews to comply with the National Environmental Policy Act (NEPA) can be quite lengthy, and since such reviews are not required for state

and local projects in Arizona, it can be difficult to use these funds for many desired projects, especially those that include right of way acquisition, utility relocation, and capacity expansion.

At the present time, federal funding programs include:

American Recovery and Reinvestment Act (ARRA) Funds: “Stimulus Program” funds described above. Additional ARRA funds beyond those already obligated are uncertain.

Coordinated Border Infrastructure (CBI) Program: Very limited discretionary (competitive) program in SAFTEA-LU. Projects must be related to cross-border (international border) trade and traffic movements. Due to the location of Nogales on the border, this program should be explored for possible funding for local projects.

Congestion Mitigation and Air Quality Program (CMAQ): These funds are limited to designated areas that exceed air quality standards. The study area is not eligible for these funds.

Federal Transit Administration (FTA) Section 5311 Funds: These monies are used to support public transit service in non-metropolitan (rural) areas such as the study area. These funds can be used for both capital and operating costs.

Federal Transit Administration (FTA) Section 5310 Funds: This program provides capital funds for vehicles for agencies providing transit service to the elderly and persons with disabilities. The primary target recipients are non-profit agencies and Native American Indian tribes. Local public agencies can apply for these funds if no “willing and able” non-profit agencies are available in a service area. These funds are available to both urban and rural recipients. Funds can be used to cover 80% of vehicle costs, but recipients must fund the costs of operating service.

Highway Bridge Program: These funds are used for maintenance and repairs to bridges on the State Highway System.

Highway Safety Improvement Program (HSIP): These funds are designated for highway safety projects, including high risk rural roads and railroad crossings of roadways. The funds are distributed through ADOT to the various regional councils of governments (COGs), and then to the local agencies for use on specific safety projects.

Interstate Maintenance Funds: These funds are restricted to maintenance costs for the existing Interstate Highway System.

Job Access Reverse Commute Funds: The Job Access and Reverse Commute (JARC) program was established to address the unique transportation challenges faced by welfare recipients and low-

income persons seeking to obtain and maintain employment. Many new entry-level jobs are located in suburban areas, and low-income individuals have difficulty accessing these jobs from inner city, urban, or rural neighborhoods. States and public agencies are eligible designated recipients. Eligible sub-recipients are private non-profit organizations, state or local governments, and operators of public transportation services including private operators of public transportation services. The program funds capital planning and operating expenses for projects that transport low income individuals to and from jobs and activities related to employment, and for reverse commute projects, typically through the FTA Section 5311 program.

National Highway System Funds: The funds are used for maintenance of the designated National Highway System (NHS). In this study area, I-19 and SR 189 are part of the NHS.

Safe Routes to Schools Program: This federal program was created in 2005 to encourage students to walk or bicycle to school, and to provide funding for programs to encourage students in elementary and middle schools to walk or bike to school and address safety improvements needed for the route to the school. The program has averaged \$2.2 million per year in funding in Arizona and is administered by ADOT. Eligible projects include:

- Sidewalk improvements
- Traffic calming and speed reduction improvements
- Pedestrian and bicycle crossing improvements
- On-street bicycle facilities
- Off-street bicycle and pedestrian facilities
- Secure bicycle parking facilities
- Traffic diversion improvements in the vicinity of schools
- Creation and reproduction of promotional and educational materials
- Bicycle and pedestrian safety curricula, materials and trainers
- Training including workshops that target school- and community-level audiences
- Incentives for SRTS contests and incentives that encourage more walking and bicycling
- Safety and educational tokens that also advertise the program
- Photocopying, duplicating, mailing and printing costs related to the program
- Costs for data gathering, analysis, and evaluation reporting at the local project level
- Pay for substitute teacher to cover for faculty attending SRTS functions
- Costs for additional law enforcement or equipment needed for enforcement activities
- Equipment and training needed for establishing crossing guard programs
- Stipends for parent or staff coordinators

Candidate projects in the downtown area that are within school capture areas (such as those along portions of Arroyo Drive) could be eligible for these funds.

Statewide Planning and Research (SPR) funds: These federal funds are used for planning studies such as ADOT's PARA program that funded this planning study.



Surface Transportation Program funds (STP): These are federal highway funds distributed by ADOT. They can be used for a broad number of transportation projects, including transit.

The New Freedom Program: This FTA program aims to provide additional tools to overcome existing barriers facing Americans with disabilities seeking integration into the work force and full participation in society. Lack of adequate transportation is a primary barrier to work for individuals with disabilities. The New Freedom formula grant program seeks to reduce barriers to transportation services and expand the transportation mobility options available to people with disabilities beyond the requirements of the Americans with Disabilities Act (ADA) of 1990. States and public bodies are eligible designated recipients. Eligible sub-recipients are private non-profit organizations, state or local governments, and operators of public transportation services including private operators of public transportation services. Eligible activities are capital and operating expenses for new public transportation services and new public transportation alternatives beyond those required by the American with Disabilities Act of 1990 (ADA) that are designed to assist individuals with disabilities.

Tolling Program: Very limited discretionary money was provided in the SAFETEA-LU program for pilot or demonstration projects to finance Interstate construction or reconstruction projects.

Transportation Enhancement Funds: These federal funds are distributed by ADOT and may be used for bicycle, pedestrian, and aesthetic enhancements to transportation projects. Competition for these limited funds is keen. Individual project funding limits are \$943,000 for state system projects and \$750,000 for local projects, supplemented by local matching funds in the minimum amount of 5.7% of the total project value.

## 13.2 State Funding

State funding for transportation is somewhat limited. Gasoline tax, vehicle fees, and lottery proceeds are the only revenue sources. As vehicles become more fuel efficient, and roadway costs increase, the buying power of the fuel tax is diminishing. The state gasoline tax has not been raised for many years. Forty of the fifty states have higher gasoline taxes than Arizona. In addition to these constraints, a portion of the fuel tax revenues is being used to support the operation of the Department of Public Safety, which patrols the State Highway System. Current state funding sources are as follows:

Highway User Revenue Funds (HURF): These are state gasoline tax and vehicle license funds, shared with local jurisdictions and distributed by percentage of state population. These may be “swept” into the general fund during a state fiscal crisis. These are typically expended for maintenance rather than capital improvements.

Local Transportation Assistance Funds (LTAF): These are state shared revenues from proceeds of the state lottery, which may be spent on roadways or public transit. These funds are distributed based on population. These funds are distributed to cities and towns, but not to counties. These have been “swept” into the general fund during the recent state fiscal crisis, and it may be years before they are restored.

Local Transportation Assistance Funds II (LTAF II): These are state shared revenues from proceeds of the state lottery that must be spent on transit. These funds are distributed to cities and counties based on population. These have recently been “swept” into the general fund.

Safety Enforcement Transportation Infrastructure Fund (SETIF): These funds are generated from fees charged to foreign vehicles entering Arizona through the international ports of entry. The funds are used for vehicle safety enforcement, to improve and maintain facilities within twenty-five miles of the international border, and to reduce congestion at the ports of entry. These funds have also been used for Department of Public Safety activities and for joint projects with the Department of Homeland Security, the Arizona-Mexico Commission, and the Arizona International Development Authority. Projects in the study area that meet the program criteria would be eligible.

Single-Trip Overweight Border Permit Program: ADOT has developed a single-trip overweight permit (for an additional \$75 cost) for produce trucks traveling into Arizona from Mexico to allow those commercial loads to exceed the 80,000 weight restriction by 10,800 pounds. Trucks purchasing the permit may only cross at the Nogales POE and may only travel up to 25 miles from the international border to off-load and return. Since the implementation of the single use permit, more than 16,000 permits have been issued which have saved companies approximately \$4.67 million and generated approximately \$1.23 million in state revenue during the initial 9 months of the program. The revenues are to be used for roadway improvements in the impacted area.

Vehicle License Tax Funds (VLT): These are state shared revenues from vehicle license taxes. These funds may also be “swept” into the general fund during a state fiscal crisis.

### 13.3 Local Funding Sources

There is a wide range of options available for local funding sources. State enabling legislation varies as well as some, but not all, jurisdictions have been empowered by state statutes to levy things such as dedicated sales taxes. Local funding sources overlap to some degree with private funding options since they rely on resident funding and sometimes developers. Local funding sources include:

Bonding: Funding for capital projects from the sale of bonds by a public agency. Bond programs must be approved by a vote of the public. Bonding is actually a financing tool rather than a funding source. A revenue stream, typically from a secondary property tax, is needed to retire general obligation bond

debt service. A second type of bonding, revenue bonds, can be issued for projects with a dedicated revenue source, such as toll roads.

Development Exactions: In many areas, builders of residential and commercial developments construct all internal public infrastructure (roads, curb, gutter, and sidewalks, traffic and street lights, and utility infrastructure), and then dedicate these improvements to the local public agency as public infrastructure and public street right-of-way. Sometimes these exactions extend to parks and property for public schools as well, depending on the size and scope of the developments.

Development Impact Fees: A number of local public agencies, both counties and cities, have imposed development impact fees. These fees cover the costs of extending public services to new developments, and, in some cases, provide funds to offset capacity demands on public service systems some distance removed from the developments. These fees can cover utility services such as water, wastewater, and refuse collection, fire and police facilities, libraries, and transportation. These fees are for capital outlays only, and do not cover ongoing operations and maintenance costs. Recent legislation has limited the amounts and use of such funds.

Transportation impact fees are typically computed based on the trip generation of new developments and are calculated on residential units and “equivalent dwelling units” for employment and commercial land uses. This analysis is usually based on planned roadway facilities in a General Plan Transportation Element. Developers usually receive credits against these fees for planned regional roadways within or adjacent to their respective developments that they have constructed. Transportation (or Development) Impact Fees, therefore, usually require the developer to front load the construction costs, as fees are imposed on building permits.

The trip analysis done for impact fee studies typically discounts “pass-through” or external traffic on targeted roadways, as such traffic is not created by the developments bearing the fees. Roadway capacity to accommodate total traffic, however, is required, and limited area impact fees only address a portion of the needed capacity. Therefore, it is preferable that impact fees be adopted over a larger regional area to address a larger portion of the regional travel needs and to prevent development from “leapfrogging” beyond the boundaries of smaller fee imposition areas.

The acceptance of such fees by the developers varies. Residential impact fees are passed on to home buyers through higher home purchase prices. Market accommodation of commercial development impact fees can only be achieved by higher commodity prices, however. This results in higher prices at stores within the impact fee area than at similar nearby retailers in areas with lower or no impact fees. As a result, resistance to these fees can be high. Local officials are sometimes leery of losing retail sales taxes when commercial developments seek to locate near, but outside of their impact fee areas. Impact fee rates vary, but a number of suburban communities in Arizona impose transportation impact

fees higher than \$5,000 per home or dwelling unit. The volatility of this revenue source is high, as income rises and falls with the market demand for new housing units.

Improvement Districts: Improvement Districts are created to provide specific facilities for specific geographical areas, and use the sale of obligation bonds to fund the improvements. Historically, improvement districts were used to upgrade older areas to modern standards for such actions as installing street lights, undergrounding utilities, or converting an area from septic tanks to sanitary sewers. These districts can also be used for newer areas to provide needed capital facilities. Usually a district uses a secondary property tax to retire the bonds. Sometimes a neighborhood area approaches a local government to create such a district to provide needed improvements. A vote of the property owners of the impacted area is required to authorize a district.

Improvement districts can be used for roadway improvements within cities or in county areas. The creation of an improvement district requires the concurrence of 51% of the property owners, and costs are imposed on properties based on calculated benefits that may include parcel size, roadway frontage, or some other value. Special assessments are then levied against the benefited property for the apportioned cost of the improvements. A “cash demand period” is established wherein owners may pay the assessment up front, interest free, within a short specified period of time. Bonds are sold for the balance of the costs of the improvements, and the owners make periodic payments including interest over the life of the bond, which is based on the complete cost of the improvements. If roadways are improved to public agency standards, then the city or county typically assumes ownership, maintenance responsibility, and liability for the roadway. If roadways are improved, but not up to city or county standards, the public agency will not assume maintenance or liability for the roadway, and maintenance and liability remain the responsibility of the district. It is more expensive up front to build the roadways to public agency standards, but less expensive in the long run as the public agency is thereafter responsible for operations and maintenance as well as liability exposure.

Improvement Districts are typically established to address deficiencies in the infrastructure in established areas. Infrastructure deficiencies may include roadway width, drainage, pavement, or enhancements such as sidewalks, streetlights, utility undergrounding, or installing sanitary sewers in areas with current septic systems.

General Funds: Monies generated by local governments from local revenue sources.

Local or Countywide Sales Taxes: A number of cities and urban counties have dedicated general sales taxes for transportation. Some locations have restricted such tax revenues to public transit, while others have used the funds for all modes of transportation. Additionally, some local jurisdictions have dedicated sales taxes for transportation just on construction materials. Such taxes also include a computation of the materials used in new building construction as well as purchases made at home improvement stores. The logic behind this is that new construction increases vehicular impacts on the roadways and consequently should share in the cost of needed transportation infrastructure to service the increased traffic. A number of suburban high growth cities have received rather high returns on such taxes until the recent housing slump.

P3 funding: On July 13, 2009, Governor Jan Brewer signed HB 2396, Arizona's landmark P3 legislation. P3s are public-private partnerships, which include toll facilities and a variety of other innovative financing techniques involving private partnerships. The bill allows ADOT to issue concessions of up to 50 years, with extensions, for P3 projects. ADOT can also grant other units of government authority to develop P3 projects.

#### 13.4 Private Funding Sources

Community Facilities Districts (CFDs): In 1988, the Arizona Community Facilities District Act was approved. The purpose was to provide new mechanisms for funding of infrastructure improvements for both municipalities and developers. The law authorized tax-exempt bonds to be issued and repaid by assessing only the lands directly benefiting by the new infrastructure. Originally, Community Facilities Districts were required to be within a city or town. In 2006, these districts were also allowed in unincorporated areas. CFD bonds can fund a number of public infrastructure needs including transportation. Developers prefer this funding approach, since their cost exposure is less than with conventional financing, and no security needs to be pledged against the bond other than the projected assessment revenue stream. Some local jurisdictions do not support CFDs due to the inherent risk that, in the event of developer default, the debt could fall on the public agency. CFD bonds are not backed by a contingent general obligation of the entire city, town or county, as are general obligation bonds.

To establish a CFD, at least 25% of the impacted property owners must petition for such a district and then the establishment moves forward through hearing, notification, and election processes. The notice, hearing, and election process can be waived if 100% of the impacted property owners petition for the CFD's establishment, which could be the case for a new planned development under a single ownership entity.

P3 funding: As discussed above, P3s involve a mix of public and private funding through a public-private partnership agreement. Private funding of transit shelters is one example that relates to this project. Another is that the railroads pay five percent of the cost of grade separating current at-grade crossings.

#### 13.5 Current Revenue Streams

Table 22 shows the five year history of existing revenue sources and amounts that the City of Nogales has used to address their transportation needs (VLT, HURF, LTAF, LTAF II,). It is important to realize that the majority of the transportation revenues are used for administration of the local transportation agencies and for the operations and maintenance of the transportation systems.

In addition, the table contains city sales tax revenues and state-shared state sales tax revenues for the same years. Note that all revenue sources have declined to some extent due to the recent economic downturn and recession. The revenues are expected to rebound with a slower growth trend starting in the next year or two as economic conditions hopefully start to improve. These sales tax funding sources are not specifically earmarked for transportation purposes. To the best of our knowledge, these funds are not being used for transportation system improvements by the city, although they can **be used for such purposes. These are potential additional funding sources, if the local agencies choose** to use them for this purpose.

Table 22: Five Year Revenue History

Year	VLT	HURF	LTAF	LTAF II	City Sales Tax	State Sales Tax
2006	\$1,509,735	\$2,697,628	\$111,815	\$ 64,446	\$10,658,286	\$2,169, 167
2007	\$1,558,814	\$2,577,793	\$ 99,766	\$ 34,864	\$12,548,071	\$2,068,300
2008	\$1,502,790	\$2,075,019	\$ 61,940	\$ 39,142	\$10,585,366	\$1,929,937
2009	\$1,408,043	\$2,001,624	\$ 93,327	\$ 30,126	\$ 9,456,447	\$1,633,920
2010	\$1,344,141	\$1,911,305	\$ 9,736	-0-	\$ 9,856,926	\$1,601,314

13.6 Suggested New Revenue Approaches

New revenue sources that may be considered by the City of Nogales include:

**An additional sales tax dedicated to transportation system improvements:** A one-half cent dedicated sales tax could be imposed exclusively within the city through an increase in the sales tax rate. This would generate around \$2,464,231 (2011 dollars) annually, assuming the increase does not reduce retail sales volume. The city currently has a two-cent sales tax. This is about the average for similar communities, although some non-metro communities have higher rates. Such actions, however, may incent the development and/or relocation of commercial enterprises outside, but near, the city limits. This can also encourage leap-frog development which is undesirable since it increases dramatically the infrastructure costs to serve the development. The result is a level of unfairness since facilities within the city are used jointly by both city and unincorporated area residents.

**Development impact fees imposed on new development within the study area to fund regional roadway system improvements.** This could provide a revenue stream from new development in the SR 189 corridor following expansion of the Mariposa Port of Entry. Impact fees imposed on employment or retail developments in that area could be designated for specific improvements within the corridor.



**A Downtown Improvement District.** This could involve all downtown property owners in a process to help pay for improvements. This could also be used to address needs other than those investigated in this study.

## 14.0 Recommendations for Action and Future Projects

Primary action in the short term should focus on the SR 189 DCR. That project is critical for both the Mariposa POE and the City of Nogales. Opportunities to incorporate improvements as part of the Mariposa Port of Entry expansion and improvements to SR 189 should be captured, even if considerably higher levels of pedestrian traffic in the downtown area suggest otherwise. By installing improvements as part of larger corridor improvement projects, costs can be reduced and traveler delay minimized. There is some conflict between the need to develop a highway corridor capable of accommodating dramatic commercial traffic levels, and the local goals of economic development and the accommodation of pedestrian and bicycle movements.

This conflict has been exacerbated by the design of the Mariposa Land Port of Entry. The POE design directs pedestrian traffic along the eastern side of SR 189. This creates conflicts between a large number of driveways serving truck traffic, and these pedestrians. Moving the pedestrians to the west side of the highway, using an interim crosswalk is a short term solution to avoiding the driveway conflicts, but creates a new conflict point at the crosswalk. Since it appears unlikely that pedestrian traffic flow in the port facility can be redirected to the eastern and northern edges of the facility, the best option is to consider a grade separation to the west side of the highway as proposed in this report. This improvement should be considered for location specifics and design approach in the ongoing DCR for SR 189.

Short-Term priorities in the downtown area include the “Active” crosswalks identified above, an additional restroom west of Grand Avenue and a grade separated overpass of the UPRR. While both pedestrian and vehicular overpasses are needed, vehicular overpasses in the region should all include pedestrian facilities. This will help address downtown congestion and depressurize downtown intersections to the benefit of pedestrians.

During the conclusion of this study, the Nogales City Council decided to close Terrace Avenue from the DeConcini POE to Crawford Avenue, and convert it to a pedestrian plaza. An additional project to address the need to raise the level of the street to match the grade of the sidewalks to facilitate pedestrian use of the roadbed was added to this report between the draft and final reports. Closure of this roadway would necessitate rerouting of bus operations from a business on Terrace to the rear of their property fronting on Sonoita Avenue to the west. Additional access onto this segment of Sonoita Avenue from large commercial vehicles would be near the crosswalk serving Burger King and between two curves. As this road also carries traffic from I-19 to the downtown area, there is some concern about operational safety. Figure 16 below shows these issues. It is suggested that the city consider a quick traffic operations analysis of this issue, including a computer simulation of traffic operations of this roadway segment from Grand Avenue to I-19 under both current and predicted future traffic volumes to more accurately suggest specific traffic control and calming measures needed.



Figure 16  
Terrace Avenue Closure Area



The Business Plan Update to the previous Transit plan should begin as soon as possible to capture the outputs from this study. Assistance for this update has been requested from ADOT by the City.

Finally, the *Unified Nogales Santa Cruz County Transportation Plan 2010* suggested a county wide bicycle plan. Such an effort would be of great value and would build on this study.



**Appendix 1 – Stakeholder Interview Notes**

Interviews were conducted with stakeholders on **Monday, October 25, 2010**, and on **Thursday, October 28, 2010**. This appendix is a compilation of the individual stakeholder interview meeting notes and summarizes the comments made and the information provided by the stakeholders during their interview sessions.

The following introductory information and interview questions were used to facilitate discussions with each stakeholder, but in most cases the interviews were open format and the responses did not follow the questions.

**Stakeholder Interview Questions**

A key component of the data collection efforts will be conducting stakeholder interviews. The information you provide during these interviews will give us invaluable input on the location and nature of known areas of pedestrian infrastructure deficiencies, safety concerns and issues, and other insights into sidewalks, shared use paths, crosswalks, information signage, parking, staging areas for transit use, as well as improvements to pedestrian movements in and around the Ports of Entry (POEs).

1. *What improvements are needed to improve pedestrian flow through and near the Ports of Entry?*
2. *Are these improvements needed on the Arizona side of the POEs, the Sonoran side, or both?*
3. *Do you feel there is a need for pedestrians to be able to safely and conveniently move between the Mariposa POE and the DeConcini and Morley POEs? What improvements might be needed?*
4. *Is more parking needed in downtown Nogales near the POEs? Do you know any specific locations that should be considered to address this need?*
5. *Are there specific locations where the condition of sidewalks and walkways is poor?*
6. *What facilities, conveniences and aids might be provided in downtown Nogales for pedestrians?*
7. *How significant is bicycle use in this area? What improvements should be made to benefit bicyclists? Are there any new facilities for bicyclists that would be beneficial?*
8. *Are you aware of locations of pedestrian involved accidents or areas of pedestrian-vehicle conflicts?*
9. *How important are the private bus services that operate in the downtown area? Are there any issues involved? What improvements could be made in their operations to more effectively fulfill this need?*  

<i>Bus Pullouts on Roadways</i> _____	<i>Specific Bus Pullouts in Retail Parking Areas</i> _____
<i>Signage</i> _____	<i>Shelters and Seating</i> _____
<i>Promotional Materials in Retail Areas</i> _____	<i>Other</i> _____
10. *What should be the top priorities to enhance pedestrian circulation and safety in the downtown area?*
11. *Is there anything else you think we should know or be aware of?*

*Thank you for your time!*





<i>Day:</i> Monday	<i>Date:</i> October 25, 2010	<i>Time:</i> 9:00 am MST	<i>Location:</i> Public Works Offices
<i>Person(s) Interviewed:</i>	<b>Nils Urman, Board Member, Nogales Community Development Corporation</b>		

These interview notes summarize the comments made and information provided by Mr. Urman regarding the City of Nogales Pedestrian Circulation at Port of Entries study.

1. Safety – pedestrian crossing of the main arterials is poor; crosswalks on Grand Avenue, Arroyo Boulevard, and I-19 are not well designed, not obvious, and no advance warning.
2. The most dangerous location for pedestrians is in front of the Burger King on Sonoita Street between Compound Street and Crawford Street; it is a deadly location where pedestrians have been hit by vehicles; the crosswalk is around the corner from traffic leaving I-19 and entering the downtown area, so speed is sometimes excessive.
3. Another dangerous location for pedestrians is in front of the Food City grocery store on Grand Avenue; the Alamo Plaza shopping area is across the street; ADOT conducted a road safety audit of this area and a crosswalk was installed; other crosswalk locations need to be investigated.
4. The two crosswalks at Terrace and Crawford are bad.
5. There are two crosswalks at Grand and Crawford; one is on the west side of the intersection running north-south and is very long requiring pedestrians to be in the street in traffic for a long period of time; the second one is on the north side of the intersection and runs east-west from the Wells Fargo Bank to the Old City Hall.
6. The first crosswalk north of the DeConcini port of entry is good; it runs east-west across Grand.
7. Pedestrians cross Grand (east-west) across from the Bank of America approximately one half block south of Crawford; there is no marked crosswalk and this crossing is unsafe.
8. At the Elks Club at Arroyo; there is a crosswalk to Auto Zone; this crosswalk is OK and one of the better ones.
9. At Elm Street; across Arroyo and Grand Avenue; the crossing of Arroyo is OK; the crossing of Grand Avenue is unsafe; the Grand Avenue crossing may not be marked; people cross at this location to reach a Circle K, Jack in the Box, and Subway located east of Grand Avenue.
10. North of Elm on the west side of Grand between Grand and Arroyo, the old historic Bowman and DeAnza Hotel building and the parking lot between the buildings is planned for redevelopment; the plan is to acquire the properties and turn it into a Senior Citizen subsidized one bedroom apartment complex with 40 units; Grand Avenue gets wide in this area between Court and Elm; this location needs to be looked at for pedestrian crossing safety of Grand Avenue.
11. At Oak Street, the crosswalks are marked; the streets have an island in Grand Avenue providing a pedestrian refuge area.
12. At the Arroyo/Grand split, there are crosswalks at the Public Library Corner; there are issues at this location that need to be fixed.
13. North of Plum across Arroyo from Pierson Field to Alamo Plaza needs a crosswalk.
14. The downtown area needs well designed obvious crosswalks.
15. Are lights too expensive? The crosswalks on the major streets need to have lights to warn drivers of the presence of pedestrians; explore options for in-pavement LED lights; the crosswalks should be constructed with stamped and colored paving and/or heat transfer applications instead of paint.

16. Crosswalks need to be designed to alert the motorist.
17. Speed is of some concern on Grand Avenue.
18. There is not a lot of commercial traffic in downtown Nogales; all the traffic are privately owned passenger vehicles.
19. At the Morley Gate pedestrian port of entry; the crosswalks are OK.
20. Address pedestrian crossings at the Morley Gate considering the redesign and reconfiguration of the entry lines into the U.S.; parts of the area will be enclosed; the existing configuration has pedestrian traffic directed towards the east side of Morley; the reconfigured design has traffic directed more towards the west side of Morley; the east side is the busier side, so east-west crosswalks on Morley need to be provided.
21. Wayfinding is badly needed in the downtown area; wayfinding should help people find the library, city hall, old city hall, post office, police station, shopping areas, Bashas, Food City, Alamo Center, public restrooms, etc.
22. Wayfinding signage needs to be bilingual with maps and directions.
23. There should be entry monument signs for the City as you enter downtown from I-19 and from Mexico that state "Welcome to Nogales, Arizona".
24. Designate an old downtown shopping district and the shopping district to the north of old downtown.
25. Wayfinding should have design concepts, specifications, locations designated, consistent scheme, and identification of who some of the providers are for these monument signs.
26. Nogales has a large bicycle ridership community; there is an opportunity for Nogales to plan for bike lanes; bike lanes need to be planned on appropriate routes.
27. The study team should give Bob Frankenburger a call at SHPO to discuss some of the ideas floated for the Crawford and Grand intersection area during the planning charrette; Grand and Arroyo come back together between Crawford and Elm.
28. Traffic into Mexico is heaviest in December during the holiday season; traffic backs up on Grand/Arroyo north past the Quality Inn located just south of City Hall; this has a major affect on downtown traffic causing gridlock for extended periods of time.
29. A goal of the study is to make the downtown area at Grand and Crawford a pedestrian friendly environment.
30. The crossings of Grand and Crawford at this intersection are very long.
31. The port of entries – a place to start bike paths; there are a lot of people in town riding bikes; start the bike paths/bike lanes at the ports of entry and route them into town; provide multiuse paths where feasible.
32. There are some bikes crossing at Mariposa through the traffic lanes (bicycles cannot use the pedestrian lanes).
33. There should be a multiuse bike path running from the Mariposa POE along SR 189 to the high school and the Walmart shopping area.
34. Amenities provided for pedestrians will bring people out; plan for pocket parks, shade (very important), benches, etc.
35. There is ample parking downtown; lots of on-street parking and some more distant that is underutilized.
36. If sidewalks and crosswalks were improved, the more remote parking would be better utilized.

37. Longer term meter parking should be at a more remote location from the port of entry and the downtown area; shorter term parking meters should be located within downtown to provide more frequent parking space turnover.
38. North of the Food City store and Terminal Street, there is a large parking lot that is little used; the City or merchants could provide a shuttle for people (possibly employees) parking in this location.
39. Generally the sidewalks are in fair condition in the downtown area.
40. There are locations where there are no sidewalks.
41. Along Arroyo on the east side from Terminal Street south to Walnut Street, there is not a continuous sidewalk.
42. There is a problem in that the unregulated private jitney bus businesses are living off of public money; the buses use public right of way to conduct their business; the drivers have arguments over who got there first for customer pickup; there are unreported accidents with buses hitting parked cars.
43. Buses are currently parking north of Crawford; this is adversely affecting private property; there needs to be regulations, and safety requirements; the taxi drivers rent space – the buses do not; buses line up like a taxi queue and make a run when a sufficient number of passengers have boarded.
44. There are not garbage cans, benches, or other amenities where the buses are staged so the street is strewn with trash; the buses don't have to pass an air quality test; there is no standard on bus size; bus drivers could become part of a public transit system.
45. Customers crossing the port of entries who want to go to Walmart and nearby shopping usually will take a private bus; the jitney business owners and drivers need to be engaged and part of the solution.
46. Suggest the buses and cabs be moved to a staging area to the west of the DeConcini POE; there is a possible site to the west of Sonoita and to the south of Compound Street.
47. There is an opportunity for signage and wayfinding to deal with two general directions of traffic flow: north to south and south to north; and how to circulate within downtown.
48. At the Mariposa Port of Entry. From north to south, where is the parking area and pick up and drop off area? Where is the port of entry? From south to north, where is the shopping located? Where are the buses or transit? Where are the restrooms?
49. Wayfinding signage should identify where city hall is located, where the hospital is, where the fire station is, and where the public restrooms are (at Karom Park).
50. There needs to be a park and ride at the Mariposa POE; there needs to be a location for transit pick up and drop off; there should be a multiuse path located along SR 189 for use by pedestrians, bikers, skate boarders, etc.; there could also be a multiuse path to downtown Nogales.
51. There could be metered parking at the Port of Entry; some people park near the port and walk across the border to work at the Maquilladora industry; some businesses run a van to the port to pick up the employees; some employees are temporarily assigned to a plant on the other side of the border from where they typically work and live; some Mexican Nationals live in Nogales, Arizona and work in Nogales, Sonora.
52. Pullouts are needed; the senior apartment project and similar facilities should be provided with a pullout for pick up and drop off use; otherwise the vehicle will block a lane of traffic to make a pick up or drop off.
53. Previous City Administration oversaw the installation of bus stops and shelters that are not used and not in the correct location to facilitate use; they were installed primarily for advertising purposes.

54. Pedestrians downtown have to cross the railroad tracks; no one has addressed this issue. Is an overpass needed or not? How do you address the safety hazard presented by the railroad tracks? Where do people have to wait for a train to pass in order to cross the tracks? People have cut through trains if they are present for too long. It can take 20 to 30 minutes for a train to clear the downtown area.
55. There is a need for a safety fence on top of the block walls to prevent people from crossing the railroad tracks at midblock locations where there are not crosswalks; north of the bank and north of Crawford Street, people will cut across the railroad tracks; this is the location a fence is needed to eliminate this cut through traffic from Grand to Morley.
56. Public safety will be enhanced with a bridged crossing of the railroad; this is a low priority due to the high cost.
57. The plan needs to have small bits and pieces projects; lots of small projects that can be implemented for little money over time in small pieces.

\*\*\* End of Stakeholder Interview Notes – Nils Urman \*\*\*



<i>Day:</i> Monday	<i>Date:</i> October 25, 2010	<i>Time:</i> 11:00 am MST	<i>Location:</i> Public Works Offices
<i>Person(s) Interviewed:</i>	<b>J.B. Manson, Chairman, Greater Nogales Santa Cruz County Port Authority</b>		

These interview notes summarize the comments made and information provided by Mr. Manson regarding the City of Nogales Pedestrian Circulation at Port of Entries study.

1. Downtown needs better sidewalks and better signage.
2. There is a need for a pedestrian bridge over the UPRR tracks.
3. There is a need for signage as you enter the US through the DeConcini Port of Entry into downtown Nogales; there is no signage directing pedestrians anywhere. Direct pedestrians to:
  - a. Bus staging area.
  - b. Shopping
4. There are no specific areas near the port of entries for pick up and drop off purposes; there is not a specific staging area for the jitney buses.
5. The flow of people through the downtown area is not clear due to lack of directional signage, especially for those entering through DeConcini.
6. The buses are currently staging on Terrace Avenue north of Crawford, but there isn't an established location for the bus services.
7. The circle at the south end of Terrace Avenue near DeConcini was intended to be a pick up and drop off location (but it isn't large enough for this purpose as stopped traffic block the turnaround circle).
8. At the Mariposa POE; the GSA and ADOT are working on plans and the flow of vehicles through the new port of entry under construction; the flow of pedestrians through the POE needs to be looked at to plan for what happens to the pedestrians once they leave the POE boundary.
9. There needs to be more southbound lanes on SR 189 to accommodate all the southbound vehicles waiting to enter Mexico due to the southbound inspection being conducted.
10. The pedestrian flow at the Mariposa POE is located between northbound and southbound lanes; so the pedestrians will have to cross traffic to continue their path; suggest a crosswalk with pedestrian signal/lights to safeguard pedestrians; Todd Emery, ADOT Tucson District Engineer, has a plan for SR 189 in the vicinity of the Mariposa POE.
11. Need a bus/vehicle pick up and drop off area near the Mariposa POE.
12. The buses drive around the Morley Avenue area to pick up passengers, but there is no designated or good place for them to do this.
13. Need directions on how to get to the downtown merchants when pedestrians go through the DeConcini POE; explore if bus pick up is possible near the bank building north of Park Avenue between Grand and Morley.
14. An expansion of Morley Gate being planned by CBP will further complicate the pick up and drop off of pedestrians in this area.
15. The "guesstimate" for the percentage of pedestrians entering the US and taking a bus to the Walmart area shopping district is 30 to 40%; most of those coming through the Morley gate tend to stay downtown shopping along Morley Avenue; some go to Food City further north; there are lots of pedestrians circulating around on Morley Avenue.

16. Seeing more bicycle traffic through the border; GSA needs to think about a bike lane through the ports; bikes cannot go through the pedestrian lanes so they have to use the vehicle lanes; would like to see bike lanes or paths from the Morley POE and the DeConcini POE on Morley Avenue and Grand Avenue respectively.
17. Parking – there is always a need for more conveniently located parking; all of the parking, public and private, in the downtown area is paid parking; there are lots of private lots that charge \$4 per day to park; the street parking is paid through meters; the City has diligent enforcement of metered parking.
18. Consider if businesses and their employees can or should be able to pay a monthly fee for parking.
19. The sidewalks are in good to fair condition in downtown; Morley Avenue sidewalk is on one side only on the north end (due to railroad on the west side); walks are located on both sides of Grand Avenue in some areas and no sidewalks in other areas further north.
20. Need to provide for sidewalks where needed, informational kiosks or the like for directions & wayfinding, and bus route information.
21. There are public restrooms located in the park along Morley Avenue north of Park Street.
22. Need to provide information to pedestrians on how to find stores/shopping, taxis, and buses.
23. There is an informational kiosk located at the SEC or Terrace and Park; signage and wayfinding is critical.
24. There needs to be major improvements made to accommodate the bicycle rider; there currently are no bike lanes; more and more people are bike riding; biking is a huge activity in Nogales.
25. Not aware of accidents in downtown Nogales; safety enhancements are needed at the large Crawford and Grand intersection where there is lots of cars, pedestrians and traffic signals.
26. Terrace Avenue (at its intersection with Crawford Street needs improvement; it is hard to get in and out of Terrace Avenue at times; the northbound left turn lanes at Terrace Avenue are unsafe; also crossing Terrace Avenue by pedestrians is unsafe.
27. At Food City and the Alamo Plaza strip mall area, pedestrians cross the streets everywhere (whether a marked crosswalk or not); crossing Grand in this area is a safety concern.
28. Private bus services are a critical need since there is no public transit; there are bus stops in town but they are not used and are not at the correct locations; the bus stops don't have pullout areas so anyone using a bus stop would block a lane of traffic to do so; the private jitney buses will pick up and drop off passengers anywhere – on the street, in private parking areas, etc.
29. Local bus services and routes are not promoted or advertised (there aren't really any fixed routes traveled); the City turned down funding to establish a public transit service.
30. Priorities:
  - a. Pedestrian overpass for the UPRR tracks.
  - b. Signage and wayfinding.
  - c. Designated drop off and pick up points for use by jitney bus services, taxis and personal vehicles.
31. The biggest complaint is the train blocking traffic and pedestrians frequently during the day; pedestrians are seen crawling through the trains instead of waiting to clear which is very unsafe; trains block the downtown intersections for approximately 20 minutes each occurrence.



32. The Mariposa POE needs a pick up and drop off point and better directional signage for pedestrians; the southbound pedestrian crossing is located west of SR 189 while the northbound pedestrian crossing is located between the northbound and southbound vehicular traffic lanes.
33. ADOT has a scheme to fix the SR 189 in the vicinity of Freeport Drive; the question is how will ADOT deal with traffic backups due to southbound vehicle inspections; there will be 4 to 6 southbound lanes through the port but there are only two southbound lanes on SR 189; CBP (GSA) is funding additional southbound lanes through the POE due to the southbound inspections.
34. ADOT is still considering relocating I-19 out of downtown and turning it west to the Mariposa POE; they reportedly would turn existing I-19 into a parkway facility to connect I-19 to the DeConcini POE.

\*\*\* End of Stakeholder Interview Notes – J.B. Manson \*\*\*



<i>Day:</i> Monday	<i>Date:</i> October 25, 2010	<i>Time:</i> 2:00 pm MST	<i>Location:</i> Public Works Offices
<i>Person(s) Interviewed:</i>	<b>Walter Breitenstein, Santa Cruz County Public Works Department</b>		

These interview notes summarize the comments made and information provided by Mr. Breitenstein regarding the City of Nogales Pedestrian Circulation at Port of Entries study.

1. Mr. Breitenstein lives in Nogales, Sonora, Mexico and works in Nogales, Arizona, U.S. and commutes across the border to work on a daily basis. In addition, he crosses the border routinely at other times for shopping.
2. Mr. Breitenstein prepared and provided an aerial photo map of downtown Nogales on which he located private parking lots, where private buses operate from, and where taxis are staged. He noted other features on the aerial photograph map such as crosswalks, shopping areas, etc. The original map provided was an 11x17 format which is reproduced in two overlapping maps that are included on the two pages following these interview notes.
3. The private parking lots charge \$4 for 8 hours typically; Burger King and McDonalds both allow short term parking for people crossing the border on foot for a fee as well.
4. Many people crossing the border on foot will park on the local streets to the west of Sonoita Street and north of Compound Street (B-19) because there are no meters and the parking is free. These streets include West Street, Crawford Street west of Sonoita, Sonoita Street north of Crawford Street, Elm Street west of Arroyo, and Terrace Street between Crawford and Elm. There is usually parking available if one looks around a little.
5. The study team can use Google Earth Street View to look at the area; it will show the team where the metered parking is located.
6. Meters for parking makes a big difference in shopping behavior; when you park at a meter, you have to watch the clock and worry about the meter running out and getting a ticket; the City has heavy enforcement for the metered parking.
7. Most of the downtown shoppers are from Mexico; the shopping in downtown Nogales near the border is inexpensive; it is cheaper in the US to buy goods and food for the Mexican citizens; many go to Food City for groceries and use the collapsible carts to carry their goods back to Mexico; shopping cart theft is minimal due to a number of preventative measures in place (including poles that don't let you take a cart out of the building).
8. There are significant bottlenecks in Nogales, Sonora, for Mexican Nationals to cross the border into the US.
9. There are approximately 1,000 people caught each day in the Nogales area by Border Patrol trying to enter the country illegally.
10. Visas for Mexican citizens are difficult to get; visas are needed for regular shopping trips or for employment in the US; they are limited as to what can be carried across the border.
11. The Walmart in Mexico is not well stocked or managed and does not carry many basic essential items; that is why many Mexicans crossing the border will take a jitney bus to the Walmart shopping district on the US side of the border; the jitney bus will display "Walmart" on its placard; the buses are parked along Terrace Avenue north of Crawford Street; buses can also take you to Tucson or Phoenix.
12. There are commercial taxis available.

13. The Terrace Avenue reconstruction project south of Crawford Street is currently under construction; at the cul-de-sac at the south end of Terrace Avenue, where pedestrians come up the stairs or ramp from the DeConcini POE, there will be people there asking if you need a ride and they will direct you to their bus.
14. Pedestrians are picked up most anywhere along Terrace Avenue or along Grand Avenue.
15. The main intersection in downtown Nogales at Grand and Crawford is very busy; the north-south crosswalk on the west side is very long and the signal timing seems too short to cross the wide expanse of traffic lanes.
16. Because of the signal phasing at the Grand and Crawford intersection, there is a very long wait for a legal crossing of the intersection; so there are lots of illegal crossings against the light because the wait for a pedestrian walk signal is so long; it is unsafe to cross against the signal.
17. On the north side of Park Street, there is no ped signal to cross Grand Avenue; there is a crosswalk, but no ped signal; therefore many people don't use this crosswalk; they will use the crosswalk on the south side of the Park/Grand intersection because it does have a ped signal.
18. At the north side of Grand and Crawford, there is an east-west crosswalk at the intersection.
19. To go from Grand to Morley Avenue you are forced to cross the railroad tracks.
20. Traffic will drive down Morley trying to find parking.
21. The Park/Morley intersection and the Park/Robins intersection, there is a lot of traffic and a safety concern for pedestrians trying to cross the streets; at the south end, Park Street (2-way), Robins Avenue (1-way southbound) and Morley Avenue (1-way northbound) make a traffic loop that is heavily used by people trying to find parking near the border and for pick up and drop off purposes; there is a similar traffic loop occurring on Park, Nelson and Morley; traffic will also circle around using Park, Morley, Court and Grand looking for parking spots; people don't like paying for parking.
22. On the Sonora Mexico side, east of the railroad tracks is an unsafe area that has metered parking; this area has lots of pick up and drop off traffic for pedestrian crossing at the Morley Gate; to cross by vehicle includes a very long wait so there is lots of Mexican traffic that will drop off and pick up people crossing the border on foot; there is also a bus station in this area that generates a lot of pedestrian traffic.
23. On the Sonora Mexico side, there is a new ped bridge over the railroad tracks and several major streets; four to eight blocks south of this new ped bridge crossing, there is another railroad overpass for the downtown business area; when there is a train using the railroad, people will use these overpasses to access the port of entry; the railroad tracks splits the city in two (as it does on the US side) and create separate neighborhoods.
24. The Morley Avenue shopping district ends at Court Street on the north.
25. Some buildings along the west side of Morley are in the railroad right of way.
26. There is also good shopping along Grand Avenue in downtown Nogales.
27. On the Mexico side, some shops and restaurants have closed because of violence and aggressive tourist guides.
28. Many US citizens will park in Nogales Arizona; it costs \$35 dollars a day for insurance to drive in Mexico; people who live in Mexico and work in the US will leave a car on the US side for commuting purposes (or use the private transit services or walk); tourism is prime business in Sonora so the tourists are usually not target for crime as long as they stay in the tourist areas.
29. If you walk across the border without a cart, you are limited to what you can carry by hand back across the border; it is difficult to purchase many groceries unless you have a cart to carry the goods.

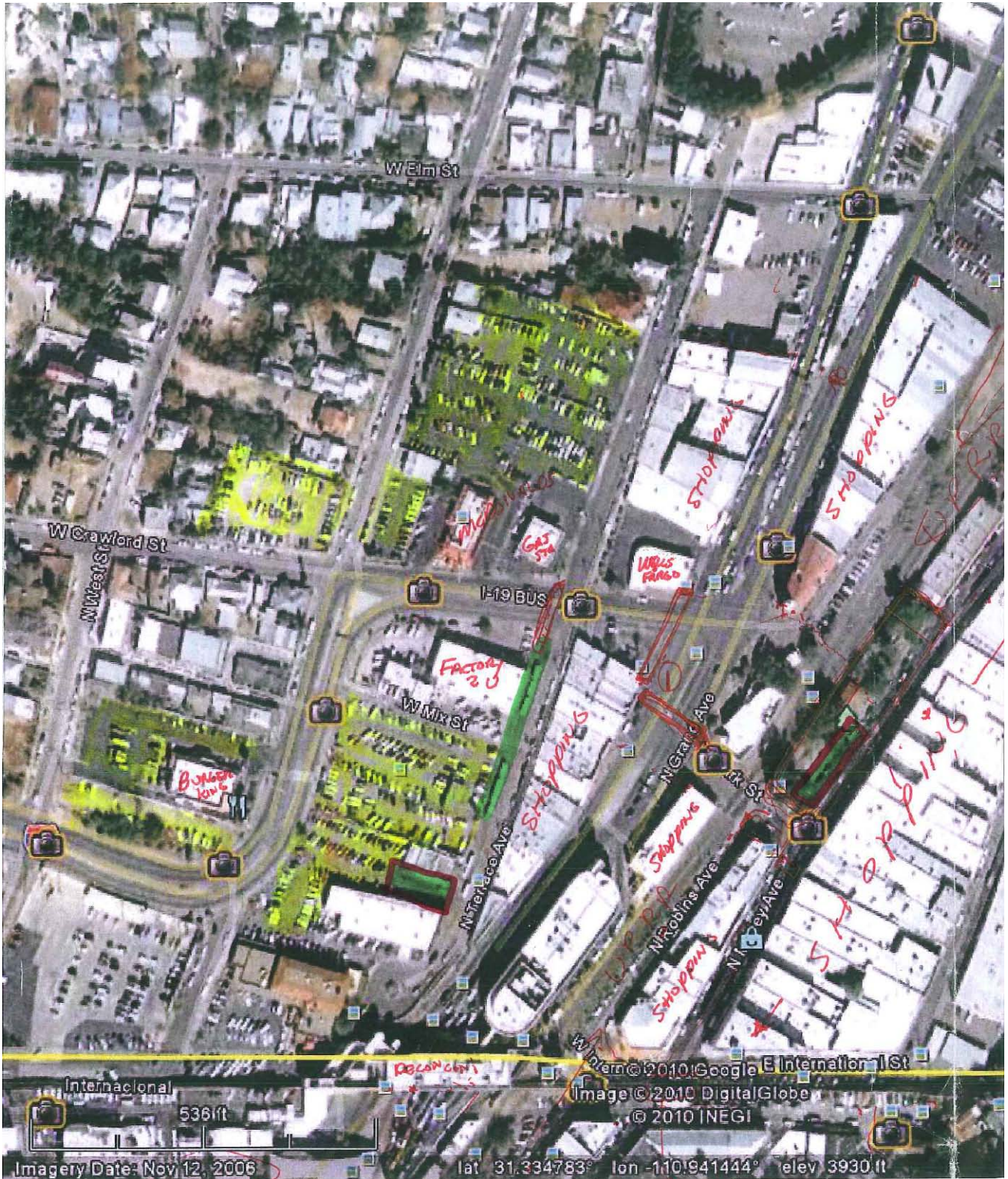
30. The park located north of Park Street on the west side of Morley has public restrooms; most of the stores and shops do not have public restrooms; the public restrooms are needed facilities to encourage shopping; the park restrooms are well utilized.
31. For public meetings related to this study, to encourage good attendance and input, the Public Outreach firm should visit with Border patrol at the Morley Gate and DeConcini ports of entry; the ports have highly visible places to post a meeting notice; they will get read as people wait in line to cross the border; suggest the public meetings be held in the park to facilitate attendance as it is far closer to the border than City Hall; having the meeting in the park would get walk-in attendance; shopping hours are typically 10 am to 5 pm.
32. Very few bicycles cross the border; bikes would need to use the vehicle lanes; on the Mexico side, riding a bike in traffic would be dangerous.
33. People from Mexico are used to walking; walking to parking spots is not an issue for Mexican nationals.
34. The sidewalks near the border are generally in good condition.
35. Mr. Breitenstein has personally used the jitney bus service to go to Walmart; the buses will make a trip when they have accumulated enough passengers to make the trip worthwhile; there is no regular schedule; the location of the jitney buses is shown in green on the provided mapping.
36. At the southwest corner of I-19 (Crawford Street) and Terrace Avenue, there is a "Factory 2 U" store with some parking on the north side of the store; people will use this parking area for pick up and drop off purposes.
37. The cul-de-sac at the south end of Terrace Avenue is another pick up and drop off location.
38. There is a lot of traffic that circulates around the downtown area for the purpose of finding parking.
39. There have been issues with people crossing the tracks through moving trains; an overpass would likely only be used when a train is present.
40. DeConcini POE has six stations; but Mr. Breitenstein has never seen any more than 3 or 4 open with agents; pedestrians trying to enter the US typically can wait 45 minutes or more, especially when only 2 stations are manned.
41. There is a duty free traffic loop for the cigarette trade; US citizens will come to the border area to get cheap cigarettes; the business will have someone drive across the border with the legal limit of cigarettes to deliver to customers.
42. At school times, there will be 200 or so students that cross the border to attend school in the US; commuters will avoid school times because of the long waits.
43. The metered parking on the Mexico side in downtown Nogales, Sonora is all new.
44. Improvements are needed at the Morley Gate to add lanes and ID checkers; better areas for pick up and drop off sites; and more marked crosswalks in the downtown area.
45. No strong reason to provide a pedestrian connection from downtown to the Mariposa POE as it is too far.
46. More parking is needed downtown; suggest parking be free for use.
47. Bicycle use is not frequent, but bike racks could be provided downtown to encourage bicycle use.
48. Aware of accidents involving pedestrians and trains.

\*\*\* End of Stakeholder Interview Notes – Walter Breitenstein \*\*\*



*Handwritten notes:*

- PRIVATE PARKING**  
~ 24/8 HRS
- PRIVATE TRANSIT (BUSES)**
- PRIVATE TRANSIT (TAXIS)**
- ① No PEDESTRIAN SIGNAL ON N. SIDE OF PARK ST. ON GRAND AVE.
- 10-25-2010



*Handwritten red notes:*  
MORLEY  
A. W. J.



<i>Day:</i> Monday	<i>Date:</i> October 25, 2010	<i>Time:</i> 3:00 pm MST	<i>Location:</i> Public Works Offices
<i>Person(s) Interviewed:</i>	<b>Flavio Gonzalez, Utilities Director, City of Nogales Public Works Department</b>		

These interview notes summarize the comments made and information provided by Mr. Gonzalez regarding the City of Nogales Pedestrian Circulation at Port of Entries study.

1. The Morley Gate port of entry plays an important role; many of the businesses on the Mexican side have closed down due to violence and the aggressive people in the illicit trades; the vendors along Morley Avenue need this gate opened as many of their customers cross the border at this location to shop in the US.
2. When the Morley Gate was closed for a few days due to the international sewer line repair work; it created a great hardship for the store owners on Morley Avenue in the US.
3. The private bus services use Grand Avenue as the route between the downtown area at the ports of entry to the Walmart shopping district.
4. Would like to see a road along the international border that would connect downtown to the Mariposa POE; with such a road, there could be a transit loop of Grand Avenue, Mariposa Road, and the new international border road between the Mariposa POE and downtown.
5. There needs to be a pick up and drop off area provided at the new Mariposa POE.
6. On Park Street at the railroad tracks, pedestrian (and vehicle) circulation stops when a train is passing through downtown Nogales; would like to see a pedestrian overpass of the railroad tracks and institute measures to encourage people to use the overpass.
7. There is a lot of jaywalking in downtown with people crossing streets when there is a red light.
8. The sidewalks in the downtown are in fair to good condition.
9. There are public restrooms located downtown in the park.
10. Border Patrol uses bikes in the downtown area; bicycle use by the general public in the downtown is minimal.
11. Within the last few years there was a pedestrian fatality on Grand Avenue in the vicinity of Food City; ADOT installed a crosswalk at this location.
12. The crosswalks in the downtown are in need of an ADA study to be sure they comply with current ADA standards.
13. The area along Arroyo is of concern in the vicinity of Elm Street; ADOT gave permission to a bus company to use parking stalls near the intersection; when a bus is present, the bus blocks the view of on-coming traffic for pedestrians using the crosswalk on the south side of the intersection; this concern was brought to ADOT's attention.
14. There is a big concern with pedestrian safety on Park Street between Grand Avenue and Morley Avenue; there is a lot of foot traffic in this area; need crosswalks on Park Street at Robins Avenue across from the park; pedestrians crossing the border at DeConcini can cross the railroad tracks using Park Street and can use Robins to access the Morley Gate and its vicinity.
15. There are lots of pedestrians using Morley Avenue, Court Street, Grand Avenue, and Park Street – this is the core of the downtown shopping district.
16. There are 8 or 9 trains a day in both directions; equal amounts more or less in each direction.

17. The Terrace Avenue Enhancement Program project is under construction; foot traffic to and from the DeConcini POE and along Terrace Avenue is maintained to the greatest extent possible.

*\*\*\* End of Stakeholder Interview Notes – Flavio Gonzalez \*\*\**





<i>Day:</i> Thursday	<i>Date:</i> October 28, 2010	<i>Time:</i> 9:00 am MST	<i>Location:</i> School District Offices
<i>Person(s) Interviewed:</i>	<b>Steve Zimmerman, Assistant Superintendent of Operations</b> <b>Nogales Unified School District #1</b>		

These interview notes summarize the comments made and information provided by Mr. Zimmerman regarding the City of Nogales Pedestrian Circulation at Port of Entries study.

1. There is a concern with respect to visitors to Nogales, people park along the side streets in the areas west and north of Burger King on Sonoita Street and walk to the downtown area and the ports of entry; pedestrians jaywalk across the busy highway and this presents a safety concern.
2. At the Terrace and Crawford intersection, there are no signals to aid pedestrian crossings; this is the most dangerous intersection for pedestrians; in fact, the entire route of B-19 is hazardous for pedestrians trying to cross the road.
3. There are no bike routes, bike lanes, or bike paths in Nogales; Crawford Street does not seem wide enough to incorporate bike lanes.
4. On Mariposa Road in the Walmart shopping area, the sidewalk ends just past the Walgreens store; look at providing continuity for sidewalks to enhance pedestrian and bicycle circulation.
5. From the POE area to Baffert, there are sidewalks; but the highway is not good for biking; one can't safely bicycle in Nogales.
6. At the north end of Grand, there no sidewalks on either side of the highway for at least a 2-1/2 mile stretch.
7. Signage and lighting is OK in Nogales except for the downtown area.
8. The marked crosswalk at Burger King on Sonoita Street is hazardous as people come around the corner from I-19 doing 40 or 50 mph and the crosswalk is near the end of the curve.
9. Downtown Nogales is safe as there is a strong local police presence and a lot of Border Patrol agents.
10. There are no schools within the study area; the District headquarters is nearby located west of Arroyo on Plum Street; Peabody Charter High School is just north of the District headquarters building; Lincoln Elementary School is located north of the study area; there are schools along Western Avenue northwest of the study; and Challenger school is located on Baffert to the north of the study area.
11. The study area does not include any major routes children use to get to the schools.
12. Some children do come through the ports of entry to attend school; Mexican citizens can attend school in the US if they pay tuition; there are 20 students in line to pay tuition to attend school in Nogales; overall the school enrollment is down a little from a few years ago due to undocumented people moving away from Arizona.
13. Weekends are very busy in downtown Nogales with lots of traffic and lots of pedestrians walking around.
14. Requests the warrants for lighting of pedestrian crosswalks be reviewed for all the crosswalks on the B-19 route since the traffic is very heavy; if the crosswalks can have lighting or signals, it would improve safety.
15. From Compound Street to Crawford Street on Sonoita (B-19), there is a safety concern with the pedestrian crossings; there is a legal crosswalk at the Burger King, but there is a lot of jaywalking all along this street.
16. The Wells Fargo bank is located at the northwest corner of Grand and Crawford; lots of pedestrians walk north-south across Crawford at Terrace Avenue; there are marked crosswalks but no lights; this area is a safety concern.

17. A lot of bikers bicycle the Patagonia Highway (SR 82); there are few bicyclists in the downtown area as there are no facilities for bicycles.
18. There are a lot of pedestrians in the vicinity of the ports of entry in the downtown area.
19. Parking is at a premium in downtown Nogales.
20. There is lots of traffic on Thursdays as well as Thursday is pay day (in Mexico); the Nogales AZ Walmart is jammed and there is a lot of traffic to and from Walmart.
21. Morley Avenue is a very busy street with sidewalks along the entire length; primarily on the east side of the road.
22. Most streets have sidewalks that are in reasonably good condition.
23. North of Baffert down Grand Avenue, there are walking paths in the dirt, but not paved sidewalks.
24. There are some painted crosswalks in areas; due to the speed of traffic on the B-19 route, there should be lights for the crosswalks; there needs to be something to draw the motorist's attention to the crosswalk.
25. In Nogales, the school district caters to the neighborhoods; e.g. the Challenger School does not have bus routes since all students are within walking district; in fact, there are limited school bus routes in the community.
26. The School District has undertaken Safe Route to School programs; students do need to cross Western Avenue to reach the schools; they have crosswalks with a crossing guard at this location (outside the study area, but typical for the schools in Nogales).
27. There have been no accidents involving children walking to school.
28. There is a safety concern at the Arroyo and Grand split area where there is only one small narrow crosswalk present at Terminal Street near the public library.
29. The UPRR tracks present a safety concern; there are at least six trains a day; there should be an overpass so pedestrians can safely get across the tracks when a train is present.
30. Perkins Avenue backs up with vehicles when a train is present.
31. Aware that there is funding in place to revamp the Mariposa POE.

\*\*\* End of Stakeholder Interview Notes – Steve Zimmerman \*\*\*

Day: Thursday	Date: October 28, 2010	Time: 10:00 am MST	Location: City Hall
Person(s) Interviewed:	Juan Guerra, City Engineer, City of Nogales		

These interview notes summarize the comments made and information provided by Mr. Guerra regarding the City of Nogales Pedestrian Circulation at Port of Entries study.

1. Juan Guerra filled in for Shane Dille, City Manager, and Jonathan Kissinger, Assistant City Manager, as they were unavailable for interview due to a conflict that arose since scheduling the meeting.
2. Juan Guerra provided written responses to the questions provided to stimulate discussion. His responses are shown below:

**1. What improvements are needed to improve pedestrian flow through and near the Ports of Entry?**

More US Customs officials needed to open more lanes at the pedestrian crossing gates on the US side. I don't see the same issue going south that cause pedestrian crossing delays.

**2. Are these improvements needed on the Arizona side of the POEs, the Sonoran side, or both?**

Improvements needed are different for each country. For example, in the Mexican side, there is no special access available for people with disabilities. In the American side, most of the time there are too many officials, but only one officer working.

**3. Do you feel there is a need for pedestrians to be able to safely and conveniently move between the Mariposa POE and the DeConcini and Morley POEs? What improvements might be needed?**

There is no sidewalk along Mariposa Road (SR 189) or room for bicycles.

**4. Is more parking needed in downtown Nogales near the POEs? Do you know any specific locations that should be considered to address this need?**

Currently the number of parking spaces is OK because there are not as many people shopping. If the number of visitors is incrementally increased as a result of improvements or during good sales periods, the parking spaces available are in great demand.

**5. Are there specific locations where the condition of sidewalks and walkways is poor?**

Yes, an inventory should be prepared to identify those areas that need improvement.

**6. What facilities, conveniences and aids might be provided in downtown Nogales for pedestrians?**

More pedestrian lanes open; quicker inspections; more officials.

**7. How significant is bicycle use in this area? What improvements should be made to benefit bicyclists? Are there any new facilities for bicyclists that would be beneficial?**

Bicycle riding is not very popular in this region. The reason could be that the streets were not designed to accommodate bicycle routes.

**8. Are you aware of locations of pedestrian involved accidents or areas of pedestrian-vehicle conflicts?**

There was an accident recently on Crawford and Terrace Avenue.

9. How important are the private bus services that operate in the downtown area? Are there any issues involved? What improvements could be made in their operations to more effectively fulfill this need?

Bus Pullouts on Roadways   X        Specific Bus Pullouts in Retail Parking Areas \_\_\_\_\_  
Signage   X                                        Shelters and Seating   X   \_\_\_\_\_  
Promotional Materials in Retail Areas   X                                        Other \_\_\_\_\_

Most of our pedestrian visitors rely on the private bus service to go shopping to Walmart and stores located in the Walmart vicinity.

10. What should be the top priorities to enhance pedestrian circulation and safety in the downtown area?

Be more flexible with Mexican residents when requesting a passport. I heard that people have been denied a passport just for having family in the USA.

11. Is there anything else you think we should know or be aware of?

No.

\*\*\* End of Stakeholder Interview Notes – Juan Guerra \*\*\*



<i>Day:</i> Thursday	<i>Date:</i> October 28, 2010	<i>Time:</i> 11:00 am MST	<i>Location:</i> City Hall
<i>Person(s) Interviewed:</i>	<b>Roy Bermudez, Assistant Police Chief, City of Nogales Police Department</b>		

These interview notes summarize the comments made and information provided by Mr. Bermudez regarding the City of Nogales Pedestrian Circulation at Port of Entries study.

1. The port of entry needs more entry lanes manned; there are six ped lines, but only 1 or 2 are manned; 1 lane may be open, but more lanes need to be manned to reduce wait time; waits can be 90 minutes; waits can range from 5 minutes to hours; there really is not “typical” wait time; there are long waits coming back to get through the port; 60 to 90 minute wait times; weekends are worse than weekdays.
2. Better access into lanes; pedestrians are bottlenecked down to one lane; there is a one lane queue outside the POE on the Mexico side.
3. On the US side, there needs to be pedestrian bridges over the railroad tracks; this would alleviate a safety issue and concern.
4. Public safety vehicles need access to the east side of the railroad when trains are present; trains travel so slow it blocks all of the crossings in downtown Nogales; the problem is significant; there are no grade separated railroad crossings except for SR 92 north of City Hall and well north of the study area.
5. People have crawled through the trains; would like to see a pedestrian overpass by Park Street and Grand Avenue; pedestrian and vehicle traffic stops for 15 to 30 minutes to let a train pass.
6. An alternate is to put a police station and fire station on the east side of the railroad tracks.
7. There are bottlenecks present on the Mexican side of the border that need to be alleviated. Pedestrians only have one lane outside the POE building.
8. Public transit would provide good connectivity between downtown and the Mariposa port of entry; the terrain is too rough and the distance is too great for a multiuse path to benefit pedestrian circulation.
9. There needs to be more public parking in close proximity to downtown; there needs to be more parking in general; could consider a parking ramp; the Police Department handles meter enforcement (Note: Consider if it is feasible to impose a fee on private parking lots – a fee on stalls or a fee per car – to raise money).
10. People park on the neighborhood residential streets; some residents complain that they can’t park in front of their homes.
11. Terrace Avenue south of Crawford was in very poor condition, but it is currently being improved and pedestrian facilities will be made handicap accessible.
12. There are no sidewalks on Robins Avenue.
13. There is an information booth at Crawford and Grand; but the kiosk is not being used; recommend the City maintain and man the information booth; there is a need for an information kiosk on Terrace where many pedestrians enter the downtown area.
14. There is a need for a shade structure at Grand and Crawford (aka Herald Square); this is the area north of the building located between Terrace Avenue and Grand Avenue along the south side of Crawford Street.
15. There are restroom facilities in Karam’s Park; more public restrooms are needed; accessible restroom facilities are also needed; the old restrooms under the band platform south of the public restrooms are old and have been closed – consider renovating and reopening these restrooms if feasible.

16. Public restrooms are needed west of Grand Avenue somewhere to serve the people using the DeConcini port of entry.
17. There is minimal bike use in downtown Nogales; there does not seem to be a demand for bicycle facilities.
18. At Crawford and Terrace, one to two months ago, there was a pedestrian involved accident where several children ran into the street and a car couldn't stop and hit the children; need a pedestrian traffic control device at this location; the Terrace Avenue crosswalks on Crawford Street have a lot of pedestrian use and are a safety concern.
19. Need a signal or other traffic control for the crosswalk at Burger King on Sonoita Street.
20. Need transit facilities; need less private buses; need newer and better quality buses in the private fleet; need greener buses; need a transit center for public transit, not for private transit; possible location for a transit center could be the Blind Center tract which is a vacant building located on the west side of Sonoita Street south of Compound Street.
21. Priorities:
  - a. Better signage and traffic control at Crawford and Terrace which is the #1 safety issue location.
  - b. Safety improvements for the crosswalk at the Burger King on Sonoita Street.
  - c. Provide improved safety for the public related to the railroad tracks and trains including the possibility of a pedestrian overpass; can the UPRR apply monies towards an overpass for safer pedestrian crossings of their railroad tracks when trains are present.
  - d. Improve some of the sidewalks on Morley Avenue; in areas the sidewalk is rough; some of the sidewalk can be slick when wet; on Morley Avenue, some of the sidewalks cover basements that project out from the buildings (similar to what was present on Terrace Avenue); there are openings into the basements; look at the condition of the openings.
22. Mr. Bermudez also provided written comments on the stakeholder interview questionnaire form. Those comments are shown below:

**1. What improvements are needed to improve pedestrian flow through and near the Ports of Entry?**

- More manned pedestrian lanes on Grand Avenue and Morley Avenue ports.
- Better access.
- Pedestrian bridges.

**2. Are these improvements needed on the Arizona side of the POEs, the Sonoran side, or both?**

- Both.
- Bottleneck in Mexico (one lane to enter U.S.).

**3. Do you feel there is a need for pedestrians to be able to safely and conveniently move between the Mariposa POE and the DeConcini and Morley POEs? What improvements might be needed?**

- Public Transit.
- Too far to walk.

**4. Is more parking needed in downtown Nogales near the POEs? Do you know any specific locations that should be considered to address this need?**

- Yes.
- More public parking.



5. *Are there specific locations where the condition of sidewalks and walkways is poor?*
  - Yes.
  - Terrace Avenue, but currently being addressed.
  - No sidewalks on Robins Avenue.
  
6. *What facilities, conveniences and aids might be provided in downtown Nogales for pedestrians?*
  - Maintain / man the information booths.
  - Public restrooms on west side of tracks.
  
7. *How significant is bicycle use in this area? What improvements should be made to benefit bicyclists? Are there any new facilities for bicyclists that would be beneficial?*
  - Minimal.
  
8. *Are you aware of locations of pedestrian involved accidents or areas of pedestrian-vehicle conflicts?*
  - Crawford & Terrace.
  - Sonoita Street by Burger King.
  
9. *How important are the private bus services that operate in the downtown area? Are there any issues involved? What improvements could be made in their operations to more effectively fulfill this need?*

*Bus Pullouts on Roadways* \_\_\_\_\_      *Specific Bus Pullouts in Retail Parking Areas* \_\_\_\_\_  
*Signage* \_\_\_\_\_      *Shelters and Seating* \_\_\_\_\_  
*Promotional Materials in Retail Areas* \_\_\_\_\_      *Other* \_\_\_\_\_

  - Less buses.
  - More restrictions on buses (regulate).
  - Transit center.
  - Public transit.
  
10. *What should be the top priorities to enhance pedestrian circulation and safety in the downtown area?*
  - Traffic lights Crawford Street and Terrace Avenue.
  
11. *Is there anything else you think we should know or be aware of?*
  - Train impacts the safety of pedestrians.

\*\*\* End of Stakeholder Interview Notes – Roy Bermudez \*\*\*



<i>Day:</i> Thursday	<i>Date:</i> October 28, 2010	<i>Time:</i> 1:00 pm MST	<i>Location:</i> Public Works Offices
<i>Person(s) Interviewed:</i>	<b>Olivia Ainza-Kramer, President, Nogales-Santa Cruz County Chamber of Commerce</b>		

These interview notes summarize the comments made and information provided by Ms. Ainza-Kramer regarding the City of Nogales Pedestrian Circulation at Port of Entries study.

1. There is a bottleneck at the DeConcini port of entry for privately owned vehicles.
2. The biggest complaint heard are from people from South Mexico and tourists who are disappointed with the lack of proper and visible directional and wayfinding signage so they can find their way around.
3. More visible and prominent street name signs are needed; an example is the Western Avenue intersection with Grand Avenue where it is difficult to see the Western Avenue street name sign until almost too late.
4. The Chamber has interview responses from visitors to Mexico that would be helpful to the study; Ms. Ainza-Kramer volunteered to send a copy to the study team for review and consideration.
5. Directional signage is needed for visitors entering Nogales from Mexico; where do I find the most common services needed (shopping, medical, tourism sites, public safety, etc.).
6. The Chamber can participate by reprinting wayfinding maps and distributing them via information kiosks and/or in retail stores and agency offices.
7. Plan for a continuous sidewalk system.
8. Provide for pedestrian signals and crosswalk lighting.
9. The sidewalks are relatively narrow and need to be wider; there need to be sidewalks installed where gaps are and where walks are missing.
10. There is a sidewalk on the east side of Morley Avenue; would like to see a sidewalk on the west side as well.
11. Sidewalks are missing in areas on Grand Avenue and Walnut Street.
12. Arroyo between Quarry Street and Elm Street has a sidewalk only on one side and that walk is narrow.
13. Morley Gate was to be the focus street as it is the shopping district closest to the Morley Gate; Grand Avenue carries the traffic and Morley Avenue needs to be pedestrian friendly.
14. Would like to see a pedestrian overpass of the UPRR tracks in downtown Nogales.
15. Like the idea of a walking/multiuse path between downtown and the Mariposa POE; it would serve a recreational purpose and benefit the local residents (high priority).
16. Some sidewalks at their intersection with streets don't have an ADA curb ramp; plan for ADA accessibility.
17. Priorities:
  - a. Signage – street signs and wayfinding signs.
  - b. Sidewalks – on both sides and continuous.
  - c. ADA compliance.
18. For Nogales demographic information, visit the Chamber's website.
19. On the Chamber website, there is an "Economic Development" tab that contains profiles of the area; economic and demographic information can be found in the profiles.



20. There needs to be an overpass of the UPRR tracks; the best location is between the Food City and the Quality Inn.
21. Look at extending the covered Nogales wash channel further to the north.
22. Provide for bus pullouts; provide for shade structures, benches, etc.
23. Bike lanes and bike paths are needed.
24. There is too little parking for the Morley and Grand shopping district; and all over the study area.
25. Bike use is seen in the downtown area; lots of people are biking.
26. Need a dependable public transit service; there are lots of concerns with the private bus services; need dependable and safe transit service.

*\*\*\* End of Stakeholder Interview Notes – Olivia Ainza-Kramer \*\*\**



<i>Day:</i> Thursday	<i>Date:</i> October 28, 2010	<i>Time:</i> 2:00 pm MST	<i>Location:</i> City Hall
<i>Person(s) Interviewed:</i>	<b>George Lineiro, Planning &amp; Zoning Director, City of Nogales</b>		

These interview notes summarize the comments made and information provided by Mr. Lineiro regarding the City of Nogales Pedestrian Circulation at Port of Entries study.

1. Mr. Lineiro provided an electronic copy of the new community general plan; approval of this plan is pending.
2. Mr. Lineiro also provided a copy of the Nogales Civic Planning Study.
3. Business licenses are reviewed for approval by Nogales Planning and Zoning.
4. There are no facilities at the Mariposa port of entry for pick up and drop off purposes.
5. Need a location and facilities for pick up and drop off, a park and ride lot, and provisions for a future transit center sited at the Mariposa POE.
6. In the transportation portion of the General Plan, future park and ride locations are shown.
7. There needs to be a pedestrian bridge, or perhaps two, across the UPRR tracks in downtown Nogales; the General Plan suggests one at Court Street instead of one at Park Street; a priority for the community is to provide a pedestrian overpass; the Court Street location reportedly fits better with the terrain versus the Park Street location.
8. Another priority is to improve pedestrian safety overall. Locations to improve safety for pedestrians include:
  - a. Morley gate which is slated to be enlarged.
  - b. Major merchant areas on Grand Avenue.
  - c. Major merchant center on Morley Avenue.
  - d. Morley Avenue corridor.
9. Mexico has a new pedestrian bridge over the railroad track at the port of entries.
10. Mexico needs to improve the pedestrian gate situation at the Morley gate POE; waits can be 60 to 90 minutes.
11. Implement applicable issues outlined in the new General Plan; also see [www.NogalesAZ.gov](http://www.NogalesAZ.gov) .
12. The General Plan failed last time since it was on the ballot with a very controversial plan to purchase Citizens Utility.
13. The private bus system is deficient with terrible service with too many services operating; need better regulations for the private bus providers; currently they come and go as they please and go where and when they like.
14. The private bus operators are licensed, but not regulated; the only income the City receives from the private bus operators is the licensing fee.
15. Buses used to be staged on Terrace Avenue south of Crawford Street; with the street currently under construction, the buses were directed to stage on Terrace Avenue north of Crawford Street.
16. There are issues and safety concerns with the crosswalks on Crawford Street and Terrace Avenue.
17. There have been pedestrian fatalities and serious injuries on Crawford Street west of Grand Avenue.
18. There was a pedestrian fatality on Grand Avenue in front of Food City.

19. ADOT has restriped and highlighted crosswalks after the Grand Avenue pedestrian fatalities.
20. Mariposa Road (SR 189) has seen pedestrian involved accidents outside of crosswalks.
21. Would like to see crosswalk lights with a pedestrian push button that can activate light in the crosswalk or flashing beacon lights in advance of the crosswalk.
22. There is lots of jaywalking in the downtown area which is a safety concern.
23. The crosswalk at Burger King is also a safety concern due to its location and lack of advance notice.

*\*\*\* End of Stakeholder Interview Notes – George Lineiro \*\*\**



<i>Day:</i> Friday	<i>Date:</i> November 5, 2010	<i>Time:</i> 11:00 am MST	<i>Location:</i> DHS Offices, Tucson
<i>Person(s) Interviewed:</i>	<b>Thomas Yearout, Asst. Director Field Operations, U.S. Customs and Border Protection</b>		

These interview notes summarize the comments made and information provided by Mr. Yearout regarding the City of Nogales Pedestrian Circulation at Port of Entries study.

1. Morley Gate – Mr. Yearout provided the study team with three drawings of the Morley Gate pedestrian port of entry; copies of these three drawings are reproduced on the two pages following these notes.
2. The Morely Gate has been designated a historic building; therefore there are some limitations as to what can be done.
3. On the Mexican side of the Morley Gate, there is an overpass to cross the railroad tracks; there is a platform to cross the railroad tracks on the US side of the Morley Gate; this is not a good access for CBP since the overpass provides a location that is open and visible.
4. The Morley Gate POE won't go away; reconstruction at the DeConcini POE will make it more efficient for pedestrians and vehicles; the primary booths were recently replaced for vehicles.
5. CBP prefers at least a 300 foot buffer zone around a POE, but the City is built right up to the POEs in downtown Nogales.
6. There is very little bike use crossing the border; bicycles must use the vehicle lanes as the pedestrian lanes won't accommodate bicycles.
7. The City is willing to provide land to expand the Morley Gate to make it more efficient; there is room to make the expansion; the street in front of the Morley Gate could become a pedestrian plaza.
8. The Jones Studio in Phoenix (firm that designed the Mariposa POE) reportedly did a conceptual design for such a pedestrian plaza (Note: Check with Shane Dille or Jonathan Kissinger to obtain a copy).
9. Pedestrian traffic forecast: Arizona State University completed a traffic forecast for the Nogales POEs that included pedestrian forecasts; the Mariposa POE Feasibility Study had a forecast of pedestrian traffic.
10. At the Mariposa POE, there will be a sidewalk on the east side of Mariposa Road (SR 189). Outbound pedestrian sidewalk will be located on the west side of SR 189 in the POE; inbound pedestrian sidewalk will be located on the east side of Mariposa Road; to cross Mariposa Road between the inbound and outbound walks there needs to be a crosswalk with a push button light.
11. The Mariposa POE will have 20 lanes for northbound traffic and 2 lanes for southbound traffic.
12. Southbound inspection backs up traffic to Target Range Road at peak times; to the new gas station on the west side of Mariposa Road during typical traffic loads.
13. There are three inspection lanes for the two outbound lanes: one for trucks, one for cars, and one for additional use; would like to be 4 to 6 inspection booths southbound.
14. There was a signal or a roundabout proposed for the Freeport Drive intersection; ADOT is developing plans that connect Freeport Drive further north on Mariposa Road via a frontage road; the frontage road would also connect with the gas station on the west side of Mariposa Road; study team should request a copy of this plan from ADOT; Todd Emery is the ADOT Tucson District Engineer.
15. Mariposa Road needs to be widened to provide three southbound lanes.
16. At the existing Mariposa POE, there was a parking lot that was used for pick up and drop off of people; there needs to be a park and ride lot with space for pick up and drop off of people located near the new POE; the

likely location would be on the east side of Mariposa Road north of the existing gas station; this facility could be used by buses, POVs, taxis, etc.

17. At the Mariposa POE, many of the pedestrians are brokers; people who are doing business at the POE.
18. The Mariposa POE is not intended to have pedestrian traffic; but there are six lanes for pedestrian traffic.
19. There are 500 to 600 buses per month through the Mariposa POE.
20. People on buses exit the bus and are processed as pedestrian within the POE then they re-board the bus on the other side of the border; there are 10 to 20 buses a day that use the Mariposa POE.
21. GSA Contact for the Mariposa POE: Jill Manzie, (602) 514-7277, cell (602) 370-5827; she is the GSA project manager.
22. Christmas season is a very busy period at the POEs; Paisano season when families visit each other; there is also lots of local traffic for shopping and family visits.
23. Traffic counts at the POEs, including pedestrian counts, can be obtained from Rudy Perez at ADOT MPD; note that the traffic counts are for north bound traffic only (but it is a reasonable assumption that southbound traffic is more or less the same as the northbound traffic counts).
24. Mexican citizens can legally go into Arizona as far as Tucson; CBP has found contraband on some of the jitney buses.
25. CBP would be interested in pedestrian traffic counts beyond the port of entry to ascertain how much pedestrian traffic is doing business at the port versus the amount of pedestrian traffic traveling to destinations outside the POE.
26. The border crossing POE includes the railroad; the train will approach the border gate and the gate is opened to let the train pass through the border fence; a guard monitors the opening while the train is passing; there is a walkway to look down; the train is x-rayed to detect illegal entries and contraband; the train passes at 5 mph; since the train dissects the City, it is not allowed to stop; inspections include x-ray, overhead and guard; if an anomaly is noted in the x-ray, CBP will identify the car and when it reaches the Rio Rico yard the train is stopped and inspected.
27. There is a pedestrian crossing on the Mexico side of the border.
28. Trains carry parts into Mexico and assembled vehicles back; people have been found in new vehicles coming into the US; there are 80 to 100 train cars on a typical train.

\*\*\* End of Stakeholder Interview Notes – Thomas Yearout \*\*\*



*Morley Gate Pedestrian Upgrade – Building For The Future*  
*July 23, 2010*

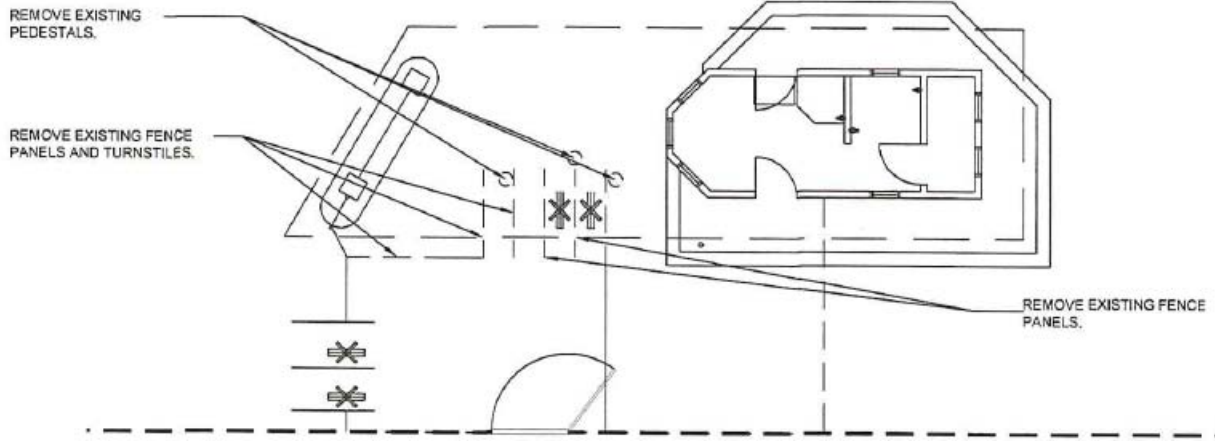
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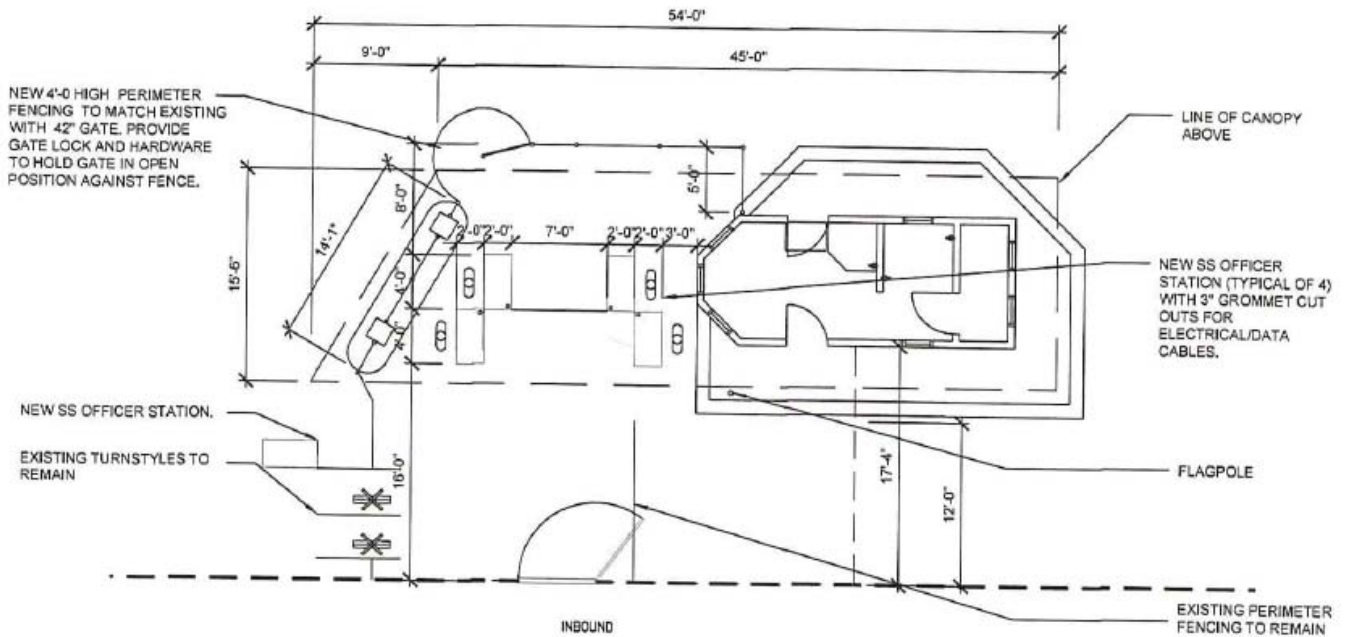


MORLEY GATE SHORT TERM DEMOLITION PLAN



1 OVERALL PLAN  
1/8" = 1'-0"

MORLEY GATE SHORT TERM SITE PLAN



1 OVERALL PLAN  
1/8" = 1'-0"



<i>Day:</i> Friday	<i>Date:</i> December 16, 2010	<i>Time:</i> 11:00 am MST	<i>Location:</i> GSA Offices, Phoenix
<i>Person(s) Interviewed:</i>	<b>Jill Manzi, Project Manager, Property Development Division, U.S. GSA</b>		

These interview notes summarize the comments made and information provided by Ms. Manzi regarding the City of Nogales Pedestrian Circulation at Port of Entries study. The purpose of the meeting was to learn about the pedestrian movement through the expanded Mariposa Port of Entry currently under construction.

1. The interim project to improve SR 189 in the vicinity of the expanded port of entry is currently underway by ADOT and is scheduled to be completed by November 2011.
2. Northbound pedestrian movement through the port is situated between the northbound commercial traffic on the east and the northbound POV traffic on the west.
3. Northbound pedestrians exit the POE/GSA property on the east side of SR 189 just south of Freeport Drive.
4. As northbound pedestrians continue to the north, they cross a POE driveway opposite Freeport Drive that provides access to an employee parking lot.
5. Continuing north, pedestrians then cross the commercial truck/vehicle exit road onto SR 189.
6. Continuing north, pedestrians then cross State Port Drive, an access road to ADOT’s inspection facility.
7. Continuing north, pedestrians then cross the driveways for the Shell Gas Station on the east side of SR 189 located immediately on the north side of the GSA POE property.
8. Southbound pedestrian movement through the port is on the west side of the southbound vehicular traffic.
9. Southbound pedestrian pass by a violator processing station about halfway through the POE; from this point south there are two walkways:
  - a. Regular sidewalk for southbound pedestrian traffic is immediately west of the southbound vehicular traffic lanes.
  - b. Violator return sidewalk is located west of the regular sidewalk for southbound pedestrian traffic; the violator sidewalk is confined between fences/walls.
10. The southernmost opportunity for pedestrians to cross SR 189 between northbound and southbound sidewalks is an east-west pedestrian crosswalk located on the south side of Freeport Drive.
11. The POE expansion project schedule is as follows:
  - a. Phase 1, Grading, is substantially complete at this time.
  - b. Phase 2, Initial Construction, is scheduled to be complete November 2011; this phase provides temporary facilities and construction on expansion areas to prepare the site for major construction activities.
  - c. Phase 3, Major Construction, is scheduled to be complete by February 2013; this phase includes the bulk of new buildings and pavement for the POE.
  - d. Phase 4A includes the move to permanent facilities and demolition of temporary facilities, and is scheduled to be completed by May 2013.
  - e. Phase 4B includes the final finishing construction work for the site and is scheduled to be completed by January 2014.
12. The interim facility (Phase 2), when complete, will include 6 commercial lanes and 6 POV lanes.



13. The expanded facility, when complete, will include 8 commercial lanes and 12 POV lanes.
14. The existing POE has 4 commercial lanes and 4 POV lanes.
15. Mexico is planning a pedestrian bridge that will take pedestrian traffic over the vehicular lanes to a parking lot that will be used for pedestrian pick-up and drop-off.

*\*\*\* End of Stakeholder Interview Notes – Jill Manzi \*\*\**

## Appendix 2 – Reference Documents

1. City of Nogales General Plan, 2010
2. Unified Nogales Santa Cruz County Transportation Plan, 2010
3. Ambos Nogales Civic Planning Vision, 2009
4. Mariposa/I-19 Connector Route Study, 2008
5. Forecast and Capacity Planning for Nogales' Ports of Entry, 2009
6. Feasibility Study, Mariposa Port of Entry, 2005
7. Program Development Study, Mariposa Port of Entry, 2005
8. Mariposa Port of Entry Bottleneck Study, 2008
9. Nogales Transit Feasibility Study, 2006
10. Arizona Rural Transit Needs Study, 2008
11. UPRR Railway Overcrossing Study, 2009
12. Nogales Railroad Small Area Transportation Study, 2007
13. Eastern Arizona Framework Study, ADOT, 2010
14. Building a Quality Arizona (BQAZ), ADOT, 2010
15. Economy of Nogales, ADOC, 2008
16. Pedestrian Safety Action Plan, ADOT, May 2009
17. 2009 Motor Vehicle Crash Facts for the State of Arizona, ADOT
18. Statewide Bicycle and Pedestrian Plan, ADOT, 2003
19. ADOT Bicycle Safety Action Plan, Working Paper 1 – Profile of Bicycle Safety in Arizona, 2010



**Appendix 3 – Travel Origin and Destination Survey**

We are conducting a pedestrian circulation plan for the City of Nogales around the three Nogales Ports of Entry. This study will focus on the pedestrian circulation that flows between Nogales, Sonora, and Nogales, Arizona, and through the downtown area’s two Ports of Entry. We will also look at the pedestrian traffic using the Mariposa Port of Entry to the west of downtown.

In order to do this effectively, it is important to understand the trip origins and destinations of pedestrians in the downtown Nogales area and passing through the Ports of Entry (POEs). The information you provide during these brief interviews will help us understand where pedestrians travel in these areas, and what improvements would most effectively support their travel.

1. *What is your primary destination?* \_\_\_\_\_

2. *At what other destinations are you likely to stop during this trip?*  
\_\_\_\_\_  
\_\_\_\_\_

3. *Do you use a bus or taxi as part of your trip?* \_\_\_\_\_  
*Where does it take you?* \_\_\_\_\_

4. *What improvements for pedestrians in this area would make your travel more convenient?*

5. *Are any areas traveled in your trip hazardous due to the condition of the pedestrian travelways ?*

***Thank you for your time and thank you for shopping in Ambos Nogales!***

This study is being led by Wilbur Smith Associates (WSA), under the direction of the City of Nogales and the Arizona Department of Transportation (ADOT). Dale Miller, PE, is the Project Manager for WSA; Juan Guerra, PE, City Engineer, is the Project Manager for the City of Nogales, and Rudy H. Perez, Jr. is the Project Manager for ADOT.



**Appendix 4 Public Involvement Summary Reports Phase One and Two**

