Community Planning and Project Evaluation

Neighborhood Stabilization Program 2 Pima County, Arizona

Volume I

Neighborhood Profile of Existing Conditions:

Elvira, Rose, Julia Keen, Santa Cruz Southwest, & Cardinal/Valencia

July 2011/Updated December 2012



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Community Planning and Project Evaluation

Neighborhood Stabilization Program 2 Neighborhood Profile of Existing Conditions, Volume I

> Prepared for: Department of Community Development and Neighborhood Conservation Pima County, Arizona

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Drachman Institute is the research-based outreach arm of the College of Architecture, Planning, and Landscape Architecture (CAPLA) at The University of Arizona. The Institute is dedicated to environmentally-sensitive and resource-conscious planning and design with a focus on underserved and vulnerable communities. As an interdisciplinary collaborative, we engage students, staff, faculty, and citizens to work towards making our communities healthier, safer, more equitable, and more beautiful places to live. We embrace a service-learning model of education serving the needs of communities while providing an outreach experience for students. This model is a fundamental educational goal consistent with the mission of CAPLA and The University of Arizona.

All photos, renderings, drawings, charts, GIS layers, or other content were generated by Drachman Institute staff unless otherwise noted. All GIS-based figures utilized publicly available GIS data provided by Pima County.

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> > > July 2011 Updated December 2012



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Executive Summary

In 2010, the Drachman Institute at the University of Arizona conducted neighborhood assessments for the Pima County Neighborhood Stabilization Program 2 (NSP2) in Tucson, Arizona. This report is a compilation of the neighborhood data collected and analyzed for five selected neighborhoods in the NSP2 target area (Elvira, Rose, Julia Keen, Santa Cruz Southwest, and Cardinal/Valencia), and one control neighborhood outside the target area (Stella Mann).

The findings in this report are based primarily on windshield surveys conducted by Drachman staff in the selected and control neighborhoods, combined with U.S. census data, Pima County GIS data, and other relevant third party sources. Data in this report indicate the following:

Geography

All of the selected neighborhoods have at least one "hard" edge, an edge along which access is severely limited into and out of the neighborhood. Several of the neighborhoods suffer from some degree of flooding, and half of the neighborhoods are strongly influenced by their proximity to either Tucson International Airport or Davis-Monthan Air Force Base.

Development Patterns

Development in each neighborhood occurred largely by smaller subdivisions built-out within the span of just a few years. The housing stock within subdivisions is found to be similar both in structure and condition, while sometimes differing a great deal from housing in an adjacent subdivision.

Demographics and Housing Characteristics

All of the selected neighborhoods have percentages of children under the age of 18 that are above the city average, and household sizes are generally larger in the selected neighborhoods than in the city as a whole. Residents of Santa Cruz Southwest and Julia Keen have both the lowest median incomes and the highest percentages of households under the federal poverty threshold. All of the selected neighborhoods have a high percentage of the population identifying as Hispanic, ranging from 64.4 percent in Julia Keen to 92.5 percent in Rose neighborhood.

In terms of homeownership, in all of the selected NSP2 neighborhoods the majority of residents are homeowners rather than renters. Rose stands out as having the most long-term residents, with half of all residents moving into the neighborhood prior to 1990. Foreclosure rates are lowest in Rose neighborhood (3.3 percent) and highest in Cardinal/Valencia (6.8 percent).

Assessment of Structures

Each of the selected neighborhoods has at least one block where the structural condition of several houses is fair, poor, or in need of replacement, but overall the condition of structures is good. An average of approximately eleven percent of non-residential structures in the five target neighborhoods

are in fair, poor, or replacement condition. On average sixteen percent of single family residences fall into that category. The average percentage of multi-family structures in fair, poor, or replacement condition is 27.5, but in three out of the five neighborhoods multi-family housing structures are in better condition than single family homes. Mobile homes are generally in worse condition than other single family homes.

Assessment of Landscapes

Generally, the older neighborhoods (Elvira and Rose in particular) have a higher incidence of "poor" landscapes, as compared to the neighborhoods that were built out more recently. Although these neighborhoods also have the highest proportions of undeveloped land, and dumping on such properties is particularly prevalent, this general trend holds up across land use types. In general, vacant land was in the worst condition of all land uses.

Vacant Structures

According to the visual Windshield Survey, Rose has the highest percentage of parcels with structures that have missing doors or boarded windows or doors (2.3 percent). According to the 2010 U.S. Census, Julia Keen has the highest vacancy rate at 10.8 percent of all structural units (this incorporates all vacant housing units including those for rent or for sale). The U.S. Census lists an "Other Vacant" category which includes possible foreclosures or abandoned properties. Using this definition, Rose Neighborhood has the highest percentage of "other vacant" units at 4.1 percent.

Walkability, Transportation, and Accessibility

None of the selected neighborhoods can be considered pedestrian friendly due to the lack of shade and lack of sidewalks, curb cuts and access ramps. Furthermore, many bus stops in all of the neighborhoods (except Elvira which has good accessibility, but few bus routes) are not easily and universally accessible due to the lack of sidewalks and curb cuts or ramps. There is a general correlation between the percentage of the neighborhood that lives within a quarter mile walking distance of a bus stop and bus ridership numbers and, to a lesser degree, the percent of income spent on transportation.

Services and Amenities

Only one of the neighborhoods has access to a wide variety of services and amenities within a quarter mile walking distance of most neighbors. At least one large grocery store is located within a quarter mile of each neighborhood, however. The most prevalent services are fast food, automobile and beauty-related. The Cardinal/Valencia area has the fewest nearby services, Rose has the most. Elvira is the only neighborhood that has no park inside or within a quarter mile of the neighborhood.

Affordability

In all of the NSP2 selected neighborhoods, housing costs constitute less than 30 percent of household income and are thus considered affordable. However, when transportation costs are considered, none of the selected neighborhoods is considered affordable (defined as housing and transportation costs constituting 45 percent or less of household income). Rose and Elvira neighborhoods stand out as the least affordable as residents are spending, on average, over 65 percent of their income on housing and transportation. In all of the selected neighborhoods, residents are spending more on transportation than on housing. Any programs targeting housing affordability and neighborhood revitalization must consider ways to decrease household transportation costs by increasing public transit options and investing in healthy, safe, walkable neighborhoods.

Introduction

Background: The Housing Foreclosure Crisis

Since 2007 the nation has seen an unprecedented number of home foreclosures. The state of Arizona has been especially hard hit by the foreclosure crisis, with rates well above the national average. According to RealtyTrac, as of June 2012, one in 346 housing units in Tucson is in foreclosure.¹

Studies have shown that increasing numbers of foreclosures in an area can have a ripple effect that results in both physical and social disorder.² On a personal level, families pay a high price due to the loss of a stable home, loss of credit and the potential for asset building, and increased physical and emotional stress. But the foreclosure crisis extends beyond those families that lose their home. At the neighborhood level families may experience a drop in their own home value as properties around them deteriorate and the potential for crime and vandalism increases. According to a 2006 study of foreclosures in Chicago, each single-family home foreclosure resulted in a decline of 0.9 percent in value to surrounding homes. The authors estimate that the result of 3,750 foreclosures in Chicago between 1997 and 1998 reduced property values



by more than \$598 million.¹ The decline in home values can be seen in Tucson as home values have fallen 24.8 percent since their peak value.²

Along with deteriorating properties and declining home values, families may also experience a decrease in community pride and satisfaction. Decreasing perceptions of neighborhood safety may also lead to less use of outdoor spaces and a lack of connection among neighbors. The end result is neighborhoods that are unstable and families that experience a lower quality of life.

¹ http://www.realtytrac.com, 2012.

² Abromowitz, David. 2008. "Addressing Foreclosures: A Great American Dream Neighborhood Stabilization Plan," Center for American Progress. http://www.americanprogress.org/issues/2008/01/pdf/ abromowitz_gardns.pdf.

¹ Immergluck, Dan and Geoff Smith. 2006. "The External Costs of Foreclosure: The Impact of Single-Family Mortgage Foreclosures on Property Values." Housing and Policy Debate 17(1).

² U.S. Department of Housing and Urban Development. 2011. Neighborhood Stabilization Program Data. http://www.huduser.org/portal/datasets/NSP.html.

Neighborhood Stabilization Program 2

The Neighborhood Stabilization Program 2 (NSP2) was established by the U.S. Department of Housing and Urban Development to stabilize neighborhoods that have been adversely affected by the housing crisis and economic recession of 2007-2009. NSP2, funded through the American Recovery and Reinvestment Act of 2009, provides grants to states, local governments, and non-profits on a competitive basis.

Pima County and eight sub-grantees are charged with implementing the Neighborhood Stabilization Program-2 (NSP2) grant. Together these partners are known as the Pima Neighborhood Investment Partnership (PNIP).

The overall intention of NSP2 is the redevelopment of abandoned and foreclosed homes within the thirty census tracts that compose the NSP2 target area.

Specific NSP2 activities include down payment assistance, demolition of blighted structures, acquisition and rehabilitation of structures for sale or land trust, land banking, and redevelopment of demolished or vacant properties (all redevelopment thus far has involved new construction). See Figure 1.1 for a map of the NSP2 target area and NSP2 activities as of November 2012. Table 1.1 presents the number of properties impacted by NSP2 funds by activity type.

NSP2 Goals and Neighborhood Evaluation Strategy

The general stabilization goals of NSP2 are to expand opportunities for homeownership, halt declining home values, and improve neighborhood conditions. In order to determine the effectiveness of NSP2 activities, Pima County contracted with Drachman Institute in the College of Architecture, Planning, and Landscape Architecture at the University of Arizona to 1) provide a record of existing conditions in sample neighborhoods from within the NSP2 target area and a control neighborhood outside the target area; 2) develop survey instruments and train County interviewers in data collection skills to obtain baseline data from individual residents in the selected neighborhoods and from families that have moved into homes with NSP2 assistance; and 3) report on the results of the survey instruments and other baseline data regarding home values and tenure of residents in the selected neighborhoods.

The purpose of collecting baseline conditions is to inform future community planning efforts, as well as to provide a base from which to assess neighborhood improvements or deterioration over time.

The following report is Volume I in this series of reports and it includes the existing baseline conditions for five selected neighborhoods in the NSP2 target area (Elvira, Rose, Julia Keen, Santa Cruz Southwest, and Cardinal/Valencia area), and one control neighborhood outside the target area (Stella Mann). These assessments were accomplished through a windshield survey and the collection of secondary research. Neighborhood data collection and evaluation began in October 2010 and continued through July 2011. The original report produced from this work was submitted to Pima County in July 2011. At that time, the 2010 U.S. Census data was not available to provide baseline statistics for each neighborhood. The following report presents an update of 2010 Census data and baseline conditions for the original five selected NSP2 neighborhoods and one control neighborhood.

Volume II in the series presents assessments for an additional six neighborhoods (Bravo Park Lane, Wakefield area, A-Mountain, Fairgrounds, Los Niños area, and Sunset Villa).

Volume III in this series of reports presents baseline survey data from existing residents and homeowners that purchased homes through the NSP2 program.

Volume IV in this series presents existing baseline conditions for five commercial corridors in the NSP2 target area: South 6th Avenue, South 12th Avenue, 29th Street, Benson Highway, and Irvington Road.



Figure 1.1: NSP2 Target Area and Activities

The blue outline indicates the perimeter of the NSP2 Target Area and the original 29 Census Tracts. In 2011 Census tract 35.03 was added to the NSP2 Target Area. This map includes all NSP2 activities as of November 2012 as well the location of NSP2 Study Neighborhoods (in brown).

Table 1.1: Number of Prope	erties Impacted k	w NSP2 Funds by	v Activity Type
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Activity	Number of Properties (as of November 2012)	Estimated Final Total (as of February 2013)
Acquisition and Rehab (A&R)	92	99
Redevelopment	14	93
Down Payment Assistance (HAP)	129	139
Land Banking	50	50
Demolition of Blighted Structures	19	19



Data and Methods

Under the Scope of Services with Pima County, Drachman Institute was to record:

Neighborhood Attractiveness, Physical Condition of Properties, Land Use, Traffic Patterns, Street Enhancements, Trees and Vegetation, Pedestrian Walks, Bike Paths, Transit Access, Bus Stop Appearance and Design, Outdoor Space Design, Water Harvesting and Community Gardens.

In order to capture all of these characteristics, the Drachman team utilized several different methods of physical data collection and neighborhood evaluation.

Physical Data Collection:

• Windshield Surveys

The primary source of data was the windshield survey of parcels and right-of-way conducted in each neighborhood.

• GIS Data

To supplement and inform the windshield survey, publicly available Pima County GIS data for flood zones, areas of contamination, Air Hazard zones, and other important neighborhood overlays were also acquired and used for analysis.

• Physical Inventory

The accuracy of some GIS data, such as the location and condition of bus stops, was also verified on the ground as part of the windshield survey. The presence of sidewalks and curb ramps was recorded with the use of aerial imagery.

Neighborhood Profiles:

Third Party Sources

Relevant data and analyses were also collected from third party sources such as the Center for Neighborhood Technology, The City of Tucson, the US Census, and Environmental Systems Research Institute (Community Analyst). The final products of Drachman's data gathering and analyses are shown in detail by neighborhood in the following chapters, and in summary in Chapter 9.

Target Neighborhoods

Five study neighborhoods from within the NSP2 Target Area were selected by Pima County: Elvira, Julia Keen, Rose, Santa Cruz Southwest, and a residential area near Cardinal and Valencia Roads.

Control Neighborhood Selection

A control/comparison neighborhood was also selected in order to strengthen the neighborhood evaluation component. In future evaluations the baseline data can be used to compare changes over time, and isolate the effectiveness of the NSP2 program.

Once all target neighborhoods had been selected by Pima County, Drachman Institute identified three potential control neighborhoods located outside the Target Area: Barrio Hollywood, El Rio Acres and Stella Mann. These three were selected based on their HUD-determined NSP3 Foreclosure Need Scores (FNS) which were similar to the average score of the five selected neighborhoods (see Table 2.0). These neighborhoods all had Foreclosure Need Scores of 18 or 19.

Utilizing data provided by the Center for Neighborhood Technology (CNT) on transit, housing affordability, and median income, and by examining key physical characteristics, it was determined that these neighborhoods were also similar to the selected neighborhoods: Housing Affordability in the low twenties, Housing/ Transportation Affordability in the mid forties, primary development between the 1950's and 1980's, bounded by major roads, and with a hard edge such as an airport or highway.

After consultation with Drachman Institute staff, Pima County NSP2 staff selected Stella Mann as the control neighborhood. Stella Mann is very close to the average of the five selected neighborhoods with a FNS of 18, and income and housing plus transportation affordability very close to the average of the five neighborhoods. The age of housing stock, density, development patterns, and transportation infrastructure are also similar to the predominant characteristics of the selected neighborhoods. Table 2.0 reflects the data available at the time the control neighborhood was selected; this data does not match the following chapters which have been updated to reflect 2010 Census data.

See Figure 2.0 for a map of the location of each of the selected neighborhoods, as well as the control neighborhood Stella Mann.

Neighborhood	FNS	Housing Affordability	Median Income	Foreclosure Rate	Housing/ Transportation Affordability	
Target Neighbor	hoods					
Elvira	20/19	20.8	\$31,933	3.8%	47	
Keen	18	21.4	\$27,311	3.8%	44.8	
Rose	18	21	\$32,532	3.3%	48	
Santa Cruz	18	21.3	\$24,743	3.6%	46.3	
Cardinal/Valencia	18	31	\$43,570	6.8%	54.5	
Average of Target Neighborhoods	18.3	23.1	\$32,017	4.26%	48.5	
Potential Control Neighborhoods						
Barrio Hollywood	19	20.8	\$29,064	-	44.8	
El Rio Acres	18	20	\$25,722	-	44.5	
Stella Mann	18	22	\$31,786	6.1%	47.4	

Table 2.0: Control Neighborhood Selection*

* The selection of Stella Mann was based on the most recent data available in November 2010: FNS (Foreclosure Need Score) provided by HUD, Housing Affordability and Housing/Transportation Affordability from the Center for Neighborhood Technology, Median Income based on 2000 Census, Foreclosure Rate from RealtyTrac.com on 11/24/2010.



Figure 2.0: Pima County NSP2 Study Neighborhoods

The neighborhoods selected from within the NSP2 Target Area (solid blue outline) for evaluation and community planning efforts with Drachman Institute are shown above. The Control Neighborhood Stella Mann is also shown.

The main method of data collection by the Drachman team was through visual Windshield Surveys.

Data sheets were developed to capture seven of the thirteen characteristics in the Drachman Scope of Services.

Neighborhood Attractiveness Physical Conditions of Properties Land Use Street Enhancements Trees and Vegetation Water Harvesting Community Gardens

Data Sheet

The data sheets were edited three times at the beginning of the process as a result of practice sessions and in-the-field observations. The data collection sheets were also shared with Pima County NSP2 staff for comments or changes. See Appendix A for an example of an actual completed data sheet.

Assessment of Landscapes

Landscaping was categorized as E (excellent), A (average), or P (poor). In order to achieve a rating of E, the yard vegetation had to be "intentional" AND "well maintained." An A rating was "intentional" OR "well maintained," and a P rating was NEITHER "intentional" NOR "well maintained."

Assessment of Structures

Structures could be Excellent, Good, Fair, Poor, Replace, or None, as defined below:

Excellent: "like new" and zero money or time required to improve the structure

Good: needs a little paint, portions of structure need repair, but not amounting more than approximately \$5000 in repairs

Fair: noticeable defects in structurepatching or full replacement required ranging in cost from approximately \$5000 to \$15,000 in repairs

Poor: noticeable defects in structurepatching or full replacement required ranging in cost from approximately \$15,000 to \$50,000 in repairs

Replacement: dilapidated structurepresents a threat to health, safety, and welfare of community (for example the roof is gone, windows broken, etc.) The cost to repair exceeds the cost to tear down and rebuild

None: there is no structure

If multiple structures were located on a single parcel, the average of the condition of each structure was calculated for the parcel.

Vacant Structures

Drachman Institute staff consulted City of Tucson officials, the State of Arizona Legislature, and the Pima County and City of Tucson Codes to help determine the definition of "vacant." Per the definition of Pima County, if the structure had openings sealed with plywood or other boards, it was deemed "vacant." If a property had a "For Sale" sign and it did not look like anyone lived there, it was not deemed "vacant." Only those structures with boarded windows or doors were coded as vacant.

Training

Two separate training sessions were held for the Drachman Institute windshield survey team. The purposes of the training sessions were to: Familiarize the team with the information they were to gather, demonstrate the best method by which to gather it, and help standardize their assessments.

Training began with explanations of each of the data categories, as well as the definitions of each category of assessment. Each team member was also given a paper copy of the assessment data sheet and the key. The team then moved together along a sample block of residential and office structures. Each team member did their own independent analysis of each parcel's structure, landscape, and right-of-way area.

After completion, team members reported their assessments while standing together in front of each parcel. In this way, discrepancies in assessment were discovered and discussed. Questions regarding the definition of each category were brought up and clarified.

Team member feedback also informed some initial changes to the data collection sheets. These changes included minimizing white space, minimizing redundant data on the sheet, and adding categories for border separations between parcels and the right-of-way.

Data Collection

Windshield survey work began in early October, 2010. Windshield surveys were conducted in teams of two in varying shifts between the hours of 8 a.m. and 6 p.m. every day of the week except Wednesday. Windshield evaluations were performed primarily from the vehicle's passenger side window, but as needed the surveyor would exit the vehicle and walk to assess properties.

All data collection occurred from the street or public right-of-way, or from commercial areas open to the public such as parking lots. Parcels located along private roads, or which were otherwise difficult to evaluate from public areas were labeled as "visually unavailable" and were not assessed.

The survey staff also used a digital camera to help capture examples of neighborhood character such as representative structures, salient features, traffic patterns and street profiles, outdoor space design, and community gathering spaces.

Attheconclusion of each neighborhood evaluation, team members submitted a short summary of their impressions of each neighborhood they had surveyed. These summaries captured the interactions and observations of the survey team that were not included on the data sheet, and contribute to a fuller understanding of neighborhood character.

Data Entry

The paper data sheets used for data collection in the field were used to enter the data into digital format Excel spreadsheets.

The spreadsheets included each parcel number with its associated street address to help team members verify the accuracy of their line of data entry. Separate spreadsheets were created for each neighborhood, and each data cell featured a drop-down menu of the available entry choices. Data entry attempts not in-line with the options available on the paper data sheet were rejected by the program. In this way both the risk of confusion between neighborhoods, typos, and other data entry mistakes were minimized.

The Excel spreadsheet format allowed for easy conversion into a GIS-compatible data set for mapping and spatial analysis in ArcMap format.

A notice to vacate the property observed on a window in the Julia Keen Neighborhood in November 2010.

The condition of both structures and landscape was evaluated and recorded by the Drachman Survey Team.







Drachman Institute's survey vehicle was equipped with signs advising the public of the vehicle mission.

Inter-rater Reliability Control Groups

In order to help assess and improve the reliability of the data collected, two parcel control groups were established. These control groups allow for the direct comparison of different team member's evaluations of the same properties.

The first control group consisted of ten properties, both residential and commercial, in the Elvira neighborhood. The second control group consisted of ten residential parcels in the Julia Keen neighborhood.

Data entered for the Elvira control group was varied among team members. The group met together to review the inconsistencies and correct their observation methods. A great deal of inter-rater cohesion was then shown in the Keen Control Group.

Kappa is a statistical measure of inter-rater agreement for qualitative items. Kappa is considered a conservative measure of agreement. The maximum value of Kappa is 1.0 and indicates that all raters are in complete accord.

The Kappa values for structures in the Julia Keen control group was .74, and landscape .73. All other categories showed even higher Kappa values, all .9 and above, indicating near identical evaluations between raters.

Services Assessment

In early December 2010, Drachman Institute also completed a visual survey of the services available within and adjacent to the five NSP2 neighborhoods and the control neighborhood. Any use that was visually apparent from the street via signage, and within a $\frac{1}{4}$ mile of the neighborhood boundary was documented. This data will help determine the diversity of services and employment opportunities easily available to residents, and is an important component to assessing neighborhood health and walkability. Services which attract large numbers of people from outside the immediate area, such as manufacturing centers, can also have a great deal of influence on traffic patterns and other neighborhood characteristics. In conjunction with data gathered on sidewalks, bicycle lanes, and transit, the services maps allow for a more meaningful understanding of the neighborhoods, and provide a foundation for the community planning phase of the project.

Services were broken down into 18 categories:

- 1 Retail: goods (clothing, dollar stores, hardware stores)
- 2 Retail: services (tax assistance, realtors, business offices, veterinarians)
- 3 Beauty (nails and hair)
- 4 Health (clinics, medical offices, dentists, fitness)
- 5 Auto (tires, oil change, auto supplies)
- 6 Gasoline Stations (without a Convenience Store)
- 7 Convenience Stores (with or without gasoline)
- 8 Fast food (familiar corporate franchises, taco shops, donut stores, ice cream stores)
- 9 Restaurant
- 10 Grocery (large, medium, small markets)
- 11 Drug Stores
- 12 Religious
- 13 Bank
- 14 Check Cashing

- 15 Schools (public, charter, private)
- 16 Parks
- 17 Bars
- 18 Manufacturing / Industrial

Walkability

Drachman Institute staff utilized several measures of walkability. These included an inventory of street trees, physical assessments of sidewalks using aerials to verify sidewalk locations, a service and amenities inventory, and utilizing www.walkscore.com. This website is dedicated to assessing the 'walkability' of a neighborhood by measuring how easy it is to live a "car-lite" lifestyle. Walk Score does not rate the aesthetic qualities or comfort of walking in a given area. The underlying assumption of Walk Score is that the number and type of nearby amenities is the leading predictor of whether people walk. See www.walkscore.com for a detailed look at their methodology.

Infrastructure and Physical Data

Pima County GIS data for streets, washes, flood zones, parks, schools, air hazard zones, lighting, and zoning were gathered and used to more fully understand existing conditions, challenges and improvement opportunities in each neighborhood.

Demographics and Housing Characteristics

In addition to physical characteristics, the neighborhood profiles include pertinent demographic and housing characteristics. Unless otherwise noted, demographic and housing characteristic data come from the U.S. Census, either the American Community Survey 5-Year Estimates or the 2010 Census Summary File 1, as compiled by the Environmental Systems Research Institute, Community Analyst Data Service (ESRI). The ESRI Community Analyst program allows for data to be summarized at the neighborhood level by drawing a polygon around the desired area and generating reports. For comparison purposes, we present the data for each neighborhood, for the census tract(s) that include the neighborhood boundaries, and for the City of Tucson as a whole, At the time of this report, the latest data available in the ESRI program at the neighborhood level is either the 2010 U.S. Census Summary File 1 or the 2005-2009 American Community Survey 5-Year



Services in and around a neighborhood can impact community health, 'walkability,' and employment opportunities.

Estimates. For direct comparison purposes, we use these same data sources for the census tracts and the City of Tucson.

Results, Analysis, and Assessment

The windshield surveys and neighborhood profiles provide a great deal of data for each of the five NSP2 neighborhoods and the control neighborhood. These results are shown by neighborhood in the following chapters, and in comparison to each other in Chapter Nine, Neighborhood Data Summary.



Elvira Neighborhood

- Neighborhood Introduction
- Photographs Demographics and Housing Characteristics
- Zoning
- Land Use
- Development
- Density
- Hydrology and Drainage
- Transportation and Circulation

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Location

Elvira Neighborhood is located at the southwest corner of the City of Tucson and is bounded by Valencia Road to the north, Old Nogales Highway to the east, Interstate 19 to the west, and Los Reales Road to the south. The Drachman windshield survey team was active in the Elvira neighborhood during October 2010.

Surrounding Context

In terms of the surrounding context, Tucson International Airport is located just across Old Nogales highway from Elvira (see Figure 3.0).The land to the south of Elvira is part of the San Xavier District of the Tohono O'odham Reservation. The northern section of the Reservation adjacent to Elvira consists primarily of open land but also holds a mobile home park off Los Reales Road and the regionally popular Desert Diamond Casino on the corner of Old Nogales Highway and Los Reales Road. Elvira Neighborhood spans Pima County Supervisor District 2 and District 5.

Neighborhood Characteristic

Elvira Neighborhood consists of approximately 2,400 parcels. A visit to the neighborhood provides a wide variety of impressions – broad boulevards and curving streets; hot dog stands; airplane and highway noises; peaceful natural areas full of desert flora; densely populated residential areas; large vacant lots; industrial,



Figure 3.0: Elvira Neighborhood Location

Elvira is located at the southwestern edge of the City of Tucson.

commercial and residential uses; many churches and schools; a casino; and an extensive network of washes.

Situated between a river, Interstate 19, the San Xavier District, and the Tucson International Airport, the Elvira neighborhood has very distinct and often impenetrable edges (see Figure 3.1).

Connections to services and the remainder of the city are primarily along Valencia Road and Old Nogales Highway but are also present along 12th Avenue and Interstate 19.

Elvira Neighborhood is well-established, with most development having occurred from 1950 through the 1970s.



Figure 3.1: Elvira Neighborhood Boundaries



South 12th Avenue in Elvira Neighborhood

Photographs



Elvira has a large network of washes and drainage areas that flow through the neighborhood.



Local youth may attend one of several schools located in Elvira.



The large tracts of vacant or under-used land in and around Elvira are often the target of illegal dumping.



Hope United Methodist Church is one of at least eight houses of worship located within Elvira Neighborhood.



There are a number of unfinished subdivisions in Elvira Neighborhood.



Striking Tucson Mountain views can be found in Elvira, particularly at the southern edge of the neighborhood.



Figure 3.2 Elvira Neighborhood: Location of Photographs



The Desert Diamond Casino is a regional destination that includes a night club, dining, and accommodations.

A seasonal carnival occupies one of the vacant lots in the north central part of Elvira along South 12th Ave.

Census Tract Location

The Elvira Neighborhood is comprised of two Census Tracts. Tract 37.05 is located east of 12th Avenue; portions of Tract 39.03 lie to the west of 12th Avenue (see Figure 3.3).

Demographics

The population of Elvira is young, with a median age of 30.1. In fact, almost 33 percent of the neighborhood is 18 years or younger, compared to 23.3 percent for the City of Tucson. The proportion of residents over age 65 is also lower than the City average (see Table 3.3). According to 2010 U.S. Census data, 52.7 percent of the households in Elvira have children living in them, and 15.3 percent of households are multigenerational.

Of the Elvira population, 69.4 percent has a high school diploma or higher, compared to 83.1 percent for the City of Tucson. Almost a quarter of Elvira residents have some college education and 4.7 percent have a Bachelor's degree or higher.

The Elvira Neighborhood is more racially and ethnically diverse than the City as a whole, with 4.5 percent identifying as American Indian and 86.2 percent identifying as Hispanic (compared to 2.7 percent American Indian and 41.6 percent Hispanic for the City of Tucson).

The median household income for the Elvira Neighborhood is lower than the City of Tucson's median income, yet the overall poverty rate for the neighborhood is 14.9 percent compared to 17.8 percent for the City of Tucson.



Figure 3.3: Elvira's Location Within Census Tracts

	Elvira	Tract 37.05	Tract 39.03	Tucson
Median Age	30.1	29.8	31	33.1
Percent Under 18	32.5%	33.1%	33.2%	23.3%
Percent Over 65	9.4%	9.2%	10.1%	11.9%
Median Income	\$33,208	\$30,100	\$36,828	\$35,499
Percent Hispanic	86.2%	84.58%	88.2%	41.6%
Percent High School Graduate or Higher	69.4%	64.4%	76.8%	83.1%
Percent Bachelor's Degree or Higher	4.7%	4.7%	4.6%	24.8%
Percent in Poverty	14.9%	17.4%	10.5%	17.8%

Table 3.1: Elvira Demographics

All statistics are from the 2010 Census (provided by ESRI), with the exception of Percent High School Graduate or Higher, Percent Bachelor's Degree or Higher, and Percent Households in Poverty in Last Year, which come from the American Community Survey 2005-2009 5-year estimates, provided by ESRI.

Housing Characteristics

Compared to the City of Tucson, Elvira residents are more likely to be homeowners, have higher average household sizes, and have lower median home values (see Table 3.2). Figure 3.4 demonstrates that almost half of Elvira residents own their home with a mortgage, and another 33 percent rent their current residence.

According to the 2005-2009 American Community Survey, a significant portion of Elvira residents have lived in Elvira at least ten years or more. This is especially true among homeowners, as 66.4 percent of homeowners moved into Elvira prior to 1999. Out of both homeowners and renters, 26.4 percent moved into Elvira in 2005 or later.

The majority of the housing units in Elvira (77.8 percent) are detached or attached single-family, with a median home value of \$124,855.



Figure 3.4: Elvira Households by Tenure and Mortgage Status, 2010 Census (ESRI)

	Elvira	Tract 37.05	Tract 39.03	Tucson
Housing Values* (owner-occupied units)				
\$0-99,999	31.2%	28.4%	34.7%	19.2%
\$100,000-149,999	35.2%	44.4%	24.1%	20.1%
\$150-199,999	26.9%	20.6%	34.5%	25.2%
\$200,000+	6.7%	6.5%	6.7%	35.5%
Median	\$124,855	\$123,900	\$127,300	\$169,900
Median Year Householder Moved into Unit*	1998	2001	1994	2003
Percent Owner- Occupied**	67%	60.7%	82%	51.9%
Average Household Size**	3.54	3.4	3.67	2.43
Single-Family Units*	77.8%	67.6%	97.5%	59.5%

Table 3.2: Elvira Housing Characteristics

*American Community Survey 2005-2009 5-year estimates, ESRI. **2010 Census Summary File, ESRI

Zoning

Elvira Neighborhood consists of eight separate City of Tucson zoning classifications as shown below in Figure 3.5^1 .

The vast majority of the parcels in the neighborhood are zoned as 'Residential' with lower densities appropriate under the R-1 and R-2 classification. One small area of more dense R-3 exists in the north-central part of the neighborhood, where there is a large 400-unit apartment complex.

1 See Appendix C for a complete list of City of Tucson Zoning Classifications and summary descriptions. Six parcels in Elvira are zoned Industrial under the I-1 classification, and the adjacent Tucson International Airport property is zoned for Industrial uses as well.

The remaining parcels in Elvira are either Commercial or Office, located primarily along the perimeter of the neighborhood at the major streets of Valencia Road and Old Nogales Highway.



Figure 3.5: Zoning Classifications in Elvira Neighborhood

Land Use

Land use in Elvira closely reflects the zoning classifications of the area, although the zoning would allow for greater densities than currently exist. The Windshield Survey found that although a large part of the neighborhood is zoned for higher density residential (R2), the vast majority of the parcels in the neighborhood were still single family, and very few were multi-family (Table 3.3).

Approximately twelve percent of total neighborhood area is currently undeveloped or vacant (Figure 3.6).

Table 3.3: Elvira Land Use By Parcel

Land Use	Number of Parcels	Percentage of Parcels
Single Family Residence(SFR)	2065	85.7%
Multi-Family Residence (MFR)	59	2.5%
Retail	20	0.8%
Office	1	0.1%
Industrial	5	0.2%
Vacant Lot (None)	149	6.2%
Mobile Home	0	0.0%
Other*	61	2.5%
Unable to Observe	49	2.0%

*Includes schools, parks, private streets, and uses not otherwise classified.



Figure 3.6: Land Use in Elvira Neighborhood

Development Patterns

Elvira has a variety of street development patterns due to the area being built-out over time by different actors. Development patterns largely honor the established grid system of the City of Tucson yet include a variety of block widths and lengths, and include more than 26 cul-de-sacs. The preexisting washes have been mostly channelized and drain into large concrete culverts. All existing structures and roads are shown in Figure 3.7. It is clear that the eastern and southern sections of Elvira are on the whole less densely developed than the rest of the neighborhood.

Similar to the general trend in the City of Tucson, the vast majority of the area was developed between 1950 and 1990, with the biggest growth of new development during the 1970's. The pattern of development by parcel and decade is shown in Figure 3.8.



Figure 3.7: Current Neighborhood Build-Out in Elvira Structures (black), and roads (grey) in the Elvira neighborhood.



Elvira Neighborhood 1949



Elvira Neighborhood 1969



Elvira Neighborhood 1989

Figure 3.8: Elvira Neighborhood Development Over Time Source: Pima County GIS, 2010



Elvira Neighborhood 1959



Elvira Neighborhood 1979



Elvira Neighborhood 2010

Density

Density

Elvira has a density per square mile that ranges from approximately 2,500 to just over 8,300 (see Figure 3.9).²For comparison purposes, the City of Tucson average was 2,294.2 in 2010.

The central and northern sections of Elvira are significantly more dense than the southwestern and far eastern sections. The western-most block group is comprised of a large amount of land along the Santa Cruz River, which does not contain residential units.



2 Based on 2010 U.S. Census block groups, provided by Pima County GIS

The large Casa Bella apartment complex on Valencia Road contributes to the relative density of this section of the neighborhood.



Figure 3.9: Population Density by Block Group in Elvira Neighborhood Numbers indicate people per square mile based on the 2010 U.S. Census. Dotted lines indicate Block Group Boundaries. Data provided by Pima County GIS

Rivers and Washes

The Elvira Neighborhood is located adjacent to the Santa Cruz River, and the numerous washes that pre-dated development of the area originally drained into this main system. These washes were largely diverted to street flow or partially paved channels as the neighborhood was constructed.

The washes create xeroriparian pockets in and around the neighborhood. Xeroriparian habitats are areas of naturally-occurring vegetated communities supported by intermittent or ephemeral stream flows. These areas often serve as important habitat for native flora and fauna.

Drainage

General drainage patterns move from east to west, with large sheet flows originating on

the expansive runways and other impervious surfaces of the Tucson International Airport property across Old Nogales Highway. In the neighborhood itself, water drains primarily along El Vado and Santa Clara Streets (as well as along some smaller neighborhood streets), into the disturbed watercourses of El Vado and Santa Clara Washes (see Figure 3.10).

Flooding

Flooding issues can be severe during and after summer monsoon storms, particularly at the junction of El Vado Wash and Santa Clara Avenue, an area which is in the FEMA 100 year flood zone.



Just west of the highway from Elvira is the Santa Cruz River, and several washes and minor drainage ways cut through the neighborhood on their way into this system. Striped areas indicate the FEMA 100-year flood zone. Dotted areas indicate valuable xeroriparian habitat.



Flooding along El Vado Wash after a summer monsoon event.



Flooding at Santa Clara Avenue and El Vado Wash.



Flooding of the Hope Methodist Church campus.



Flooding issues are severe during the summer monsoons.



Channelized section of El Vado Wash.



Channelized section of Santa Clara Wash.

Bicycles

Elvira has striped bicycle lanes along the major vehicular routes of Valencia Road, 12th Avenue, and Nogales Highway. These lanes provide riders with easy-to-follow routes through or around the neighborhood, but riders must be comfortable riding with high-speed, high-volume traffic.

Those riders preferring 'lower stress' routes on residential streets have some options as well. Santa Clara, Elvira, and San Fernando Roads are residential streets identified by the City of Tucson as bicycle routes but have few or no existing improvements to serve bicyclists (see Figure 3.11). Elvira will also receive the southernmost stretch of the future Transportation Enhancementfunded Liberty Bicycle Boulevard. This route will include five miles of existing residential streets from Los Reales Road in the south to 43rd Street in the north.

The existing bicycle connections to destinations within the neighborhoods, including schools, open space, churches and homes are almost all along residential street bike paths. These streets have few traffic calming, volume reduction, or other improvements that would make them more bicycle friendly than other residential streets.



Source: Pima County GIS

Pedestrians

Elvira has a Walk Score³ of 32 out of 100 and is considered 'Car Dependent.'⁴ Many of the pedestrian routes lack shade, and the distances are often large between residences and services and amenities.

Most of the sidewalks in Elvira are found along residential streets in the western half of the neighborhood (Figure 3.12). South 12th Avenue has the best continuous north-south sidewalk

4 Walk Score Ratings: 90-100 "Walker's Paradise"; 70-89 "Very Walkable"; 50-69 "Somewhat Walkable"; 25-49 "Car Dependent"; 0-24 "Very Car Dependent."



The wash system in Elvira is used as a walking corridor, but it is unimproved and largely devoid of shade.



The new walking path with street trees along Los Reales Road also helps provide access to bus stops.

connectivity, with Santa Clara Avenue providing the second-most continuous sidewalk route in that direction.

North-south pedestrian connectivity is compromised in the eastern half of Elvira where no street has more than a few feet of a dedicated pedestrian path or sidewalk. South 6th Avenue, which leads to Challenger Middle School, has no sidewalk or pedestrian path, yet school traffic and the HAWK⁵ crossing at Valencia Road and 6th Avenue makes it one of the most heavily utilized pedestrian corridors in the neighborhood. No continuous east-west sidewalk route exists, although Elvira Road would require only minor sidewalk additions to be complete.

Street trees are a key component to pleasant walking routes. There are street trees in the rightof-way of fewer than eight percent of parcels in the neighborhood (Table 3.4).

5 See Appendix D for definition of crosswalk typologies

Table 3.4: Elvira Street Tree Coverage

Trees in Right- of- Way	Parcels	Percentage
No	2169	92.1%
Yes	187	7.9%



12th Avenue has been improved for both motorists and pedestrians through Elvira neighborhood.

³ www.walkscore.com


Figure 3.12: Elvira Sidewalks and Street Trees

The map above shows existing sidewalks (in red) and parcels with at least one street tree in the right-of-way (green outline).



Many of the neighborhood streets have no sidewalks and have obstructed back-of-curb areas.



Students walking to and from school along South 6th Avenue have no sidewalk or pedestrian path.

Public Transit

Elvira Neighborhood is served by three main bus routes. 12th Avenue, Los Reales Road and Valencia Road provide the access points for this service (Figure 3.13). Bus stop shelters are provided for approximately three quarters of the bus stops and virtually all of the stops are accessible. There are, however, relatively few bus stops in the neighborhood, and approximately

Table 3.5: Bus Ridership in Elvira*			
Route City-Wide Rid- ership/Yr		Percent of City Total	
24	21,002	1.2%	
27	33.602	2.0%	

2.3%

40,003

* Data Provided by Sun Tran, 2010

29

40 percent of residents do not live within a quarter-mile walking distance of a bus stop. The current bus routes serving Elvira have good connectivity to the city as a whole (Figure 3.14) but a relatively low ridership share (between 1.2-2.3 percent of the City total⁶). See Appendix E for the complete existing transit system and Appendix F for Projected Transit routes.

Vehicles

The average number of vehicle miles traveled per household per year in Tucson is 18,069.⁷ In Elvira, the vehicle miles traveled range from nearly 17,695 and 19,229 per year (see Figure 3.15). It is evident from low bus ridership and vehicle miles traveled that Elvira residents are very car dependent.

See Appendix G for source and methods.



Figure 3.13: Elvira Neighborhood Bus Routes and Stops Lines show existing city bus routes in and around the neighborhood. White dots indicate the location of un-sheltered bus stops; black triangles the location of sheltered stops.

⁶ Suntran, 2010



Figure 3.14: Elvira Connectivity by Public Transit



Figure 3.15: Annual Vehicle Miles Traveled, Elvira (Center for Neighborhood Technology, 2012)



A bus stop with a bench but no shelter along Los Reales Road.

Housing Affordability

The Department of Housing and Urban Development (HUD) defines affordable housing as housing that costs thirty percent or less of total household income. According to this criteria, Elvira Neighborhood housing costs⁸ are affordable, except for the residents west of 12th Avenue (see Figure 3.16).

Housing + Transportation Affordability

However, housing and transportation costs together make up the two largest expenses for

8 See Appendix G for source and methods

most households. The Housing+Transportation Affordability Index was developed by the Center for Neighborhood Technology (CNT) to show the importance of transportation costs to overall housing affordability. In this calculation, anything above 45 percent of income spent on housing plus transportation is deemed to be unaffordable.

According to this measure, Elvira is unaffordable, with residents spending on average over 65 percent of their income on housing plus transportation (Figure 3.17).



Figure 3.16: Housing Cost as a Percentage of Income, Elvira Source: Center for Neighborhood Technology, 2012



Figure 3.17: Housing and Transportation Cost as a Percentage of Income, Elvira

Source: Center for Neighborhood Technology, 2012

Airport Influence

The Elvira Neighborhood is strongly influenced by its proximity to the Tucson International Airport. The northeastern corner of the neighborhood is within the Airport 65 Day-Night Average Sound Level (Ldn) Zone (Figure 3.18), while much of the eastern half of the neighborhood is within the Airport Hazard District (Figure 3.19). These zones can impact proposed and existing residential development due to limits on density, requirements for sound proofing and other structural changes, limits on structure heights, and other possible restrictions placed on development and redevelopment in the area. The Tucson Airport Authority (TAA) actively monitors land development proposals in the vicinity of Tucson International Airport (TIA.) According to Tucson Airport Authority Aviation Easement and Disclosure Policy, TAA "shall oppose and object to any change in land use to residential, and to any increase in density of existing residentially-zoned property" for these areas. This area is defined based on the applicable 65 Ldn noise contour as well as areas subject to the greatest overflight activity resulting from current and planned runway configurations, i.e. the Airport Hazard District.



Figure 3.18: TIA 65 Ldn Zone (shaded) in Elvira Neighborhood



Figure 3.19: TIA Hazard District (shaded) in Elvira Neighborhood



Pima Community College Aviation Technology Center is located across Nogales Highway from Elvira.



Proximity to the Tucson International Airport impacts Elvira neighborhood both visually and audibly.

TIAA Superfund

Elvira Neighborhood is included in the approximately ten square mile Tucson International Airport Area (TIAA) Superfund Site⁹ (see Figure 3.20 for the Plume Map).

TIAA includes: the airport itself, northeastern portions of the Tohono O'odham Reservation, many south-side neighborhoods, and Air Force Plant #44 at Raytheon.

The history of contamination in this area goes back to 1942 and has included discharge of aircraft liquids and other wastes directly into the soil, fire drill training areas where wastes from training operations were left in unlined pits, and unlined landfills.

Contamination

Hazardous substances include spent volatile organic compounds (VOCs), trichlorethylene (TCE), dichloroethylene (1,1-DCE) and trichloroethane (TCA), alcohols, methyl ethyl ketone (MEK), used oil and lubricants, waste paint and sludges; and industrial wastewater treatment residue containing chromium, cadmium and cyanide.

Wastewater and spent solvents were discharged into unlined ditches or disposed of in waste pits and ponds. During storm events, surface water runoff flowed from the airport onto the Reservation.

Indications of groundwater contamination on the south side of Tucson date back to the early 1950s, when residents in Elvira Neighborhood complained that water from private wells had a foul chemical odor.

Management and Clean-Up

In 1981, the Environmental Protection Agency (EPA) and the City of Tucson conducted groundwater sampling and analysis, revealing that there were unsafe levels of TCE contamination in several south-side City water wells. After identifying the TIA Area as a Federal Superfund site in 1982, sampling identified the large main plume of groundwater contamination. Eleven City drinking water wells and several more private household wells were closed down as a result of contamination.

In 1988, the EPA treated the groundwater contamination plume north of Los Reales Road by pumping and air stripping the contaminated groundwater, followed by discharging the treated water to the municipal water distribution system. While current human exposures onsite are considered under control, groundwater contamination migration is not.

In 1992, leaders from the activist group, Southwest Network of Economic and Environmental Justice (SWNEEJ) met with EPA Region 9 management to discuss ways EPA could better address the needs of minority or low-income communities living near Superfund sites. As a result of these discussions and the issuance of Federal Executive Order on Environmental Justice, EPA Region 9 implemented several new communityoriented actions at its Superfund sites. Projects included the formation of a Unified Community Advisory Board (UCAB), a \$30,000 Environmental Justice Grant to the El Pueblo Clinic, and a TCE Superfund Information Library.

UCAB was established in March 1995 and is a volunteer organization of community members, including Elvira residents, established to work toward the clean-up of the TIAA Superfund Site.

⁹ Source: www.epa.gov/region09/TucsonAirport



Figure 3.20: Tucson International Airport Area (TIAA) Superfund Site

Lighting

Character

Elvira is a mix of residential developments, commercial strips, some industrial parcels, and a fair amount of undeveloped land. Three of its four edges border on largely vacant property, making these areas feel quite rural.

Street Lighting

Elvira has a variety of street lighting types along the major routes and within the neighborhood. The majority of street lighting is designed for automobile rather than pedestrian traffic – each pole is tall and placed at large intervals. There is no lighting along Nogales Highway or Los Reales Road. These edge areas are very dark, and therefore potentially hazardous for pedestrians.



Much of Elvira is very dark.



Many of the services located along Valencia Road are open in the evenings.



The Desert Diamond Casino at Los Reales Road and Old Nogales Highway is a lively spot in the evenings.



Elvira's northwest quadrant is well lit, even on residential streets.



Seasonal lighting on private property brightens up the neighborhood.



Figure 3.21: Elvira Street Lighting The western and northern parts of Elvira have many more street lights than the eastern and southern areas.

At night, the differences between development types in Elvira is quite apparent. The west side of the neighborhood, where structures are located closer together and set closer to the street, also has street lighting at a pedestrian scale where poles are shorter and placed closer together. The combination of street lighting and lights from porches and windows makes this part of the neighborhood much brighter at night than the east side of the neighborhood. On the east side, houses are set farther from the street and generally farther from each other; there is virtually no street lighting (see Figure 3.21).

Evening Activity

As in all of the selected NSP2 neighborhoods, restaurants, grocery stores, and drug stores located along the main roads are very active in the evenings. In Elvira, the most active areas are along Valencia Road with a pocket of activity at the Desert Diamond Casino at Old Nogales Highway and Los Reales Road.

Building Conditions

The vast majority (84.1 percent) of structures in Elvira are in either 'Good' or 'Excellent' condition (see Figure 3.22). This means they need no more than \$5000 worth of improvement to be in excellent condition. Approximately 15 percent are in 'Fair' condition requiring between \$5000 and \$15,000 in repairs. Twenty-eight structures are in 'Poor' condition, indicating a need for repairs on the order of \$15,000 to \$50,000.

Four structures are assessed as 'Replacement,' meaning they present a threat to the health, safety, and welfare of the community, and that the cost to repair them would exceed the cost to tear down and rebuild.



This home ravaged by fire is one of four properties assessed with a condition of 'Replacement.'



Figure 3.22: Overall Condition of Structures in Elvira Neighborhood (residential and commercial)



Structures under construction or remodel are assessed based on the cost needed for completion.



Some manufactured homes are located in Elvira's southern section.



The condition of landscape and structure are surveyed separately for each parcel.



All Multi-Family Residential Structures

All Single-Family Residential Structures





Figure 3.23: Condition of Structures by Property Type in Elvira

Landscape Conditions

Almost 24 percent of landscapes in Elvira are considered 'poor.' This means that on almost a quarter of the properties in the neighborhood landscape is neither intentional nor maintained.

Litter and Graffiti

The windshield survey also recorded the presence of litter and graffiti on each parcel and trees in the adjoining right-of-way (Table 3.5). Litter levels are largely on par with the average of the other selected neighborhoods.

There is a marked difference between residential and non-residential properties in Elvira, and vacant land is largely in poor condition. Vacant land is observed to be the target of both dumping and litter accumulation (Figure 3.25).

Table 3.5: Elvira Condition of Landscapes

Parcels with Street Trees (Trees in ROW)	Parcels with Litter	Parcels with Graffiti
7.9%	42.9%	3.9%



Abandoned shopping carts in the Elvira wash system.



Figure 3.24: Overall Condition of Landscapes in Elvira Neighborhood (residential and commercial)



Graffiti on a sound barrier wall next to 119.



Mattress abandoned on a vacant lot.



All Multi-Family Residential Landscapes

All Single-Family Residential Landscapes





Figure 3.25: Condition of Landscape by Property Type in Elvira Neighborhood

Vacant and Unoccupied Structures

Due to conflicting definitions of vacancy, only structures with boarded up windows and doors are labeled "vacant." Using this definition, in Elvira Neighborhood 34 of the 2196 parcels with structures (1.5 percent) were vacant as of October 2010. This vacancy rate is relatively low compared to 2010 U.S. Census data which has a broader definition of vacancy.

The Census definition incorporates as vacant housing units: those for rent or for sale; those properties that are vacant due to seasonal, recreational, or occasional use; and "other vacant" which may be recent foreclosures or units that owners or renters have walked away from (see Table 3.6). According to the 2010 U.S. Census, the total vacancy rate in Elvira Neighborhood is 10.0 percent.

Structures with 'For Sale' or 'For Rent' signs are also noted by the windshield survey teams: 2.3 percent of neighborhood parcels were either for sale or for rent in October 2010 (Table 3.7). Structures with 'For Sale' or 'For Rent' signs, even ones that appeared uninhabited, are not classified as 'Vacant' unless windows and doors are either missing or boarded up. Fifty parcels in Elvira are visually inaccessible from public areas and could not be surveyed.

Foreclosures

The Drachman windshield survey team was unable to visually determine the number of foreclosures in each neighborhood. The Department of Housing and Urban Development (HUD) determines a "Foreclosure Risk Score" by census tract. This score is on a scale from 1 to 20, with 20 being the highest risk. From May 2009 to June 2010, the foreclosure risk score for Elvira's two associated census tracts increased from 18 to 19 and from 19 to 20. As of June 2010, 19.3 percent and 20.3 percent of mortgages in the census tracts were in serious delinquency (90+ days) or in foreclosure. The number of "foreclosure starts" between July 2009 and July 2010 for these tracts was 162, and the number of "foreclosure completions" between July 2009 and July 2010 was 106 (out of 3,282 total addresses).

Impacting Vacant and Foreclosed Properties

HUD estimates that a minimum of 20 percent of foreclosures would need to be addressed to make a visible impact in a given area. For the census blocks that compose Elvira Neighborhood, the combined impact number is 31.

Vacant and Undeveloped Land

In Elvira, 6.6 percent of the parcels are vacant lots. These lots are generally large, however, so almost 15 percent of the total area in the neighborhood is vacant or undeveloped. Large undeveloped lots in Elvira have been the targets of illegal dumping.

Vacant Units	Units	Percent
For Rent	144	5.2%
Rented, not occupied	4	0.1%
For Sale	46	1.7%
Sold, not occupied	3	0.1%
Other Vacant**	58	2.1%
For seasonal/ recreational/ occasional use	23	0.8%
For Migrant Workers	0	0.0%
Total Vacant Units	278	10.0%
Total Housing Units	2787	100%

Table 3.6: Housing Units by Vacancy Status in Elvira Neighborhood*

*Source: U.S. Census 2010 Summary File 1 (ESRI) ** Includes recent foreclosures or units that owners have walked away from. See text for more information.



Structures classified as 'Vacant' have boarded up doors or windows, per the definition of Pima County.

As Elvira Neighborhood does not currently have a park, two large vacant parcels (shown as "A" and "B" in Figure 3.26) located north of Elvira Road and east of South 6th Avenue have been identified as suitable for development into a jointuse park. These two parcels are currently owned by Sunnyside School District and Pima County, respectively. A process for design and community input is underway with Elvira Neighborhood and Challenger Middle School.

Table 3.7: Observed Available Propertiesin Elvira Neighborhood

Sign	Parcels	Percent of Neighborhood
For Sale	40	1.7%
For Rent	15	0.6%



Two large parcels suitable for a joint-use park are owned by Sunnyside School District and Pima County.



Figure 3.26: Vacant Land in Elvira Neighborhood

Dark shaded parcels indicate vacant land identified by the windshield survey. Light shaded parcels indicate land identified as vacant by Arizona Department of Revenue and Pima County Assessor in December 2006. Parcels "A" and "B" are owned by Sunnyside School District and Pima County respectively, and have been identified as suitable for development into a joint-use park.

Location of Commercial Services

A majority of the commercial services available to residents of the Elvira Neighborhood are found on Valencia Road at the northern edge of the neighborhood boundary. Pedestrian access to services is limited for most residents but is particularly so for residents of the southern half of the neighborhood where distances to most area services are well over a quarter-mile.

Available Services and Amenities

The development along Valencia includes strip mall developments, many fast food restaurants, general retail, beauty-oriented services and a large number of automobile-related services (see Figure 3.27). The neighborhood also has one large grocery store, a library, and a post office located on Valencia Road.

Elvira contains numerous churches and houses of worship, both large and small. Two elementary schools, a middle school, one private high school, and one charter high school are also located in the neighborhood. Many of these churches and schools have athletic fields and playgrounds on their campuses, some of which are available to neighborhood residents. There are no public parks located within the neighborhood, but a walking path was recently completed along Los Reales Road. Residents have planted over 100 new trees along the path.



This convenience store at Los Reales Rd. and S. 12th Ave. is one of the few services in the southern part of Elvira.



This Walgreens is one of many services located on Valencia Road.



The Desert Diamond Casino is located at Los Reales Road and Old Nogales Highway.



Check cashing services are plentiful around Elvira.



Figure 3.27: Elvira Services and Amenities

The majority of services and amenities in Elvira Neighborhood are found along Valencia Road. A large proportion of these services are fast food outlets.





Hope United Methodist Church



Basketball court and play structures at the Hope Methodist Church



Elvira Elementary School



Athletic Fields at Challenger Middle School



River of Life Church of God



US Post Office at San Fernando Road and Valencia

Location and Geography

Elvira Neighborhood contains several sizeable washes or drainage ways. The neighborhood suffers from some flooding, particularly at the junction of El Vado Wash and Santa Clara Road. The neighborhood is impacted by its proximity to Tucson International Airport and its location within the TCE plume.

Demographics and Housing Characteristics

In general, Elvira residents are younger and average household sizes are larger than in the city as a whole. The neighborhood is mainly occupied by homeowners, a significant portion of whom have lived in Elvira for over ten years.

Development Patterns

Elvira Neighborhood is unusual in that significant parts of the neighborhood have been built out during each decade from 1950 to 2000, and there is also ongoing new construction. Development has occurred mostly in smaller subdivisions built out within the span of a few years. Streets were installed with these subdivisions, and so a mix of linear grid and cul-de-sac development is prevalent.

Affordability

Comparing the price of housing in the neighborhood to income shows that housing stock is affordable to residents in the eastern portion of the neighborhood but not those in the west. When transportation costs are factored into this affordability assessment, however, Elvira is unaffordable to residents.

Walkability, Transportation, and Accessibility

Elvira has a number of services and amenities located along its northern border. Residents in the southern section have very few services within walking distance. The walking environment is generally exposed and sunny. Very few trees are present in the right-of-way. Sidewalks are available in most of the western half of the neighborhood but are rare in the eastern half. There are relatively few bus stops in Elvira, although most of them are both sheltered and accessible. Approximately forty percent of the neighborhood is located more than a quarter mile from a bus stop.

Assessment of Structures and Landscapes

The vast majority of structures are in 'good' or 'excellent' condition. Out of almost 2500 parcels, only four structures are deemed to be in "replacement" condition. On the other hand, almost a quarter of parcels have landscapes considered to be in "poor" condition. There is a large amount of undeveloped land in and around the neighborhood, and these parcels are generally in poor condition due to dumping.

Services and Amenities

The vast majority of services are found along Valencia Road, and include a disproportionate number of fast food outlets and auto-related goods and services. The southern half of Elvira is located almost a full mile from these conveniences. There is a large concentration of both schools and churches in the neighborhood but no public parks.



Rose Neighborhood

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Zoning

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Location

Rose Neighborhood is located south of the central core of the City of Tucson and is bounded by Ajo Way to the north, South 12th Avenue to the east, Interstate 19 to the west, and Irvington Road to the south (Figure 4.0). It is located in Pima County Supervisor District 5.

The Drachman windshield survey team was active in the Rose Neighborhood during November 2010.

Neighborhood Character

Rose Neighborhood consists of approximately 733 parcels. An interesting feature of Rose

Neighborhood is the eastern boundary of 12th Avenue. Due to the density of locally-owned businesses along this corridor, it is a significant contributor to the cultural landscape of the City of Tucson. The five-lane-wide road offers a variety of easily-accessed services to the surrounding neighborhoods. The building stock is densely formed with one-story structures set relatively close to the street. There is very little dedicated parking, many driveways, and very few sidewalks. This has led to an often chaotic parking situation, a multitude of intersections between vehicular and pedestrian spaces, and a potentially hazardous pedestrian environment.



Figure 4.0: Rose Neighborhood Location

Rose is located near the southwestern edge of the City and close to the heart of the NSP2 Target Area.

Neighborhood Development

Development in Rose occurred primarily from the mid-1950s to the late 1960s. The commercial sections along Ajo Way and Irvington Road were built in the 1980s and 1990s. The bulk of the interior of the neighborhood is single family detached residential, with varying quality of housing stock.

Neighborhood Edge & Surrounding Context

Like other neighborhoods in this study, Rose has a distinct and impenetrable edge, being adjacent to Interstate 19. Although there is one bicycle/ pedestrian bridge that spans the Interstate, access to the west is mostly limited for residents. The current built environment encourages the majority of travel in this direction to be by automobile.

The orange shaded areas in Figure 4.1 indicate developed areas surrounding the neighborhood. Areas shown in white remain undeveloped, primarily due to their adjacency to the Santa Cruz River.



Figure 4.1 Development Surrounding Rose Neighborhood Rose is adjacent to Interstate 19 and the Santa Cruz River, and in close proximity to both Interstates 10 and 19.

Photographs



The Laos Transit Center is located less than a quarter mile from Rose Neighborhood.



Rudy Garcia Park provides walking and recreation areas within the neighborhood.



A large number of locally-owned businesses are located along South 12th Avenue along Rose's eastern edge.



There are several churches in and around Rose Neighborhood.



Rose Neighborhood is buffered from the Interstate by a row of trees.



Rodeo Wash passes through the northern section of Rose Neighborhood.



Figure 4.2: Rose Neighborhood Features

Census Tract Location

Rose Neighborhood is fully located within Tract 25.01 at its southeastern edge (see Figure 4.3).

Demographics

Rose Neighborhood has a larger proportion of residents age 65 and older than both the larger census tract and the City of Tucson (Table 4.1). In fact, there is a six-year difference in median age between Rose and Census Tract 25.01. Approximately 25.2 percent of this area is 18 years or younger.

Of adults over the age of 25 in Rose Neighborhood, approximately 57 percent have completed an education level of high school graduate or above (Table 4.1). This proportion is significantly below the City-wide average of 83.1 percent.

One of the most striking characteristics of Rose Neighborhood is the ethnic make-up of the area. According to 2010 U.S. Census data, 92.5 percent of the residents in Rose identify as Hispanic. This is well above the proportion for the City of Tucson, where 41.6 percent identify as Hispanic. Census data also indicate that 5.0 percent of the neighborhood is American Indian compared to 2.7 percent City-wide.

	Rose	Tract 25.01	Tucson
Median Age	40.5	34.8	33.1
Percent Under 18	25.2%	17.4%	23.3%
Percent Over 65	21.2%	12.5%	11.9%
Median Income	\$34,765	\$28,015	\$35,499
Percent Hispanic	92.5%	72.4%	41.6%
Percent High School Graduate or Higher	57.1%	59.1%	83.1%
Percent Bachelor's Degree or Higher	8.8%	7.2%	24.8%
Percent in Poverty	16%	21.2%	17.8%

Table 4.1: Rose Demographics

All statistics are from the 2010 Census (provided by ESRI), with the exception of Percent High School Graduate or Higher, Percent Bachelor's Degree or Higher, and Percent Households in Poverty in Last Year which come from the American Community Survey 2005-2009 5-year estimates, provided by ESRI.

In Rose Neighborhood, both the average median household income and the percent of households in poverty is similar to the City of Tucson.





Housing Characteristics

Most of Rose's residents (71.5 percent) own their own home. Approximately 28.5 percent of residents own their home without a mortgage (Figure 4.4). The neighborhood has a renting share of 28.5 percent, well below the Tucson average of 48.1 percent (Table 4.2).

According to housing statistics from the 2005-2009 American Community Survey, a significant portion of residents in Rose Neighborhood have lived there ten years or more (73.5 percent). In fact, 34.7 percent of residents moved into Rose in 1969 or earlier.

The majority of the housing units in Rose Neighborhood are single-family residential, and the median home value is well below the average for the City of Tucson (Table 4.2).



Figure 4.4: Rose Households by Tenure and Mortgage Status, 2010 Census (ESRI)

	Rose	Tract 25.01	Tucson
Housing Values* (owner-occupied units)			
\$0-99,999	32.7%	32.8%	19.2%
\$100,000-149,999	43.9%	42.1%	20.1%
\$150-199,999	15.1%	16.8%	25.2%
\$200,000+	8.4%	8.3%	35.5%
Median	\$116,607	\$118,500	\$169,900
Median Year Householder Moved into Unit*	1990	1997	2003
Percent Owner- Occupied**	71.5%	59.6%	51.9%
Average Household Size**	2.98	2.83	2.43
Single-Family Units*	94.8%	77.3%	59.5%

Table 4.2: Rose Housing Characteristics

*American Community Survey 2005-2009 5-year estimates, ESRI. **2010 Census Summary File, ESRI

Zoning

Rose Neighborhood includes six zoning classifications¹ as shown below in Figure 4.5.

The vast majority of the parcels in the neighborhood are zoned as 'Residential' with low and medium densities appropriate under the R-1 and R-2 classification. There is no high density R-3 classification in the neighborhood, barring the development of very large

l See Appendix B for a complete list of Pima County Zoning Classifications and summary descriptions.

apartment complexes. The lower-density single-family residential zoning in Rose Neighborhood stands in contrast to the predominance of medium density R-2 and Mobile Home (MH1) zoning designations in the adjacent areas to the north, south and east.

Commercial, Office, and Parking zoning are located along the perimeter of the neighborhood.



Figure 4.5: Zoning Classifications in Rose Neighborhood

Land Use

While zoning allows for a quarter or so of Rose to be developed with greater density under R-2, the Windshield Survey found that most (84.1 percent) of the parcels in the neighborhood were used for single family residences as shown in Table 4.3.

While 85.9 percent of parcels are residential, the larger civic and commercial parcels result in close to 20 percent of the neighborhood land area dedicated to uses other than residential.

Land Use	Number of Parcels	Percentage of Parcels
Single Family Residence(SFR)	619	84.1%
Multi-Family Residence (MFR)	13	1.8%
Retail	27	3.7%
Office	8	1.1%
Industrial	4	0.5%
Vacant Lot (None)	25	3.4%
Mobile Home	0	0.0%
Other*	38	5.2%
Unable to Observe	2	0.3%

Table 4.3: Rose Land Use

*Includes schools, parks, private streets, and uses not otherwise classified.



Occasionally the Windshield Survey team was unable to observe the property due to dense vegetation or fencing



Figure 4.6: Land Use in Rose Neighborhood



Parks fall into the "other" category in Table 4.3

Development Patterns

Rose Neighborhood has a variety of street development patterns due to being built-out over time by different actors. Development patterns largely honor the established grid system of the City of Tucson, yet include a variety of block widths and lengths and some 1960s era cul-de-sacs. The Rodeo Wash has been mostly channelized and drains into large concrete culverts under I-19. All existing structures and roads are shown in Figure 4.7. Similar to the general trend in the City of Tucson, the vast majority of the Rose area was developed between 1950 and 1970, with a surge of new, primarily commercial, development in the 1990s. In contrast to the 12th Avenue development, these sections are more typical of Tucson commercial development with large parking areas and expansive detached buildings. The pattern of development by parcel and decade is shown in Figure 4.8.



Figure 4.7: Current Neighborhood Build-Out in Rose Structures (black), and roads (grey) in the Rose Neighborhood.



Rose Neighborhood 1949



Rose Neighborhood 1959



Rose Neighborhood 1969



Rose Neighborhood 1989

Figure 4.8: Rose Neighborhood Development Over Time Source: Pima County GIS, 2010



Rose Neighborhood 1979



Rose Neighborhood 2010

Density

Rose Neighborhood has a population density ranging from 2,165 to 4,733 people per square mile² as shown in Figure 4.9. The City average in 2010 was 2,294. Only a small portion in the northwest of the neighborhood is below the City average; however, this block group includes a large area of uninhabited land in and around the Santa Cruz River. The eastern block group has a density much higher than the City of Tucson.

2 Based on 2010 U.S. Census Block Groups, data provided by Pima County GIS.



The vast majority of housing in Rose Neighborhood is single-family residences.



Figure 4.9: Population Density by Block Group in Rose Neighborhood

Numbers indicate people per square mile based on 2010 U.S. Census. Data provided by Pima County GIS.



This apartment complex is one of the few multi-family residences in Rose.

Rivers & Washes

Rose Neighborhood is located adjacent to the Santa Cruz River and sits largely in the Santa Cruz River Basin.

Rodeo Wash traverses the neighborhood and drains into the Santa Cruz River. This wash is allowed to flow naturally through the Rose section of Rudy Garcia Park. The natural character changes to a partially concrete lined channel as the wash exits the park and moves through the neighborhood grid toward the Santa Cruz (see Figure 4.10).

Flooding

Flooding issues in Rose have been reported during and after summer monsoon storms. Injuries and even fatalities have occurred in the neighborhood in recent years. Flooding is particularly problematic at the intersection of 16th Avenue, where Rodeo Wash flows over the street as it exits Rudy Garcia Park.



Figure 4.10: Rose Hydrology and Drainage The Santa Cruz River is located just west of the highway from Rose, and Rodeo Wash cuts through the neighborhood on its way into this system. Striped areas indicate the FEMA 100-year flood zone.



Rose Pedestrian Bridge in the Rose section of Rudy Garcia Park



Channelized section of Rodeo Wash in the western part of the Rose Neighborhood



Rodeo Wash runs through the Rudy Garcia Park in the Rose Neighborhood

Bicycles

Rose Neighborhood has several bicycle paths in and around the neighborhood. Striped bicycle lanes are currently found along South 6th Avenue and Irvington east of Rose, and they are planned for Ajo Way (Figure 4.12). Those riders preferring 'lower stress' routes on residential streets have 15th Ave and Michigan Street, which have been identified by the City of Tucson as bicycle routes but have few or no existing improvements such as traffic calming or controlled crossings. The planned Liberty Bicycle Boulevard will, however, pass just two blocks east of Rose and connect Los Reales Road in the South to 43rd Street in the north. This project is currently going through the Environmental Review process.



Figure 4.12: Bicycle Routes in Rose Neighborhood

Pedestrians

Rose Neighborhood has a Walk Score³ of 55 out of 100 and is considered 'Somewhat Walkable.'⁴ Although many services are located within a reasonable walking distance, few shaded walking routes exist. In fact, trees grow in the right-of-way of fewer than 8 percent of parcels in the neighborhood (see Table 4.4).

There are also very few stretches of sidewalk in Rose Neighborhood (see Figure 4.13).

3 www.walkscore.com

4 Walk Score Ratings: 90-100 "Walker's Paradise"; 70-89 "Very Walkable"; 50-69 "Somewhat Walkable"; 25-49 "Car Dependent"; 0-24 "Very Car Dependent."



Fewer than eight percent of parcels have street trees.



Rodeo Wash in Rose has been improved to be used as a walking and bicycling corridor.

Table 4.4: Rose Street Tree Coverage*

Trees in Right- of- Way	Parcels	Percentage
No	678	92.4%
Yes	56	7.6%

* Source: Drachman windshield survey



Figure 4.13: Rose Sidewalks and Street Trees The map above shows existing sidewalks (in red) and parcels with at least one street tree in the right-of-way (green outline).

Public Transit

Rose Neighborhood is well served by existing city bus services, although there are no bus stops within the neighborhood itself (Figure 4.14). The neighborhood is served by three main bus routes that can be accessed along 12th Avenue, Ajo Way and Irvington Road.

There are two Park and Ride locations within close proximity of Rose, as well as the Laos Transit Center. The neighborhood bus routes

Route	City-Wide Ridership/Yr	Percent of City Total
16	168,306	9.9%
23	42,612	2.5%
50	11,062	0.7%

* Data Provided by Sun Tran, 2010

have good connectivity to the city as a whole (Figure 4.15) and a ridership share between 0.7-9.9 percent of the city total.⁵ Bus stop shelters are rare, especially along 12th Avenue and Irvington Road. Most Rose residents live within a quarter mile of a bus stop. See Appendix E for the complete existing transit system and Appendix F for Projected Transit routes.

Vehicles

The average number of vehicle miles traveled per household per year in Tucson is 18,069⁶. In Rose, the vehicle miles traveled are lower than the City-wide average, with residents traveling approximately 16,925 miles per household per year.



 $6 \ Based \ on \ Regional \ Moderate \ values; see \ Appendix \ G \ for \ source \ and \ methods$



Figure 4.14: Rose Bus Routes and Stops

Lines show existing city bus routes in and around the neighborhood. White dots indicate the location of un-sheltered bus stops; black triangles the location of sheltered stops.


Figure 4.15: Rose Connectivity by Public Transit



The Laos Transit Center is located on Irvington Road close to Rose neighborhood.

A bus stop with a bench but no shelter along South 12th Avenue.

Housing Affordability

The Department of Housing and Urban Development (HUD) defines affordable housing as housing that costs thirty percent or less of total household income. Rose Neighborhood housing costs⁷ vary between 24 and 34 percent, thus some areas of the neighborhood are not affordable by this measure (Figure 4.16).

Housing + Transportation Affordability

The Housing+Transportation Affordability Index was developed by the Center for Neighborhood Technology (CNT) to show the importance of transportation costs to overall housing affordability. In this calculation, anything above

7 See Appendix G for sources and methods.

45 percent of income spent on housing plus transportation is deemed to be unaffordable. Rose Neighborhood greatly exceeds the affordable limit when considering the combined cost of housing plus transportation.

Annually, Rose residents spend between 60 and 71 percent of their income on housing and transportation costs, with many residents spending more on transportation than they do on housing (see Figure 4.17). Considering housing plus transportation costs, Rose is one of the least affordable neighborhoods of the NSP2 neighborhoods in this study.



Figure 4.16: Housing Cost as a Percentage of Income, Rose

Source: Center for Neighborhood Technology, 2012

Figure 4.17: Housing + Transportation Cost as Percentage of Income, Rose Source: Center for Neighborhood Technology, 2012

Character

Rose Neighborhood is located within the southern section of the urban core of the City of Tucson. It includes typical Tucson single family residential development, but its eastern edge along South 12th Avenue is a distinctive commercial landscape, bustling with small, locally-owned and long-established Tucson businesses. The individual, small-scale, attached buildings are set closer to the street than in most areas of Tucson.

Street Lighting

Rose has a fair amount of street lighting within and around the neighborhood. The only unlit area is the northwest quadrant, which is also the oldest part of the neighborhood (Figure 4.18). The lighting that exists in other parts of the neighborhood is mounted on the older model wooden Tucson Electric Power poles.



The lights from Rudy Garcia Park are the only light source for much of the northern part of Rose.



Figure 4.18: Rose Neighborhood Street Lighting

TIAA Superfund

Rose Neighborhood is included in the approximately ten square mile Tucson International Airport Area (TIAA) Superfund Site⁸ (see Figure 4.11 for the Plume Map).

TIAA includes: the airport itself, northeastern portions of the Tohono O'odham Reservation, many south-side neighborhoods, and Air Force Plant #44 at Raytheon.

The history of contamination in this area goes back to 1942 and has included discharge of aircraft liquids and other wastes directly into the soil, fire drill training areas where wastes from training operations were left in unlined pits, and unlined landfills.

Contamination

Hazardous substances included spent volatile organic compounds (VOCs), trichlorethylene (TCE), dichloroethylene (1,1-DCE) and trichloroethane (TCA), alcohols, methyl ethyl ketone (MEK), used oil and lubricants, waste paint and sludges; and industrial wastewater treatment residue containing chromium, cadmium and cyanide.

Wastewater and spent solvents were discharged into unlined ditches or disposed of in waste pits and ponds. During storm events, surface water runoff flowed from the airport onto the Reservation.

Indications of groundwater contamination on the south side of Tucson date back to the early 1950s, when residents in Elvira Neighborhood complained that water from private wells had a foul chemical odor.

Management and Clean-Up

In 1981, the Environmental Protection Agency (EPA) and the City of Tucson conducted groundwater sampling and analysis, revealing that there were unsafe levels of TCE contamination in several south-side City water wells. After identifying the TIA Area as a Federal Superfund site in 1982, sampling identified the large main plume of groundwater contamination. Eleven City drinking water wells and several more private

household wells were closed down as a result of contamination.

In 1988, the EPA treated the groundwater contamination plume north of Los Reales Road by pumping and air stripping the contaminated groundwater, followed by discharging the treated water to the municipal water distribution system. While current human exposures on site are considered under control, groundwater contamination migration is not.

In 1992, leaders from the activist group, Southwest Network of Economic and Environmental Justice (SWNEEJ) met with EPA Region 9 management to discuss ways EPA could better address the needs of minority or low-income communities living near Superfund sites. As a result of these discussions and the issuance of Federal Executive Order on Environmental Justice, EPA Region 9 implemented several new communityoriented actions at its Superfund sites. Projects included the formation of a Unified Community Advisory Board (UCAB), a \$30,000 Environmental Justice Grant to the El Pueblo Clinic, and a TCE Superfund Information Library.

UCAB was established in March 1995 and is a volunteer organization of community members established to work toward the clean-up of the TIAA Superfund Site.

⁸ Source: www.epa.gov/region09/TucsonAirport



Figure 4.11: Tucson International Airport Area (TIAA) Superfund Site

Building Characteristics

The majority of parcels (78.4 percent) in Rose are contained structures in either "Good" or "Excellent" condition (Figure 4.19). Approximately 12 percent are in 'Fair' condition requiring between \$5,000 and \$15,000 in repairs. Ten parcels have structures in "Poor" condition, indicating a need for repairs ranging from \$15,000 to \$50,000. Three structures are assessed as "Replacement," with the cost to repair exceeding the cost to demolish and rebuild. Non-residential structures are much more varied in condition than residential structures, with higher proportions rated both "excellent" and "poor" (Figure 4.20). Multi-family parcels are also generally in better condition than single family homes (Figure 4.20).



Figure 4.19: Overall Condition of Structures in Rose Neighborhood (residential and commercial)



Three properties in Rose neighborhood are assessed to be in "replacement" condition.



The condition of structures under construction or remodel is determined by the cost of completion.



This structure without walls is considered to be in "Replacement" condition.



The condition of landscapes and structures are surveyed separately for each parcel.



All Multi-Family Residential Structures

All Single-Family Residential Structures



Retail Structures

Office Structures



Figure 4.20: Condition of Structures by Property Type in Rose

Landscape Conditions

Almost 75 percent of landscapes in Rose are in "Average" or "Excellent" condition. This means that on nearly three-quarters of the parcels in the neighborhood, some effort has been made to create or maintain a landscape (see Figure 4.21).

Most retail and office landscapes are in good condition, but vacant land is in poor condition, contributing to non-residential landscapes being generally in worse condition than residential (Figure 4.22). Multi-family residential landscapes are in worse condition than those at single family homes, despite the reverse being true for structures.

Litter and Graffiti

The windshield survey also recorded the presence of litter and graffiti on each parcel and trees in the adjoining right-of-way (see Table 4.5). Litter levels are higher than in the other selected neighborhoods, and there is also more graffiti in Rose.

Table 4.5: Rose Condition of Landscapes

Parcels with Street Trees (Trees in ROW)	Parcels with Litter	Parcels with Graffiti
7.6%	51.2%	6.8%



Figure 4.21: Overall Condition of Landscapes in Rose Neighborhood (residential and commercial)



Unimproved vacant lots are considered "average" if they are mostly free of weeds, litter and debris.



Rodeo Wash and Rudy Garcia Park were free of debris when surveyed by the windshield survey team.



The parcel-level landscape assessment focused on intentionality, as well as the level of maintenance.



All Multi-Family Residential Landscapes

All Single-Family Residential Landscapes



All Residential Landscapes

All Non-Residential Landscapes

Figure 4.20: Condition of Structures by Property Type in Rose Neighborhood

Vacant and Unoccupied Structures

Due to conflicting definitions of vacancy, only structures with boarded windows and doors are labeled "vacant" in this study. Using this definition, according to the Drachman windshield survey in Rose Neighborhood 16 of the 697 parcels with structures (2.3 percent) were vacant as of November 2010. This vacancy rate is relatively low compared to 2010 U.S. Census data which has a broader definition of vacancy.

The Census definition incorporates as vacant housing units: those for rent or for sale; those properties that are vacant due to seasonal, recreational, or occasional use; and "other vacant" which may be recent foreclosures or units that owners or renters have walked away from (see Table 4.6). According to the 2010 U.S. Census, the total vacancy rate in Rose neighborhood is 6.8 percent.

Structures with 'For Sale' or 'For Rent' signs are also noted by the windshield survey teams. Some 2.3 percent of neighborhood parcels were either for sale or for rent in November 2010 (Table 4.7). Structures with 'For Sale' of 'For Rent' signs, even these that appeared uninhabited, are not classified as 'Vacant' unless windows and doors are either missing or boarded.

Foreclosures

The Drachman windshield survey team was unable to visually determine the number of foreclosures in each neighborhood. The Department of Housing and Urban Development (HUD) determines a "Foreclosure Risk Score" by census tract. This score is on a scale from 1-20, with 20 being the highest risk. From May 2009 to June 2010, the foreclosure risk score for the census tract that includes Rose Neighborhood increased from 17 to 18. As of June 2010, 16.4 percent of mortgages in the census tract were in serious delinquency (90+ days) or in foreclosure. The number of "foreclosure starts" between July 2009 and July 2010 for this tract was 33, and the number of "foreclosure completions" between July 2009 and July 2010 was 22 (out of a total of 1,005 addresses).

Impacting Vacant and Foreclosed Properties

HUD estimates that a minimum of 20 percent of foreclosures in an area would need to be addressed to make a visible impact in a given area. For the two census block groups that comprise Rose Neighborhood, the combined impact number is seven.



A new home under construction appears to have been abandoned in Rose Neighborhood.

Vacant Units	Units	Percent
For Rent	18	2.3%
Rented, not occupied	1	0.1%
For Sale	2	0.3%
Sold, not occupied	0	0.0%
Other Vacant**	32	4.1%
For seasonal/ recreational/ occasional use	0	0.0%
For Migrant Workers	0	0.0%
Total Vacant Units	53	6.8%
Total Housing Units	778	100%

* Source: U.S. Census 2010 Summary File 1 (ESRI) ** Includes recent foreclosures or units that owners have walked away from. See text for more information.

Table 4.6: Housing Units by Vacancy Status in Rose Neighborhood*

Vacant and Undeveloped Land

Five percent of the parcels in Rose are vacant lots according to the windshield survey (Figure 4.23).Over 90 percent of undeveloped parcels or vacant land in Rose are in "poor" condition.

Table 4.7: Observed Available Propertiesin Rose Neighborhood

Sign	Parcels	Percent of Neighborhood
For Sale	11	1.5%
For Rent	6	0.8%



Figure 4.23 Rose Neighborhood Vacant Land

Dark shaded parcels indicate vacant land identified by the Drachman windshield survey. Light shaded parcels indicate land identified as vacant by Arizona Department of Revenue and Pima County Assessor in December 2006. Parcel "A" indicates a vacant parcel owned by the City of Tucson.

Location of Commercial Services

The majority of commercial services available within walking distance to residents of the Rose Neighborhood are on 12th Avenue, Ajo Way and Irvington Road. These businesses provide many of the services needed by residents and are within a half mile of most housing (Figure 4.24). Irvington Road, 12th Avenue, and Ajo Way are not built for pedestrian traffic, and most of the buildings are situated for easy vehicular access without clear and safe pedestrian access routes.

Available Services and Amenities

Rose Neighborhood has one large grocery store located in the southwestern quadrant of the neighborhood, with another located just north of Ajo Way. There are numerous smaller stores that also sell groceries located along S. 12th Avenue. There is a library located a half-mile east on Irvington Road. Rose has one elementary school within the neighborhood and another is just north of Ajo Way. A high school is a quarter-mile away along Irvington Road.

Rudy Garcia Park, with walking trails, picnic benches, and a playground, is located in the northeast quadrant. The Santa Cruz River Park and El Pueblo Park are located within a halfmile of the neighborhood to the west and east, respectively.



Many locally-owned businesses are located along the S. 12th Avenue corridor on the edge of Rose.



The stores along S. 12th Avenue provide a wide variety of goods and services.



A supermarket is located in the southern part of Rose Neighborhood.



Check cashing and currency exchange services are plentiful around Rose Neighborhood.



Figure 4.24: Rose Services and Amenities

The majority of services and amenities in Rose Neighborhood are found along 12th Ave. and Ajo Way.





Rudy Garcia Park has walking and bicycling trails as well as play structures and picnic areas for families.



A fence and gate separate Rudy Garcia Park from Rose Elementary School.



A property for lease in Rose Neighborhood



A drive-In liquor store in Rose Neighborhood



The Primera Iglesia Bautista on South12th Avenue



A used car dealership in Rose Neighborhood

Geography

Rose Neighborhood has one sizeable wash and suffers from some flooding. It is impacted by the sights and sounds of traffic on I-19, which runs along its western edge.

Demographics and Housing Characteristics

Rose residents are older than the City average, and the proportion of children under 18--while in line with the city average--is well below that of several selected NSP2 neighborhoods. 92.5 percent of the residents identify as Hispanic, which is well above the city-wide average. Most residents (over 70 percent) own their home, and 73.5 percent of residents have lived in Rose for ten years or more.

Development Patterns

Rose Neighborhood has a long record of active development, with parts of the neighborhood being built out during each decade from 1950 to 1970, and some ongoing smaller new construction since then. Development occurred largely in smaller subdivisions built out within the span of a few years. Streets were installed with these subdivisions, and so a mix of linear grid and cul-de-sac development is seen, although the traditional linear grid is most prevalent in Rose.

Affordability

Comparing the price of housing in the neighborhoods to median income shows that housing stock is affordable to residents in the eastern portion of the neighborhood but not for those in the western portion. However, when transportation costs are factored into this affordability assessment, Rose Neighborhood costs exceed the affordable threshold by 15 percent or more.

Assessment of Structures and Landscapes

The vast majority of parcels have structures in 'good' or 'excellent' condition. Only three structures are deemed to be in "replacement" condition.

Over a quarter of parcels have landscapes considered to be in "Poor" condition. Rose has a large proportion of observed vacant structures and parcels. Rose also has high levels of litter and observed graffiti.

Walkability, Transportation, and Accessibility

Although trees on private property are common, very few trees are present in the right-of-way. The walking environment is thus exposed and sunny. Sidewalks and walking paths are rare and do not connect residents to many destinations. Pedestrians are observed walking in the streets instead of in the back-of-curb areas.

There are many bus stops surrounding Rose, but most of them are not sheltered and many are not universally accessible. The Laos Transit Center is within a half-mile of the neighborhood. Most residents live within a quarter-mile of a bus stop.

Services and Amenities

Rose has a large number and variety of services and amenities within close proximity. These services surround the neighborhood on three sides in almost equal proportions. There are two large grocery stores and a multitude of smaller grocery stores as well as restaurants and various services. Rose has the largest and most varied selection of services within a quarter mile of the neighborhood of any of those studied.

Parks, elementary schools, and various churches are also located within the neighborhood or within a quarter-mile of its perimeter.



Julia Keen Neighborhood

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Location

Julia Keen Neighborhood is located south of midtown Tucson and bounded by 22nd Street to the north, Alvernon Way to the east, Country Club Road to the west, and Aviation Highway to the south (Figure 5.0). Julia Keen is located in Pima County Supervisor District 2.

The Drachman windshield survey team was active in the Julia Keen neighborhood during November 2010.

Neighborhood Characteristics

Julia Keen Neighborhood consists of approximately 1,850 parcels. The northern and western sections of the neighborhood are

primarily residential. The southeastern tip of Keen, which is zoned for industrial use, has a distinct and different development pattern from the rest of the neighborhood; buildings are often tall or multi-storied with large footprints and are located on parcels with expansive parking lots.

Surrounding Context

Although the neighborhood is bounded by major streets and rail yards, it is adjacent and connected to a variety of leisure spaces; to the north is Tucson's largest mid-town park, Reid Park, and running along the southwestern border of the neighborhood is the Aviation Bikeway.



Figure 5.0: Julia Keen Neighborhood Location

Julia Keen is located in the central core of the City of Tucson and close to the northeastern edge of the NSP2 Target Area. Development in Keen occurred primarily from 1950 to 1980.

Julia Keen Neighborhood is located in the heart of a developed area in the City of Tucson. It is a mix of residential, commercial, and industrial areas located near rail lines, the Air Force base, a highway, some of Tucson's most significant multimodal paths, and its largest park. Like other neighborhoods in this study, a majority of the neighborhood edges are distinct and impenetrable. While the orange area in Figure 5.1 indicates developed area completely surrounding the neighborhood, access to the southwest, south, and southeast is limited for residents by Aviation Highway. The current built environment encourages travel in those directions to be by automobile.



Figure 5.1: Development Surrounding Julia Keen Neighborhood Keen is adjacent to Aviation Highway and Reid Park. Orange areas indicate developed land surrounding the neighborhood.

Photographs



Connected single-family residences predominate in the southeastern section of Julia Keen Neighborhood.



Citation Garden Coop in Julia Keen contributes to the area's relatively high population density.



22nd Street is still residential, not commercial, along most of Julia Keen Neighborhood.



Well maintained single family residences like this one predominate in the northwestern portion of Julia Keen.



Aviation Bikeway connects through Julia Keen Neighborhood.



An Aviation Wash Tributary runs between two sides of Silverlake Road in Julia Keen.



Figure 5.2: Julia Keen Neighborhood Features

Census Tract Location

The Julia Keen Neighborhood is located in the eastern portion of Census Tract 20 (Figure 5.3).

Demographics

The median age of the population of Julia Keen is higher than the City as a whole, 37.6 compared to 33.1 for the City of Tucson (see Table 5.1). Approximately14.8 percent of the population is older than 65 years of age, while the City-wide average for this demographic is 11.9 percent.

Of adults over the age of 25 in Julia Keen, 80.4 percent have completed an educational level of High School or above, with 15.1 percent completing a Bachelor's degree or higher.

The Julia Keen Neighborhood is ethnically diverse, with 64.4 percent identifying as Hispanic. This is well above the 41.6 percent figure for the City of Tucson.

The median household income for the Julia Keen Neighborhood is well below the Tucson average and Census Tract 20 (Table 5.1). The Julia Keen area also has a larger proportion of families whose incomes are below the federal poverty level (20.6 percent compared to the City rate of 17.8 percent).



Figure 5.3: Census Tract Location, Julia Keen

	Julia Keen	Tract 20	Tucson
Median Age	37.6	36.4	33.1
Percent Under 18	24.9%	24.5%	23.3%
Percent Over 65	14.8%	14.3%	11.9%
Median Income	\$29,838	\$31,705	\$35,499
Percent Hispanic	64.4%	64.6%	41.6%
Percent High School Graduate or Higher	80.4%	79.8%	83.1%
Percent Bachelor's Degree or Higher	15.1%	15.3%	24.8%
Percent in Poverty	20.6%	25.1%	17.8%

Table 5.1: Julia Keen Demographics

All statistics are from the 2010 Census (provided by ESRI), with the exception of Percent High School Graduate or Higher, Percent Bachelor's Degree or Higher, and Percent Households in Poverty in Last Year, which come from the American Community Survey 2005-2009 5-year estimates, provided by ESRI.

Housing Characteristics

Home ownership is very high in Julia Keen, with 77.5 percent of homes owner-occupied. With a rental share of only 22.5 percent, Keen is one of the selected NSP2 neighborhoods with the lowest percentage of rental properties (Figure 5.4).

Approximately 58.2 percent of householders have lived in Julia Keen for ten years or more. In fact, 20.2 percent of homeowners moved into Julia Keen prior to 1979.

The median home value in Julia Keen is well below the median for the City of Tucson, \$114,833 compared to \$169,900 (see Table 5.2).



Figure 5.4: Julia Keen Households by Tenure and Mortgage Status, 2010 Census (ESRI)

	Julia Keen	Tract 20	Tucson
Housing Values* (owner-occupied units)			
\$0-99,999	39.2%	31.0%	19.2%
\$100,000-149,999	37.1%	39.1%	20.1%
\$150-199,999	19.7%	25.2%	25.2%
\$200,000+	4.0%	4.7%	35.5%
Median	\$114,833	\$122,700	\$169,900
Median Year Householder Moved into Unit*	1997	1997	2003
Percent Owner-Occupied**	77.5%	76.0%	51.9%
Average Household Size**	2.59	2.62	2.43
Single-Family Units*	77.9%	81.1%	59.5%

Table 5.2: Julia Keen Housing Characteristics

*American Community Survey 2005-2009 5-year estimates, ESRI.

**2010 Census Summary File, ESRI

Zoning

Julia Keen Neighborhood consists of seven City of Tucson zoning classifications¹ as shown in Figure 5.5 below.

The vast majority of the parcels in the neighborhood are zoned "Residential" with densities appropriate under the low-density R-1 and medium-density R-2 classification. There are

1 See Appendix C for a complete list of City of Tucson Zoning Classifications and summary descriptions. also two pockets of high-density R-3 classification in the neighborhood, allowing larger multi-family development.

The predominance of low-density residential zoning stands in contrast to the commercial zoning along the northern, eastern, and southwestern edges of the neighborhood; as well as to the industrial zoning in the southeast section.



Figure 5.5: Zoning Classifications in Julia Keen Neighborhood

Land Use

While zoning allows for approximately 30 percent of Julia Keen to be developed with greater density under R2 and R3, the windshield survey of existing land use found that the vast majority of the parcels in the neighborhood are singlefamily residential (Table 5.3 and Figure 5.6).

Although 92.8 percent of parcels are residential, large commercial and industrial parcels result in non-residential uses comprising 20 percent of the neighborhood area. These commercial, civic, and industrial areas are almost entirely along the periphery of the neighborhood.

Number of Percentage Land Use **Parcels** of Parcels Single Family 1533 83.0% Residence(SFR) Multi-Family 181 9.8% Residence (MFR) Retail 20 1.1% Office 1.5% 27 Industrial 27 1.5% 1.4% Vacant Lot (None) 25 Mobile Home 0 0.0% Other* 30 1.6% Unable to Observe 3 0.2%

Table 5.3: Julia Keen Land Use

*Includes schools, parks, private streets, and uses not otherwise classified.



Figure 5.6: Land Use in Julia Keen Neighborhood

Development Patterns

Julia Keen was developed during the post-war boom years of the 1950s and through the 1970s. Development patterns in the oldest sections of the neighborhood largely honor the established grid system of Tucson. Development patterns during the 1960s focused on cul-de-sac streets with a variety of block widths and lengths built around a centrally located neighborhood park. In the 1970s, development here focused on the industrial area in the southern part of the neighborhood. The wash system is strictly channelized. Existing structures and roads are shown in Figure 5.7. The pattern of development by parcel and decade is shown in Figure 5.8.



Figure 5.7: Current Neighborhood Build-Out in Julia Keen Structures (black) and roads (grey) in the Julia Keen Neighborhood.



Julia Keen Neighborhood 1949



Julia Keen Neighborhood 1959



Julia Keen Neighborhood 1969

Julia Keen Neighborhood 1989



Julia Keen Neighborhood 1979



Julia Keen Neighborhood 2010

Figure 5.8: Julia Keen Neighborhood Development Over Time Source: Pima County GIS

TIL

Density

The Julia Keen area ranges in density from approximately 4,500 to close to 9,000 people per square mile². Tucson's density is much lower, at 2,294 people per square mile. This density exists despite the fact that a fairly large area in this census tract is used for infrastructure and industry, not residences. Average household sizes in Julia Keen are not much larger than the City average (2.59 in Julia Keen compared to 2.43 in the City), so the higher densities are due to the density of housing development.

2 Based on 2010 U.S. Census block groups, provided by Pima County GIS



Figure 5.9: Population Density by Block Group in Julia Keen Neighborhood Numbers indicate people per square mile based on the 2010 U.S. Census. Data provided by Pima County GIS.



Many households in Keen Neighborhood are attached dwellings where one wall is shared.



There are very few multi-family housing units in the Julia Keen study area.

Washes & Rivers

The Julia Keen Neighborhood is located adjacent to the Santa Cruz River Basin and the Tucson Diversion Channel.

Two tributaries of the Aviation Wash are found in and around Julia Keen. The main tributary traverses the heart of the neighborhood and drains into this larger system (Figure 5.10).

Citation Wash flows through Parkview Park in Keen, as well as through Reid Park to the north of the neighborhood.

Naylor Wash only touches in the northeastern corner of Keen, but it may cause some of the most damaging flooding in the neighborhood. This corner is the only part of the neighborhood within the FEMA 100-year flood zone.



Figure 5.10: Julia Keen Hydrology and Drainage

Major washes in Julia Keen include two Aviation Wash tributaries and Citation Wash. Naylor Wash is the only source of flooding in the neighborhood. Striped areas indicate the FEMA 100-year flood zone.



Parts of the Aviation Wash tributary in Julia Keen neighborhood have been lined with concrete.



An Aviation Wash tributary is channelized, and cuts through the middle of Julia Keen Neighborhood.



Some portions of the washes have been left natural in Julia Keen.



Unlined sections of the Aviation Wash tributary have trees growing on the sides of the channel.



An Aviation Wash tributary is channelized and cuts through the middle of Julia Keen Neighborhood.



Citation Wash has been left in a more natural state than the Aviation Wash tributary.

Bicycles

Julia Keen has a wide variety of bike routes in and around the neighborhood (Figure 5.11). There are striped bicycle lanes along Country Club, 22nd, and Palo Verde Streets. Residential 27th and 29th Streets are identified by the City of Tucson as bicycle routes, but neither has many improvements, such as controlled crossings or traffic calming devices. Julia Keen is unusual in the fact that to the north and to the south there are multi-use paths dedicated to bicyclists and pedestrians. The paths in and around Reid Park are primarily for recreation, but the Aviation Bikeway provides Keen residents with a safe and continuous bicycle connection between Kolb Road to the east and Downtown Tucson to the west.



Figure 5.11: Bicycle Routes in Julia Keen Neighborhood

Pedestrians

Julia Keen Neighborhood has a Walk Score³ of 51 out of 100 and is considered 'Somewhat Walkable.'⁴ A little less than half of the Julia Keen neighborhood has sidewalks. Those that exist are found almost exclusively in the eastern section of the neighborhood and along some of the industrial/corporate parks in the southeastern section (Figure 5.12).

3 www.walkscore.com

4 Walk Score Ratings: 90-100 "Walker's Paradise"; 70-89 "Very Walkable"; 50-69 "Somewhat Walkable"; 25-49 "Car Dependent"; 0-24 "Very Car Dependent." Street trees are a key component to good walking routes. Trees are located in the right-of-way in 5.8 percent of parcels in the neighborhood, leaving many walking routes without shade.

Table 5.4: Julia Keen Street Tree Coverage*

Trees in Right- of- Way	Parcels	Percentage
No	1737	94.2%
Yes	107	5.8%

* Source: Drachman windshield survey



The lack of a sidewalk makes this typical bus stop in Julia Keen difficult to access.



Most of the areas with sidewalks have no street trees to provide shade for pedestrians.



Many of Julia Keen's streets are wide and without trees or sidewalks.





Public Transit

Julia Keen Neighborhood is well served by four existing city bus routes (Figure 5.13; Appendix E). These lines can be accessed along 22nd Street, Alvernon Way, Country Club Road, and 29th Street. Bus ridership ranges from 3.2-6.9 percent of the city total⁵ (Table 5.5).

There is one Park and Ride location across 22nd Street from Julia Keen. Virtually all Keen residents live within a quarter-mile of a bus stop, but most

5 SunTran, 2010

Table 5.5: Bus Ridership in Julia Keen*

Route	City-Wide Ridership/Yr	Percent of City Total
1	54,963	3.2%
7	69,051	4.0%
11	117,626	6.9%
17	77,834	4.6%

* Data Provided by Sun Tran, 2010

of these stops are unsheltered, lack benches, and accessibility is often limited.



This bus stop without a bench or shelter is one of many in Julia Keen Neighborhood.



Figure 5.13: Julia Keen Bus Routes and Stops

Lines show existing city bus routes in and around the neighborhood. White dots indicate the location of un-sheltered bus stops; black triangles the location of sheltered stops.



Figure 5.14: Julia Keen Connectivity by Public Transit

The current bus routes serving Keen (Figure 5.14) reach most of the urban core. See Appendix E for the complete existing transit system and Appendix F for Projected Transit routes.

Vehicles

The average number of vehicle miles traveled per household per year in Tucson is 18,069⁶; this figure is much lower in Julia Keen, averaging about 15,516 miles (Figure 5.15). The average commute time to work for Julia Keen residents is 18.6 minutes, compared to the City's average of 21.5 minutes.⁷



Figure 5.15: Average Vehicle Miles Traveled per Household and Year in the Julia Keen Area Image and data provided by the Centerfor Neighborhood Technology, 2010

 $^{6\,}$ Based on Regional Moderate values; see Appendix G for source and methods

⁷ ACS 2005-2009 5-year estimates (ESRI)

Housing Affordability

The Department of Housing and Urban Development (HUD) defines affordable housing as housing that costs 30 percent or less of total household income. According to this criteria, Julia Keen Neighborhood, with housing costs⁻ at approximately 21.5 percent of income, is considered affordable (Figure 5.16).

Housing + Transportation Affordability

The Housing+Transportation Affordability Index was developed by the Center for Neighborhood Technology (CNT) to show the importance of transportation costs to overall housing affordability.⁸ In this calculation anything above

8 See Appendix G for sources and methods

45 percent of income spent on housing plus transportation combined is deemed not to be affordable.

In Julia Keen, all but the central portion of the neighborhood exceeds the affordable limit when considering the combined cost of housing plus transportation. Despite the low percentage spent on housing alone, Julia Keen neighbors spend, on average, 56 percent of their income on the combined costs of housing plus transportation, with some areas spending 64 percent (Figure 5.17).



Figure 5.16: Average Julia Keen Housing Costs as a Percentage of Income

Image and data provided by the Center for Neighborhood Technology, 2012



Figure 5.17: Average Julia Keen Housing + Transportation Costs as a Percentage of Income

Image and data provided by the Center for Neighborhood Technology, 2012
Airport Influence

Julia Keen is strongly influenced by its proximity to the Davis-Monthan Air Force Base (DMAFB). A large area of Keen is under the DMAFB Height Zone (Figure 5.18). The height limits around Davis-Monthan Air Force Base are based on distances from established ends of runways at a ratio of 60:1. Noise Zone restrictions include limits on land use and development standards for new construction. Anything that may create interference with aircraft navigation is also prohibited in these zones. This includes devices which create excessive static or obstruct visibility, or land uses that use or produce explosive materials.



Its proximity to the Davis-Monthan Air Force Base impacts Julia Keen Neighborhood in a number of ways.



Figure 5.18: Airport Zone Influence in Julia Keen Davis-Monthan Air Force Base Height Zones (light shading) and Noise Zones (dark shading)

Street Lighting

In general, Julia Keen Neighborhood is a dark residential neighborhood at night. There is very little activity within the neighborhood and along its borders.

The only lighting provided is street lighting along the perimeter of the neighborhood. This lighting is for vehicular traffic, and there is no pedestrianscale lighting.

As shown in Figure 5.19, the interior of Julia Keen Neighborhood has no lighting. Recall from Figure 5.13, page 100, that two bus routes pass through the interior of the neighborhood along 32nd and 34th streets. As demonstrated in Figure 5.19, these bus routes are not lighted, which makes them unsafe for nighttime travel.



22nd Street is awash in light, but a block over, Julia Keen is quiet and dark.

Parkview Park is the only relatively well-lit area observed in the neighborhood with some field lighting and security lighting near the rest rooms.



Most of Julia Keen Neighborhood does not have street lights.



In a neighborhood with very little public or private lighting, the fields at the park are a bright spot.



Julia Keen has very little on-property lighting that could Most of the bus routes in Julia Keen are without lighting. compensate for the lack of street lights.





Figure 5.19: Julia Keen Neighborhood Street Lighting

Building Characteristics

The vast majority of parcels (86.7 percent) in Julia Keen contain structures either in 'Good' or 'Excellent' condition (see Figure 5.20). Thirteen structures are in 'Poor' condition, indicating a need for repairs on the order of \$15,000 to \$50,000. Two structures are assessed as 'Replacement,' meaning that the cost to repair them would exceed the cost to tear down and rebuild.

Residences are generally in very good condition, but single family homes show more variability in condition than multi-family residences (Figure 5.21). Office structures are the most variable, with relatively high proportions of both excellent and poor structures (Figure 5.21).



Figure 5.20: Overall Condition of Structures in Julia Keen Neighborhood (residential and commercial)



Single family homes with one shared wall are a common development style in Julia Keen.



This home is typical of the style found in the northern part of the Julia Keen Neighborhood.



A notice to vacate the property is posted on this window.



The condition of landscape and structure are surveyed separately for each parcel.



All Multi-Family Residential Structures

All Single-Family Residential Structures





Figure 5.21: Condition of Structures by Property Type in Julia Keen Neighborhood

Landscape Conditions

Almost 70 percent of landscapes in Julia Keen are considered "Average" (see Figure 5.22). Most parcels in the neighborhood have few plantings and little hardscape but are well maintained.

Offices have the best landscape conditions (Figure 5.23). Multi-family residential landscapes are also in slightly better condition than single family landscapes in Julia Keen (Figure 5.23). There is a general uniformity in distribution of landscape condition across parcel types.

Litter and Graffiti

The windshield survey also recorded the presence of litter and graffiti on each parcel as well as trees in the adjoining right-of-way (Table 5.6). Litter and graffiti are lower than in other NSP2 selected neighborhoods. There are fewer street trees in Julia Keen than in the other study neighborhoods.

Table 5.6: Condition of Landscapes in Julia Keen

Parcels with Street Trees (Trees in ROW)	Parcels with Litter	Parcels with Graffiti
5.8%	35.1%	4.2%



The landscape assessment focused on landscape intentionality and the level of maintenance.



Figure 5.22: Overall Condition of Landscape in Julia Keen Neighborhood (residential and commercial)



Unimproved vacant lots are considered "Average" if they are mostly free of weeds, litter, and debris.



Parking lots are considered "Average" landscapes if they are well maintained and free of litter and weeds.



All Multi-Family Residential Landscapes

All Single-Family Residential Landscapes





Figure 5.23: Condition of Landscapes by Property Type in Julia Keen Neighborhood

Vacant and Unoccupied Structures

Due to conflicting definitions of vacancy, only structures with boarded windows and doors are labeled "vacant." Using this definition, in Keen Neighborhood seven of the 1820 assessed parcels with structures (0.4 percent) were vacant as of November 2010. This vacancy rate is relatively low compared to 2010 U.S. Census data which has a broader definition of vacancy.

The Census definition incorporates as vacant housing units: those for rent or for sale; those properties that are vacant due to seasonal, recreational, or occasional use; and "other vacant" which may be recent foreclosures or units that owners or renters have walked away from (see Table 5.7). According to the 2010 U.S. Census, the total vacancy rate in Elvira neighborhood is 10.8 percent (the highest of all the NSP2 selected neighborhoods).

Structures with 'For Sale' or 'For Rent' signs were also noted by the windshield survey teams. As shown in Table 5.8, some 2.7 percent of the neighborhood parcels were either for sale or for rent in November 2010. Structures with 'For Sale' of 'For Rent' signs, even ones that appeared uninhabited, are not classified as 'Vacant' unless windows and doors are either missing or boarded up.

Foreclosures

The Drachman windshield survey team was unable to visually determine the number of foreclosures in each neighborhood. The Department of Housing and Urban Development (HUD) determines a "Foreclosure Risk Score" by census tract. This score is on a scale from 1-20, with 20 being the highest risk. From May 2009 to June 2010, the foreclosure risk score for the census tract where Julia Keen Neighborhood is located decreased from 19 to 18. As of June 2010, 16.1 percent of mortgages in the census tract were in serious delinquency (90+ days) or in foreclosure. The number of "foreclosure starts" between July 2009 and July 2010 for this tract was 109, and the number of "foreclosure completions" between July 2009 and July 2010 was 70 (out of 2,551 total addresses).

Impacting Vacant and Foreclosed Properties

HUD estimates that a minimum of 20 percent of foreclosures would need to be addressed to make a visible impact in a given area. For the census blocks that compose Julia Keen Neighborhood,

-	-	
Vacant Units	Units	Percent
For Rent	30	1.3%
Rented, not occupied	0	0.0%
For Sale	59	2.6%
Sold, not occupied	9	0.4%
Other Vacant**	69	3.0%
For seasonal/ recreational/ occasional use	80	3.5%
For Migrant Workers	1	0.04%
Total Vacant Units	248	10.8%
Total Housing Units	2290	100%

Table 5.7: Housing Units by VacancyStatus in Julia Keen Neighborhood*

*Source: U.S. Census 2010 Summary File 1 (ESRI) ** Includes recent foreclosures or units that owners have walked away from. See text for more information.

Table 5.8: Observed Available Propertiesin Julia Keen Neighborhood

Sign	Parcels	Percent of Neighborhood
For Sale	35	1.9%
For Rent	6	0.8%



Structures classified as 'Vacant' have missing or boarded up doors or windows, per Pima County definition.

the combined impact number is 21.

Vacant and Undeveloped Land

Five percent of the parcels in Julia Keen are vacant lots per the windshield survey (Figure 5.24).

Of the undeveloped parcels in Julia Keen, most are small in size and privately owned. The landscape

condition of just over 90 percent of these parcels is "poor." In comparison, only 15 percent of all neighborhood parcels are in "poor" condition.



Figure 5.24: Vacant Land in Julia Keen

Dark shaded parcels indicate vacant land identified by the Drachman windshield survey. Light shaded parcels indicate land identified as vacant by Arizona Department of Revenue and Pima County Assessor in December 2006.

Location of Commercial Services

The majority of the commercial services available to residents of the Julia Keen Neighborhood are on 22nd Street and Alvernon Way (Figure 5.25).

As Julia Keen is surrounded by a rail yard to the southwest, Reid Park to the north, and industrial and warehouse facilities to the southeast, the neighborhood has fewer services along its perimeter than most of the other selected neighborhoods. Most of the area businesses are located in stand-alone buildings along 22nd Street east and west of the neighborhood, as well as along Alvernon Way (see Figure 5.25).

Available Services and Amenities

The services provided include beauty, auto supply and auto services, drug stores, convenience stores, fast food, and some sit-down restaurants. There are eleven fast food restaurants, two grocery stores, and a large number of automobile-related goods and services offered on Alvernon Way.

There is one church and two neighborhood parks in Julia Keen. There are no libraries or fire stations, but a police station is located just across 22nd Street from the neighborhood. The city zoo and many other recreational facilities are also across 22nd Street in Reid and Randolph Parks.



The Wooden Nickel Tavern is one of three bars located along the perimeter of Julia Keen.



A wide variety of automobile related goods and services are available on Alvernon Way at the edge of Julia Keen.



There are eleven fast food outlets within a quarter mile of Julia Keen Neighborhood.



Food City is located at the corner of 22nd Street and Country Club, across the street from Julia Keen.



Figure 5.25: Services and Amenities in Julia Keen

The majority of services and amenities in Julia Keen Neighborhood are found along Alvernon Way.

Neighborhood Summary



Parkview Park has picnic areas and shade for neighborhood families to enjoy.



Parkview Park in Julia Keen features well established trees.



The lake in Reid Park is within a quarter mile of Julia Keen.



Many of the play structures and other amenities in Reid Park are within a quarter mile of Julia Keen.



The Aviation Bikeway runs along the southern perimeter of Julia Keen.



There is a police station located just across 22nd Street from Julia Keen.

Location and Geography

Julia Keen Neighborhood has two sizable drainage-ways. The central location of the neighborhood provides greater access to significant transportation corridors, services, and amenities than in many of the other NSP2 selected study neighborhoods. Access to and from the neighborhood is restricted on the southern edge due to industrial activity and the Aviation Parkway.

Demographics and Housing Characteristics

The median age of the population of Julia Keen is higher than the City as a whole (37.6 compared to 33.1 for the City of Tucson). Approximately14.8 percent of the population is older than 65 years of age, while the City-wide average for this demographic is 11.9 percent.

Home ownership is very high in Julia Keen with 77.5 percent of homes being owner-occupied. With a rental share of only 22.5 percent, Keen is one of the selected NSP2 neighborhoods with the lowest percentage of rental properties.

Approximately 58.2 percent of householders have lived in Julia Keen for ten years or more. In fact, 20.2 percent of homeowners moved into Julia Keen prior to 1979.

Development Patterns

Julia Keen's residential areas were built primarily during the 1950s and 1960s, with some new development in the 1970s and 1980s. Most of the industrial area in the southern part of the neighborhood was built out after 1980. Street typologies are a mix of linear grid and cul-desac development. Cul-de-sacs dominate the northwestern quadrant, while the northeastern section of the neighborhood, partially constructed during the 1930s and 1940s, retains a traditional grid pattern. The proximity of industrial to residential uses seen in the southern part of the neighborhood is unusual for Tucson.

Affordability

Comparing the price of housing in the neighborhoods to income in 2010 shows that housing stock is mostly affordable to residents. Despite the low percentage of income spent on housing, however, Julia Keen neighbors spend an average of 55 percent of their income on housing plus transportation costs. Julia Keen neighbors are generally spending more of their income on transportation than on housing. Only the central portion of the neighborhood remains affordable when taking into account housing and transportation costs.

Walkability, Transportation and Accessibility

Approximately half of Julia Keen's streets have sidewalks, but those areas that do have almost no street trees. Keen is well-served by the bus system, with bus stops within a quarter-mile of most residents. Most of these are unsheltered and have poor accessibility. Residents walking to and waiting for a bus very rarely have access to walking paths, shade, or shelter. The lack of street lighting also makes walking and transit use in the evenings unsafe.

Assessment of Structures and Landscapes

The vast majority of parcels have structures that are in "good" or "excellent" condition in Julia Keen. The condition of multi-family and single family homes is markedly similar and generally very good. Only a few structures are in poor condition, and only two structures meet the criteria for replacement. Landscapes are generally in average condition, with a low percentage in poor condition.

Services and Amenities

Although located in central Tucson, many hard edges and industrial uses around Keen combine to leave fewer areas for commercial activity. Hence, services are generally not within a quarter-mile walking distance of most residents. For example, although there are two grocery stores just outside the neighborhood boundary, these are located within a quarter-mile walking distance of approximately 15 percent of the neighborhood.



Santa Cruz Southwest Area

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Location

Santa Cruz Southwest is located in the heart of the Santa Cruz River area southwest of downtown Tucson. Santa Cruz Southwest area is bounded by the Santa Cruz River to the east, Mission Road to the west, and Silverlake Road to the north. The full neighborhood extends south of Ajo Way (Figure 6.0), but most of this area falls outside of the NSP2 Target Area. The area studied here is bounded by Ajo Way to the south (Figure 6.1). The NSP2 Santa Cruz Southwest study area consists of 577 parcels, and is located in Pima County Supervisor District 5.

The Drachman windshield survey team was active in the Santa Cruz Southwest area during November 2010.

Neighborhood Characteristics

The most striking feature of the area is its proximity to the Santa Cruz River and the major washes and drainage ways in the neighborhood.



Figure 6.0: Santa Cruz Southwest Area

The full extent of Santa Cruz Southwest Neighborhood is shaded above. The Drachman study area is outlined in black.



Figure 6.1: Santa Cruz Southwest Area Location

Santa Cruz Southwest is located near the southwestern edge of the City and close to the western edge of the NSP2 Target Area.

This hydrology has contributed to preserving the rural character of much of the area, with pockets of developments located on land nestled between the main branch of the river and its west fork. Horse properties and large open spaces are interspersed with areas of relatively dense single family residential development, many of them mobile homes.

Development in Santa Cruz Southwest occurred largely in the 1970s and 1980s.

Surrounding Context

Santa Cruz Southwest is surrounded by large swaths of undeveloped land. The light shaded areas in Figure 6.2 indicate developed areas, and white indicates the undeveloped areas. A majority of this land is not developed due to its location within the river floodplain. Other undeveloped areas near the neighborhood include the land surrounding the county jail located just to the north of Santa Cruz Southwest. These conditions offer few areas for development opportunities in the future.



Figure 6.2: Development Surrounding Santa Cruz Southwest Area Santa Cruz Southwest is very close to both Interstates 19 and 10, and is adjacent to the Santa Cruz River.

Photographs



Graffiti is common on back walls and in other out-ofthe-way places within Santa Cruz Southwest.



Most of northern Santa Cruz Southwest is developed with mobile home parks.



Much of Santa Cruz Southwest has a rural, ranching character with larger properties and horses.



The County jail is located just across Silverlake Road from Santa Cruz Southwest.



The west fork of the Santa Cruz River provides many riparian areas.



Across Mission Road from Santa Cruz Southwest, Kennedy Park has ball fields and picnic areas.



Figure 6.3: Santa Cruz Southwest Area Features

Census Tract Location

The Santa Cruz Southwest area is located within Census Tract 25.03 (Figure 6.4).

Demographics

The population of Santa Cruz Southwest has a median age of 30.4 years, which is slightly below the City of Tucson as a whole (Table 6.1). Furthermore, 33.1 percent of the population is under age 18, which is significantly higher than the City (23.3 percent).

Of adults over the age of 25 in the neighborhood, approximately 77.4 percent have completed an education level of high school or above, and 7.0 percent have a Bachelor's degree or higher.

The neighborhood is predominantly Hispanic, with 78.4 percent identifying as Hispanic compared to the City's rate of 41.6 percent.

The median household income for the Santa Cruz Southwest area is \$27,718 (Table 6.1), well below the Tucson median income. Thus, 20.7 percent of households in Santa Cruz Southwest are under the federal poverty threshold.



Figure 6.4: Census Tract Map, Santa Cruz Southwest

	Santa Cruz Southwest	Tract 25.03	Tucson
Median Age	30.4	33.3	33.1
Percent Under 18	33.1%	30.4%	23.3%
Percent Over 65	10.7%	16.1%	11.9%
Median Income	\$27,718	\$27,635	\$35,499
Percent Hispanic	78.4%	72.9%	41.6%
Percent High School Graduate or Higher	77.4%	80.1%	83.1%
Percent Bachelor's Degree or Higher	7.0%	10.2%	24.8%
Percent in Poverty	20.7%	19.3%	17.8%

Table 6.1: Santa Cruz Southwest Demographics

All statistics are from the 2010 Census (provided by ESRI), with the exception of education statistics and Percent Households in Poverty in Last Year which come from the American Community Survey 2005-2009 5-year estimates (ESRI).

Housing Characteristics

Most of Santa Cruz Southwest residents own their home (Figure 6.5). In fact, 34.7 percent of householders own their home outright with no mortgage. Neighborhood rentals are just 21.6 percent, well below Tucson's 48.1 percent.

According to U.S. Census data, single family residences make up just 23.9 percent of all units in the neighborhood, and 74 percent of all units in the area are mobile homes. Thus, the median home values in the neighborhood (\$32,717) are well below the City average of \$169,900.

The average household size in Santa Cruz Southwest is 3.13, above the City of Tucson average and Census Tract 25.03 (Table 6.2).

While the median year that the householder moved into the unit is 2002, 31.5 percent of householders have lived in Santa Cruz Southwest for ten years or more.



Figure 6.5: Santa Cruz Southwest Households by Tenure and Mortgage Status, 2010 Census (ESRI)

	Santa Cruz Southwest	Tract 25.03	Tucson
Housing Values* (owner-occupied units)			
\$0-99,999	76.6%	78.2%	19.2%
\$100,000-149,999	7.2%	8.0%	20.1%
\$150-199,999	9.0%	7.7%	25.2%
\$200,000+	7.2%	6.1%	35.5%
Median	\$32,717	\$33,800	\$169,900
Median Year Householder Moved into Unit*	2002	2002	2003
Percent Owner- Occupied**	78.4%	76.3%	51.9%
Average Household Size**	3.13	2.81	2.43
Single-Family Units*	23.9%	23.2%	59.5%

Table 6.2: Santa Cruz Southwest Housing Characteristics

*American Community Survey 2005-2009 5-year estimates, ESRI.

**Census 2010 Summary Profile, ESRI

Zoning

Santa Cruz Southwest area includes seven City of Tucson zoning classifications as shown below in Figure 6.6¹.

The majority of the parcels in the neighborhood are zoned "Residential," with densities under the R-1 and R-2 classification. There is no R-3 classification in the neighborhood, barring the

1 See Appendix B for a complete list of Pima County Zoning Classifications and summary descriptions development of very large apartment complexes. A large section is zoned Mobile Home (MH1) and a smaller higher density Mobile Home zoning MH-2 are located in the northern section of the neighborhood.

The remaining parcels are small pockets of Commercial and Office zoning located along the perimeter of the neighborhood.



Figure 6.6: Zoning Classifications in Santa Cruz Southwest Area

Land Use

Land use in Santa Cruz Southwest conforms closely to zoning specifications, although some of the R-2 zoning on the southeastern edge of the neighborhood is not developed as multifamily housing. Santa Cruz Southwest differs from the other selected study neighborhoods in the large number of mobile homes found here. Almost a quarter of parcels in the neighborhood are dedicated to this land use (74 percent of all housing units) (Table 6.3).

The central part of Santa Cruz Southwest is accessible only by private roads; 6.4 percent of all parcels could not be observed. These are shown darkly shaded in Figure 6.7.

Table 6.3: Santa	Cruz Se	outhwest	Land Use	ł
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Land Use	Number of Parcels	Percentage of Parcels
Single Family Residence(SFR)	257	44.6%
Multi-Family Residence (MFR)	90	15.6%
Retail	6	1.0%
Office	0	0.0%
Industrial	5	0.9%
Vacant Lot (None)	29	5.0%
Mobile Home	122	21.2%
Other*	30	5.2%
Unable to Observe	37	6.4%

*Includes schools, parks, private streets, and uses not otherwise classified.



Figure 6.7: Land Use in Santa Cruz Southwest Area

Development Patterns

Santa Cruz Southwest area has a wide variety of development patterns. All existing structures and roads are shown in Figure 6.8.

In 1970, most of the neighborhood was still undeveloped with just one small mobile home park and several smaller ranches. The 1970s saw the development of large mobile home communities in the northern part of the neighborhood. In the 1980s, cul-de-sac streets and single family residences were built in the southern part of the neighborhood. The middle of the neighborhood is still primarily rural, with small ranches and large swaths of undeveloped land in the floodplain. Commercial services for the Santa Cruz Southwest community are located primarily at Ajo Way and Mission Road. The bulk of this commercial area was also constructed during the late 1970s and 1980s. Development by parcel and decade is shown in Figure 6.9.

Neighborhood washes have largely been left to flow naturally, and construction has mostly avoided close proximity to these drainage ways. The washes have been channelized in concrete culverts in the southern part of the neighborhood in order to drain under Mission Road.



Figure 6.8: Current Neighborhood Build-Out in Santa Cruz Southwest

Structures (black) and roads (grey) in the Santa Cruz Southwest Neighborhood.



Santa Cruz Southwest Area 1949



Santa Cruz Southwest Area 1959



Santa Cruz Southwest Area 1969

WWWII Int

Santa Cruz Southwest Area 1989

A STATE OF THE



Santa Cruz Southwest Area 1979



Santa Cruz Southwest Area 2010

Figure 6.9: Santa Cruz Southwest Neighborhood Development Over Time Source: Pima County GIS

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Density

Santa Cruz Southwest area has a density that ranges from just over 2,200 to just over 7,100 people per square mile. The City's average density in 2010 was 2,294.2 people per square mile.

This relatively high density is due largely to the census block boundaries, which include the large mobile home park just east of Santa Cruz Southwest (Figure 6.10). The large uninhabited center of the area decreases overall density numbers.

Approximately 15 percent of the parcels in the area have multi-family dwellings on them, and these are primarily duplexes.



74 percent of the homes in Santa Cruz Southwest are mobile homes.



Figure 6.10: Population Density by Block Group in Santa Cruz Southwest Area

Numbers indicate people per square mile based on the 2010 U.S. Census Dotted lines indicate block group boundaries. Data provided by Pima County GIS.



Duplexes comprise many of the multi-family residences in Santa Cruz Southwest.

Rivers & Washes

Santa Cruz Southwest area is located adjacent to the Santa Cruz River, and sits largely in the Santa Cruz River Basin.

A large number of major and minor washes traverse the neighborhood (Figure 6.11). Most of the flow within the neighborhood is unchannelized, and the land around them provides natural habitat for many riparian species. This natural character changes to concrete channels as the washes pass through the neighborhood toward Mission Road.

The wash system allows for a number of significant xeroriparian areas in and around the

neighborhood. Xeroriparian habitats are areas of naturally-occurring vegetated communities supported by intermittent or ephemeral stream flows. These areas serve as important habitat for native flora and fauna.

Flooding

Flooding issues in Santa Cruz Southwest have been reported during and after summer monsoon storms. Large parts of the developed areas in the northern half of the neighborhood are within the FEMA 100-year flood zone. These areas are primarily developed with mobile homes, which can be particularly vulnerable to flood hazards.



Some dumping is evident in neighborhood washes.



Many parts of the wash system in Santa Cruz Southwest are natural and relatively undisturbed.



Graffiti is prevalent on bridges in neighborhood washes.



The washes in Santa Cruz Southwest are channelized as they approach Mission Road.



Figure 6.11: Hydrology and Drainage in Santa Cruz Southwest Area

Santa Cruz Southwest sits in the Santa Cruz River basin, with multiple branches of the system passing through the neighborhood. Striped areas indicate the FEMA 100-year flood zone. Dotted areas indicate significant xeroriparian habitat.

Bicycles

Santa Cruz Southwest has three improved bicycle paths surrounding the area but no path through the neighborhood itself (Figure 6.12).

The Santa Cruz River Park path is not currently built along the Santa Cruz Southwest Neighborhood stretch of the river. Multi-modal paths on both sides of the river are currently in the design phase. Neighborhood residents can now reach the existing river path segments by way of the striped bicycle lanes on Ajo and Silverlake, but a connection from the neighborhood itself to the new river path section would improve connectivity and recreational access for Santa Cruz Southwest neighbors.



Figure 6.12: Bicycle Routes in Santa Cruz Southwest Area

Pedestrian

Santa Cruz Southwest area has a Walk Score² of 29 out of 100 and is considered "Car-Dependent."³ Although some services are located within a quarter-mile walking distance of about half of the neighborhood, few quality walking routes exist. There are very few stretches of sidewalk in the Santa Cruz Southwest area (Figure 6.13).

Street trees are a key component to good walking routes. Trees grow in the right-of-way of fewer than eight percent of parcels in the neighborhood (Table 6.4). There is very little overlap between sidewalks and street tree cover, and walking routes are generally unshaded. Pedestrians use the wash system in the neighborhood, but paths are not formalized or improved.

2 www.walkscore.com

3 Walk Score Ratings: 90-100 "Walker's Paradise"; 70-89 "Very Walkable"; 50-69 "Somewhat Walkable"; 25-49 "Car Dependent"; 0-24 "Very Car Dependent."



Very few sidewalks, crosswalks, or other amenities exist for pedestrians in Santa Cruz Southwest.



Trees that shade the right-of-way are rare in Santa Cruz Southwest.

Table 6.4: Santa Cruz Southwest StreetTree Coverage*

Trees in Right- of- Way	Parcels	Percentage
No	678	92.4%
Yes	56	7.6%

* Source: Drachman windshield survey



Figure 6.13: Santa Cruz Southwest Sidewalks and Street Trees

The map above shows existing sidewalks (in red) and parcels with at least one street tree in the right-of-way (green outline).

Public Transit

Santa Cruz Southwest area is served by two city bus routes, although there are no bus stops within the neighborhood itself (Figure 6.14). The routes which serve the neighborhood are short routes used by a very small percentage of the total city ridership (Table 6.5). One route connects to downtown; the other loops south along Mission, east on Irvington Road to the Laos Transit Center, then returns to Santa Cruz Southwest along Ajo Way (Figure 6.15). See Appendix E for the complete existing transit system and Appendix F for Projected Transit routes.

Bus stop shelters are provided at about half of the stops along Ajo Way and Mission Road; Silverlake Road stops are mostly un-sheltered. Many Santa Cruz Southwest residents live more than a quarter-mile from a bus stop (Figure 6.14).



This stop is one of a few sheltered bus stops along Mission Road on the Santa Cruz Southwest border.



The Laos Transit Center is located on Irvington Road approximately two miles from Santa Cruz Southwest.

Table 6.5: Bus Ridership in Santa Cruz Southwest*

Route	City-Wide Ridership/Yr	Percent of City Total
23	42,612	2.5%
50	11,602	0.7%

* Data Provided by Sun Tran, 2010



Figure 6.14: Santa Cruz Southwest Bus Routes and Stops

Lines show existing city bus routes in and around the area. White dots indicate the location of un-sheltered bus stops; black triangles the location of sheltered stops.



Figure 6.15: Santa Cruz Southwest Connectivity by Public Transit

Vehicles

The average number of vehicle miles traveled per household per year in Tucson is 18,069. In Santa Cruz Southwest, the vehicle miles traveled⁴ are somewhat less at 16,889.

The average commute time to work for the Tucson area is approximately 21.5 minutes.⁵ Santa Cruz Southwest and the surrounding Census Tract area have a slightly longer commute time to work of 26 minutes.

4 See Appendix G for source and methods.

5 ACS 2005-2009 Estimates (ESRI)



Figure 6.16: Annual Vehicle Miles Traveled

Housing Affordability

The Department of Housing and Urban Development (HUD) defines affordable housing as housing that costs thirty percent or less of total household income. According to this criteria, housing costs in Santa Cruz Southwest range from just under 17 percent to just under 26 percent of total household income in 2010 (Figure 6.17), well below the 30 percent of household income considered affordable⁶.

Housing + Transportation Affordability The Housing+Transportation Affordability Index

6 See Appendix G for source and methods



Figure 6.17: Average Santa Cruz Southwest Housing Cost as a Percentage of Income

Image and data provided by the Center for Neighborhood Technology, 2012.

was developed by the Center for Neighborhood Technology (CNT) to show the importance of transportation costs to overall housing affordability. In this calculation, anything above 45 percent of income spent on housing plus transportation is deemed to be unaffordable.

Despite the low percentage spent on housing, Santa Cruz Southwest neighbors spent more than 55 percent of their income on the combined costs of housing plus transportation (Figure 6.18). All sections of the neighborhood spent a greater proportion of their income on transportation than on housing.



Figure 6.18: Average Santa Cruz Southwest Housing + Transportation Cost as Percentage of Income

Image and data provided by the Center for Neighborhood Technology, 2012.

Character

Santa Cruz Southwest has a wide range of structure types and development patterns, as well as a large proportion of undeveloped land. None of the neighborhood has street lighting, and most of it is very dark (Figure 6.19).

Street Lighting

On the evening the Drachman windshield survey team was active, the southwestern residential section of the neighborhood was much brighter than the northeastern side due to private lighting. With shorter set-backs from the road, these porch lights are situated close to the street and illuminate the right-of-way as well, providing some lighting for areas of potential pedestrian activity. In the northern and eastern sections of the neighborhood, houses are set far from the street's edge, and even if private lighting is on, this light does not generally reach the right-ofway or other public areas.

Additional Lighting

Kennedy Park, located to the west of the neighborhood, is well-lit, and the baseball fields are in use during the evenings.

The commercial section concentrated at the corner of Ajo Way and Mission Road is also welllit and bustling with activity in the evenings.



There are no street lights within Santa Cruz Southwest, but some seasonal decorations brighten the neighborhood.



Evening traffic is slower along the commercial strips outside of Santa Cruz Southwest.



Food City is one of the more active places around Santa Cruz Southwest.



The ball fields at Kennedy Park are lit in the evenings.



Figure 6.19: Santa Cruz Southwest Street Lighting Santa Cruz only has light along the main thoroughfares along the perimeter; there is no street lighting within the neighborhood.

Building Characteristics

The majority of parcels in Santa Cruz Southwest (61.2 percent) have structures in either "Good" or "Excellent" condition (Figure 6.20). This means they need no more than \$5000 worth of improvement to be in perfect condition. Approximately 15 percent are in "Fair" condition requiring between \$5,000 and \$15,000 in repairs. Sixteen structures are in "Poor" condition, indicating a need for repairs on the order of \$15,000 to \$50,000. One structure was assessed as "Replacement," meaning the cost to repair it would exceed the cost to tear down and rebuild.

The multi-family structures in Santa Cruz Southwest are in "good" condition overall, while single family homes, particularly mobile homes, have a large proportion in "fair" to "poor" condition (Figure 6.21). There are no commercial properties within the neighborhood that are in "poor" or "replacement" condition (Figure 6.21).



Almost a quarter of all structures in Santa Cruz Southwest are mobile homes.



Figure 6.20: Overall Condition of Structures in Santa Cruz Southwest Area (residential and commercial)



Structures and landscapes are evaluated independently of each other.



Twenty percent of single-family residential structures in Santa Cruz Southwest are in 'excellent' condition.


All Multi-Family Residential Structures

All Single-Family (Non-Mobile Home) Structures





Figure 6.21: Condition of Structures by Property Type in Santa Cruz Southwest

Landscape Conditions

Just under 17 percent of parcels in Santa Cruz Southwest have landscapes considered to be in "poor"condition (Figure 6.22).

Retail and Industrial landscapes vary but are generally average, while the condition of undeveloped land is very poor (Figure 6.23). Multi-family residential landscapes are in good condition overall, while single family non-mobile home landscapes are in relatively poor condition (Figure 6.23).

Litter and Graffiti

The windshield survey also recorded the presence of litter and graffiti on each parcel and trees in the adjoining right-of-way (Table 6.6). Litter and graffiti levels are higher than in the other selected NSP2 neighborhoods.

Table 6.6: Condition of Landscapes inSanta Cruz Southwest

Parcels with Street Trees (Trees in ROW)	Parcels with Litter	Parcels with Graffiti
11.0%	45.5%	7.22%



The wash system in Santa Cruz is the target of some graffiti and dumping.



Figure 6.22: Overall Condition of Landscapes in Santa Cruz Southwest Area (residential and commercial)



This lot is in "poor" condition as it contains significant weeds, litter or debris.



Unimproved lots are considered "average" if they are mostly free of weeds, litter and debris.



All Multi-Family Residential Landscapes

Single-Family (Non-Mobile Home) Landscapes





Figure 6.23: Condition of Landscapes by Property Type in Santa Cruz Southwest

Vacant and Unoccupied Structures

Due to conflicting definitions of vacancy, only structures with boarded windows and doors were labeled "vacant." Using this definition, in the Santa Cruz Southwest area 5 of the 515 assessed parcels with structures were vacant as of December 2010. This vacancy rate is relatively low compared to 2010 U.S. Census data which has a broader definition of vacancy.

The Census definition incorporates as vacant housing units: those for rent or for sale; those properties that are vacant due to seasonal, recreational, or occasional use; and "other vacant," which may be recent foreclosures or units that owners or renters have walked away from (see Table 6.7). According to the 2010 U.S. Census, the total vacancy rate in the Santa Cruz Southwest area is 9.1 percent.

The windshield survey teams also noted structures with 'For Sale' or 'For Rent' signs. Some 1.7 percent of the neighborhood parcels were either for sale or for rent in November 2010 (Table 6.8). Structures with 'For Sale' of 'For Rent' signs, even ones that appeared uninhabited, are not classified as 'vacant' unless windows and doors are either missing or boarded up. Thirty-seven parcels are visually inaccessible from public areas and could not be surveyed.



Vacant retail locations within the neighborhood are visible reminders of area distress.

Foreclosures

The Drachman windshield survey team was unable to visually determine the number of foreclosures in each neighborhood. The Department of Housing and Urban Development (HUD) determines a "Foreclosure Risk Score" by census tract. This score is on a scale from 1-20. with 20 being the highest risk. From May 2009 to June 2010, the foreclosure risk score for the census tract that includes the Santa Cruz Southwest area increased from 17 to 18. As of June 2010, 15.2 percent of mortgages in the census tract were in serious delinquency (90+ days) or in foreclosure. The number of "foreclosure starts" between July 2009 and July 2010 for this tract was 33, and the number of "foreclosure completions" between July 2009 and July 2010 was 22 (out of a total of 1,913 addresses.)

Impacting Vacant and Foreclosed Properties

HUD estimates that a minimum of 20 percent of foreclosures in an area would need to be addressed to make a visible impact in a given area. For the census blocks that compose the Santa Cruz Southwest Neighborhood, the combined impact number is seven.

In the Santa Cruz Southwest Neighborhood the vacant retail locations at Ajo Way and Mission Road are the most obvious signs of area distress.

Vacant Units	Units	Percent
For Rent	28	3.1%
Rented, not occupied	1	0.1%
For Sale	29	3.2%
Sold, not occupied	4	0.4%
Other Vacant**	7	0.8%
For seasonal/ recreational/ occasional use	14	1.5%
For Migrant Workers	0	0.0%
Total Vacant Units	83	9.1%
Total Housing Units	911	100%

Table 6.7: Housing Units by Vacancy Statusin Santa Cruz Southwest Neighborhood*

* Source: U.S. Census 2010 Summary File 1 (ESRI) ** Includes recent foreclosures or units that owners have walked away from. See text for more information.

Vacant and Undeveloped Land

Twenty-four parcels are vacant, undeveloped lots per the windshield survey (Figure 6.24). Most of the vacant land in Santa Cruz Southwest is within the floodplain. Pima County owns large tracts of land in the northern part of the neighborhood.

Table 6.8: Observed Available Propertiesin Santa Cruz Southwest Area

Sign	Parcels	Percent of Neighborhood
For Sale	9	1.3%
For Rent	3	0.4%



Figure 6.24 Vacant Land in Santa Cruz Southwest Area

Medium shaded parcels indicate vacant land identified by the Drachman windshield survey. Lightly shaded parcels indicate land identified as vacant by Arizona Department of Revenue and Pima County Assessor in December 2006. Darkly shaded areas indicate parcels that could not be observed from public right-of-way and hence were not assessed.

Location of Commercial Services

The majority of the commercial services available to residents of the Santa Cruz Southwest area are found at Ajo Way and Mission Road. These businesses provide the neighborhood with grocery stores, a bank, retail, goods, convenience stores, health related services, restaurants, and several fast food outlets. This cluster of services is within a half mile walking distance of all the residents in the southern section of the neighborhood (Figure 6.25). In contrast, residents in the northern section of Santa Cruz Southwest are within a half-mile walking distance of a convenience store, a restaurant, and a bail bonds service.

Available Services and Amenities

Santa Cruz Southwest has no schools within the neighborhood. Lynn Urquides, a public elementary school, is located across Ajo Way. Cape School, an adult school in the Pima Accommodation School District, is located north of Silverlake at the County jail.

Walking trails, picnic areas, playgrounds, Mission Library, and a stocked fishing lake are located in Kennedy Park just across Mission Road. The Santa Cruz River Park is also located within a half mile of the neighborhood to the east. Both police and fire stations are located within a quarter mile of the neighborhood.



There are a number of fast food services located in and around Santa Cruz Southwest.



The proximity to the County jail encourages businesses such as this bail bonds service.



Discount stores and beauty shops are among the most common types of retail around Santa Cruz Southwest.



Food City is one of three grocery stores in the vicinity.



Figure 6.25: Services and Amenities in Santa Cruz Southwest

The majority of services and amenities in Santa Cruz Southwest area are found along Ajo Way.



Kennedy Park has ball fields, picnic areas, walking paths and a fishing lake.



A private playground is located in one of the mobile home parks.



Public art graces the area outside Mission Library on Ajo Road, adjacent to Santa Cruz Southwest.



The Santa Cruz River Park is adjacent to Santa Cruz Southwest area.



Mission Library is located just across Mission Road from Santa Cruz Southwest.



There are a number of health-related services and retail close to Santa Cruz Southwest.

Location and Geography

Santa Cruz Southwest area includes many sizable drainage ways. The location of the neighborhood next to the Santa Cruz River and between the washes of the west fork provides natural scenery and opportunities for recreation and wildlife viewing, as well as issues related to erosion, flooding and potential conflicts with wildlife. The area has a rural character, particularly in the northern half.

Demographics and Housing Characteristics

Compared to the City of Tucson, the area is predominantly Hispanic, with 78.4 percent identifying as Hispanic compared to the City's rate of 41.6 percent.

Most of Santa Cruz Southwest residents own their home, and neighborhood rentals are just 21.6 percent, well below Tucson's 48.1 percent.

According to U.S. Census data, 74 percent of all units in the area are mobile homes. Thus, the median home values in the neighborhood (\$32,717) are well below the City average of \$169,900.

While the median year that the householder moved into the unit is 2002, 31.5 percent of householders have lived in Santa Cruz Southwest for ten years or more.

Development Patterns

Santa Cruz Southwest was developed primarily during the 1970s and 1980s when the large mobile home parks were built in the northern section of the neighborhood. Most of the single and multifamily homes in the southern section were built during the 1980s, but some of these homes date back to as early as the 1930s or 1940s.

Affordability

Comparing the price of housing in the neighborhoods to income in 2010 shows that housing is affordable in Santa Cruz Southwest. Despite the low percentage (20%) of income spent on housing, the combined cost of housing plus transportation is unaffordable for residents. In general, residents spend more than 55 percent of their income on housing plus transportation, well above the 45 percent considered affordable.

Walkability, Transportation, and Accessibility

Very little of Santa Cruz southwest is accessible by sidewalks or walking paths. Connectivity through the neighborhood (both north-tosouth and east-to-west) is severely limited by development patterns, the wash system, and private land ownership. Bus stops are found only on the main arterial roads surrounding the neighborhood. About half are un-sheltered, many have accessibility concerns, and most of the northern half of the neighborhood does not live within a quarter-mile walking distance of a bus stop. There is no street lighting within the neighborhood.

Assessment of Structures and Landscapes

The majority of structures are in 'good' or 'excellent' condition in Santa Cruz Southwest. Multi-family structures are in particularly good condition. Mobile homes have the largest proportion of structures in need of repairs and improvements. Only one structure, a single family home, is identified as being in need of replacement.

Landscapes are generally in good condition. Santa Cruz Southwest has a high proportion of landscapes in excellent condition, and a low percentage of landscapes in poor condition. Undeveloped land is generally in poor condition.

Services and Amenities

Almost all services and amenities in and around Santa Cruz Southwest, including Kennedy Park and the library, are located near the corner of Ajo Way and Mission Road. These services and amenities are far from the residents in the northern half of the neighborhood, particularly as there is no easy or accessible connectivity through the neighborhood from the north to the south, or from the eastern trailer park communities to the sidewalk along Mission Road.



Cardinal/Valencia Area

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Location

The Cardinal/Valencia area is not an officially recognized neighborhood but rather a geographical grouping of adjacent housing developments. The area studied by Drachman Institute is bounded to the north by Valencia Road, to the west by Camino de la Tierra, south by the unnamed local wash, and east by Mission Road (Figures 7.0 and 7.1). This area is located just outside the western boundary of the City of Tucson and in Pima County Supervisor District 5.

The Drachman windshield survey team was active in the Cardinal/Valencia area during December 2010.

Neighborhood Characteristics

The Cardinal/Valencia area as defined in this study consists of approximately 717 parcels. The survey team assessed parcels in two distinct residential areas: an area to the east of Cardinal Road and an area to the west of it. The area to the east has a distinct development pattern – single family detached houses placed close to each other and close to the street. The typical front yard in this neighborhood measures only twenty feet from street to residence. The development west of Cardinal Road is more typical of post-World War II development in Tucson in general. Here there are single family detached residences placed approximately thirty feet apart and set back from the street by thirty to forty feet. The



Figure 7.0: Cardinal/Valencia Location

The Cardinal/Valencia area is located just west of the City of Tucson and within the westernmost component of the NSP2 Target Area.



Figure 7.1: Development Surrounding the Cardinal/Valencia Area Cardinal/Valencia is located near the Santa Cruz River's west fork, the San Xavier District of the Tohono O'odham Reservation, and I-19.

areas surrounding these two developments are largely rural in nature.

The area is part of an evolving edge of development for the greater Tucson area, and its physical patterns are typical of ex-urban areas.

Like the other neighborhoods in this study, at least one of the area's edges is a "hard edge," or one that has limited access to and from the neighborhood. In this case the eastern edge of the Cardinal/Valencia area is farmland, while much of the western edge is composed of undeveloped land. The light shaded areas in Figure 7.1 indicate developed areas. While most of the land directly north and south of the study area has been developed, land to the east, west, and center of the study area remains largely rural in nature. There are few services and amenities in and around the study area.

Development in the Cardinal/Valencia area occurred during the 1970s and 1980s.

Photographs



Much of the Cardinal/Valencia area has a distinctly rural character.



There are very few streets with sidewalks or other dedicated walking paths in the Cardinal/Valencia area.



Ebonee Marie Moody Neighborhood Park is located on Cardinal Road just north of Calle de Rosita.



An unnamed wash is located along the southern edge of the study area.



Homes in the west part of the area are set back farther from the street than those in the east.



Houses in the east area are set very close to the street, often leaving no back-of- curb area open.



Figure 7.2: Cardinal/Valencia Area - Location of Photos

Census Tract Location

Cardinal/Valencia is located within two census tracts: Tract 43.21 and 43.22 (see Figure 7.3).

Demographics

Approximately a third of the population of the Cardinal/Valencia study area is under the age of 18 (see Table 7.1). The area has a higher proportion of children than almost all of the other selected NSP2 neighborhoods, with 50.1 percent of the households having children. In addition, 11.7 percent of the households in the Cardinal/Valencia area are multi-generational households.

The average household size in the Cardinal/ Valencia study area is approximately 3.52, well above that of the Tucson average of 2.43 people per household.

The median household income for the Cardinal/Valencia area (\$52,173) is well above the Tucson median income of \$35,499.



Figure 7.3: Cardinal/Valencia Census Tracts Cardinal/Valencia (black boundary) is located in portions of two census tracts. Data from Pima County GIS, 2012.

	Cardinal/ Valencia	Tract 43.21	Tract 43.22	Tucson
Median Age	31.2	30.2	29.5	33.1
Percent Under 18	32.0%	33.5%	33.7%	23.3%
Percent Over 65	7.0%	6.2%	7.1%	11.9%
Median Income	\$52,173	\$52,004	\$50,806	\$35,499
Percent Hispanic	76.7%	74.4%	70.0%	41.6%
Percent High School Graduate or Higher	86.2%	83.1%	80.4%	83.1%
Percent Bachelor's Degree or Higher	10.4%	15.9%	8.5%	24.8%
Percent in Poverty	11.1%	11.4%	12.0%	17.8%

Table 7.1: Cardinal/Valencia Demographics

All statistics are from the 2010 Census (ESRI), with the exception of *Educational Attainment and *Percent Households in Poverty in Last Year which come from the American Community Survey 2005-2009 5-year estimates,(ESRI)

Housing Characteristics

The vast majority of Cardinal/Valencia residents own their home. Only 17.9 percent of residents in the area rent their homes (see Figure 7.4). This is well below the Tucson renter-occupied rate of 48.1 percent and is lowest renter-occupied rate of the selected NSP2 neighborhoods.

The median year that the householder moved into Cardinal/Valencia is 1997 (see Table 7.2). According to U.S. Census data, 61.4 percent of residents have lived in the area ten years or more.

The overwhelming majority of the housing units in Cardinal/Valencia are single-family (96.9 percent), with a median home value of \$140,561.



Figure 7.4: Cardinal/Valencia Households by Tenure and Mortgage Status 2010 Census (ESRI)

	Cardinal/ Valencia	Tract 43.21	Tract 43.22	Tucson
Housing Values* (owner-occupied units)				
\$0-99,999	15.4%	8.6%	14.7%	19.2%
\$100,000-149,999	43.4%	33.7%	34.5%	20.1%
\$150-199,999	32.0%	31.6%	25.1%	25.2%
\$200,000+	9.2%	26.1%	25.7%	35.5%
Median	\$140,561	\$159,400	\$151,300	\$169,900
Median Year Householder Moved into Unit*	1997	2001	2001	2003
Percent Owner- Occupied**	82.1%	82.2%	80.7%	51.9%
Average Household Size**	3.52	3.33	3.39	2.43
Single-Family Units*	96.9%	95.1%	86.1%	59.5%

Table 7.2: Cardinal/Valencia Housing Characteristics

*American Community Survey 2005-2009 5-year estimates, ESRI. **2010 Census Summary File, ESRI . Cardinal/Valencia

Zoning

The Cardinal/Valencia area includes five Pima County zoning classifications as shown below in Figure 7.5^{1} .

The majority of parcels in the area are zoned for residential uses under the Single Residence (CR-3), Rural Residence (GR-1), or Trailer Homesite (TH) classifications. The CR-3 allows for a minimum lot width of 60 feet, a minimum area of 8,000 square feet, and a maximum structure height of thirty-four feet.

1 See Appendix B for a complete list of Pima County Zoning Classifications and summary descriptions. GR-1 zoning allows for residential, agricultural and limited commercial uses on a minimum area of 36,000 square feet. TH zoning allows for development with a minimum area of 2,000 square feet. The Commercial (CB-1) zones along the northern perimeter of the neighborhood allow for offices, retail, day care centers, motels, hotels and health care centers. The CB-2 zone also allows for the development of wholesale, storage of equipment and household goods, as well as bars.



Figure 7.5: Zoning Classifications in the Cardinal/Valencia Area

Land Use

Land use in the Cardinal/Valencia area does not correspond closely with the zoning specifications. The large residential development in the eastern half of the study area is zoned for trailers and recreational vehicles (RV) but has been developed as a dense single-family residential area (Figure 7.6). Short set-backs from the road and lack of back-of-curb area have been allowed in the TH zoning. On the other hand, the area west of Cardinal zoned for Suburban Homesteads (SH) is largely mobile homes. Although the CR-3 zoning allows for two-stories and denser development, the southwestern section of the study area has been developed with lower density, single-story, single-family residences. Only some of the CB-1 zones along Valencia have been developed.

Table 7.3: Land Use in Cardinal/Valencia

Land Use	Number of Parcels	Percentage of Parcels
Single Family Residence(SFR)	638	89.1%
Multi-Family Residence (MFR)	2	0.3%
Retail	5	0.7%
Office	0	0.0%
Industrial	1	0.1%
Vacant Lot (None)	25	3.5%
Mobile Home	31	4.3%
Other*	12	1.7%
Unable to Observe	2	0.3%

*Includes schools, parks, private streets, and uses not otherwise classified.



Development Patterns

Like other west side neighborhoods in the Tucson metropolitan area, the developments in the Cardinal/Valencia area are surrounded by alternating pockets of development, undeveloped desert, and the primarily rural landscape of the San Xavier District. The area's main link to the rest of the city is via Valencia Road.

Large scale production of housing in this area began in the early 1970s and still continues. The

western Cardinal/Valencia area development was built during the 1970s and the eastern during the 1980s; both residential developments include cul-de-sacs. Commercial developments along Valencia Road were built in the 1990s and later.

Existing structures and roads are shown in Figure 7.7. The pattern of development by parcel and decade is shown in Figure 7.8.



Figure 7.7: Current Neighborhood Build-Out in the Cardinal/Valencia Area Structures (black), and roads (grey) in the Cardinal/Valencia area



Cardinal/Valencia Area 1949



Cardinal/Valencia Area 1969



Cardinal/Valencia Area 1989

Figure 7.8: Cardinal/Valencia Area Development Over Time Source: Pima County GIS, 2010



Cardinal/Valencia Area 1959



Cardinal/Valencia Area 1979



Cardinal/Valencia Area 2010

Density

The western part of the Cardinal/Valencia area has a density of just over 4,226² people per square mile. That is well above the Tucson average of 2,294. The eastern side is less dense but still greater than the Tucson average (see Figure 7.9).

The lower density of the eastern side is due primarily to the presence of large tracts of undeveloped or sparsely developed land and some low density residential areas.

2 2010 U.S. Census, provided by Pima County GIS

4984.49 3520.79 Miller Mission Elementary Ridge School Park Medy Neighborhood Park

Figure 7.9: Population Density in the Cardinal/ Valencia Area by Block Group

Numbers indicate people per square mile based on the 2010 U.S. Census. Dotted lines indicate Block Group Boundaries. Data provided by Pima County GIS.



Population densities in the southern half of the western block are high.



Development in the east Cardinal/Valencia area has houses set quite close to each other and to the street.



Large areas of undeveloped land on the eastern side of the Cardinal/Valencia study area reduce the density numbers for this census block.

Rivers & Washes

The Cardinal/Valencia study area is located in the Tucson Mountain-Santa Cruz River Basin, and a number of washes pass through the area (Figure 7.10).

Valencia Wash has a flow rate of over 2,000 cubic feet per second. The area's unnamed washes all have significantly lower flow rates, mostly between 500 and 1,000 cubic feet per second.

The Valencia Wash creates a large xeroriparian area in the study area. Xeroriparian habitats are areas of naturally-occurring vegetated communities supported by intermittent or ephemeral stream flows. These areas often serve as important habitat for native flora and fauna.

Flooding

Much of the northern section of the study area, as well as a pocket in the southern section, is within FEMA's 100-year flood zone (Figure 7.10). Flooding occurs along Valencia Wash as well as at the junction of Westover Road and the unnamed wash that runs south of the study area.

A small amount of dumping and debris accumulation was observed in the wash system during the course of the windshield survey.



Very little of the Cardinal/Valencia wash system has been lined or channelized.



Figure 7.10: Hydrology and Drainage in the Cardinal/Valencia Area

Valencia Wash and many unnamed smaller washes with flow rates under 5000 cubic feet per second pass through the Cardinal/Valencia area. Striped areas indicate the FEMA 100-year flood zone. Dotted green areas indicate xeroriparian habitat.

Bicycles

The Cardinal/Valencia area has very few improved bike routes in and around the neighborhoods (Figure 7.11). Striped bicycle lanes have been added along Valencia Road east and west of the neighborhood and are planned for Valencia Road on the north edge of the neighborhood. Although other routes have been labeled as good bicycle routes (key connectors or residential bike routes), these streets currently have few or no improvements aimed at serving bicyclists. Connectivity for residents moving in the eastwest direction is generally limited, as no neighborhood streets connect in this direction. Bicyclists seeking to move through the Cardinal/ Valencia area are forced to use vehicular routes without bicycle amenities.

Pedestrian

www.walkscore.com

3

The Cardinal/Valencia area has a Walk Score³ of 35 out of 100 and is therefore considered



Figure 7.11: Bicycle Routes in the Cardinal/Valencia Area

"Car Dependent."⁴ Few services are located within a quarter-mile walking distance of most residences and few quality walking routes exist. The only sidewalk in the study area covers one block along the southern side of Valencia Road in front of Walmart (Figure 7.12).

Street trees are a key component of good walking routes. Trees grow in the right-of-way of fewer than eight percent of parcels, but 82 percent of properties have trees on property (Table 7.4). Due to short set-backs, many of these trees also provide some shade for the right-of-way.

4 Walk Score Ratings: 90-100 "Walker's Paradise"; 70-89 "Very Walkable"; 50-69 "Somewhat Walkable"; 25-49 "Car Dependent"; 0-24 "Very Car Dependent."



Most homes had trees on their property, which help shade the road.

Table 7.4: Cardinal/Valencia Street Tree Coverage*

Trees in Right- of- Way	Parcels	Percentage
No	662	92.5%
Yes	54	7.5%

* Source: Drachman windshield survey



The few areas that have open back-of curb areas have no sidewalks, and most often no street trees.



Steep curbs and the lack of sidewalk space make streets the only place for pedestrians and wheelchairs to travel.



Pedestrians were a rare sight for the windshield survey Team in the Cardinal/Valencia area.



Figure 7.12: Sidewalks and Street Trees in the Cardinal/Valencia Area The map above shows existing sidewalks (in red) and parcels with at least one street tree in the right-of-way (green outline).

Vehicles

The average number of vehicle miles traveled per household per year in Tucson is 18,069. In the Cardinal/Valencia area this number is higher, averaging over $20,000^5$ miles per year (Figure 7.13).

The high number of vehicle miles traveled as compared to the region support the previously noted "Car Dependent" nature of the area 6 .



Figure 7.13: Average Vehicle Miles Traveled per Household per Year

Image and data provided by the Center for Neighborhood Technology, 2012

⁵ Based on Region Typical values; see Appendix ${\cal G}$ for source and methods

⁶ www.walkscore.com

Public Transit

The Cardinal/Valencia area is not well served by city transit. Most residents do not live within a quarter-mile of a bus stop, and most stops are unsheltered (Figure 7.14). Two city bus routes serve the area, and connect to the Laos Transit Center at Irvington Road and 6th Avenue (Figure 7.15). These bus routes also have a small ridership share (Table 7.5). See Appendix E for the complete existing transit system and Appendix F for Projected Transit routes.

Table 7.5: Bus Ridership in Cardinal/ Valencia Area*

Route	City-Wide Ridership/Yr	Percent of City Total
27	33,602	1.9%
29	40,003	2.4%

* Data Provided by Sun Tran, 2010



Sun Tran passengers find shelter under a tree while waiting for a bus in the Cardinal/Valencia area.



Figure 7.14: Bus Routes and Stops in the Cardinal/Valencia Area Lines show existing city bus routes in and around the neighborhood. White dots indicate the location of un-sheltered bus stops; black triangles the location of sheltered stops.



Figure 7.15: Cardinal/Valencia Area Connectivity by Public Transit

The routes that serve the Cardinal/Valencia area are shown in red above. They connect to other city routes at the Roy Laos Transit Center at Irvington Road and South 6th Avenue.



This bus stop, typical for the area, is un-sheltered, has no bench, and has poor access due to a lack of sidewalks.



Cardinal/Valencia is rated "car dependent" by Walkscore.com.

Housing and Transportation Affordability

Housing Affordability

Cardinal/Valencia area housing costs⁷, when taken alone, average 27.4 percent of income, just below the 30 percent of household income and thus considered affordable (Figure 7.16).

Housing + Transportation Affordability

W Barrel

The Housing+Transportation Affordability Index was developed by the Center for Neighborhood Technology (CNT) to show the importance of transportation costs to overall housing affordability. In this calculation, anything above 45 percent of income spent on housing plus

7 See Appendix G for sources and methods.

transportation is considered to be unaffordable. The entire study area exceeds the affordable limit when considering the combined cost of housing plus transportation.

Cardinal/Valencia area neighbors spend on average 58.1 percent of their income on the combined costs of housing plus transportation (Figure 7.17). This is well above the affordable limit. Residents in this area are spending about as much on transportation as they are on housing.

Figure 7.16: Average Housing Cost as aFigure 7Percentage of Income in the Cardinal/ValenciaCAreaValencia

Spending over 30 percent of income on housing is considered unaffordable.

Image and data provided by the Center for Neighborhood Technology.

Figure 7.17: Average Housing + Transportation Cost as Percentage of Income in the Cardinal/ Valencia Area

Spending over 45 percent of income on housing plus transportation is considered unaffordable. Image and data provided by the Center for Neighborhood Technology.

25.78% 28.94% Ave Obregori



Lighting

Character

Much of the Cardinal/Valencia area has a distinctly rural character. There is very little street lighting along the major routes and none on internal neighborhood streets (Figure 7.18). The only public lighting observed by the Drachman team were poles located at the intersection of Cardinal and Valencia Roads. All other lighting along Valencia and Cardinal is provided by private businesses.

Street Lighting

The evening that the windshield survey team was active in the area, the residential streets were partially illuminated by private lighting. Due to short set-backs from the street, the outdoor lighting present on virtually all residences served to illuminate the right-of-way and potential pedestrian spaces.

Area restaurants, grocery stores, and drug stores were observed to be very active places in the evenings.



The more rural zones of the Cardinal/Valencia area are completely dark in the evening.



The parking lot of Walmart lights up a large section of Valencia Road in the Cardinal/Valencia area.



The east area is relatively well lit thanks to short setbacks and exterior lighting on residences.



The only street lights in the area are located at the intersection of Cardinal and Valencia Roads.



Valencia Road is illuminated primarily by the light from private businesses and parking lots.



Figure 7.18: Street Lighting in the Cardinal/Valencia Area The only street lighting in the Cardinal/Valencia area is at the intersection of Cardinal and Valencia Roads.

Building Characteristics

The vast majority (87.7 percent) of parcels in the Cardinal/Valencia study area contain structures either in "Good" or "Excellent" condition (Figure 7.19). This means they need no more than \$5,000 worth of improvement to be in "Excellent" condition. Approximately six percent are in "Fair" condition requiring between \$5,000 and \$15,000 in repairs. Five structures are in "Poor" condition, indicating a need for repairs on the order of \$15,000 to \$50,000. One structure is assessed as "Replacement," meaning it presents a threat to the health, safety, and welfare of the community; the cost to repair it would exceed the cost to tear it down and rebuild.

More than a quarter of non-residential structures could not be assessed from the public right-of way. Of those that could be assessed, none were in fair or poor condition (Figure 7.20).

Although the overall condition of residential structures within the Cardinal/Valencia area is very good, the general condition of the few mobile homes and multi-family structures is markedly worse (Figure 7.20).



The condition of homes under repair was assessed based on the estimated cost for completion.



Figure 7.19: Overall Condition of Structures in the Cardinal/Valencia Area (residential and commercial)



The majority of homes in the Cardinal/Valencia area visibly need few, if any, repairs.



The condition of landscape and structure are surveyed separately.



All Multi-Family Residential Structures

All Single-Family (Non Mobile Home) Structures





Figure 7.20: Condition of Structures by Property Type in the Cardinal/Valencia Area

Landscape Conditions

A majority of the landscapes in the Cardinal/ Valencia study area are considered 'Average' (Figure 7.21). Most parcels in the neighborhood have plantings or hardscape, but most yards are well maintained.

Although residential landscapes are generally average, multi-family residences as well as mobile homes have landscapes in much worse condition overall (Figure 7.22). Non-residential landscapes have a large proportion of poor landscapes due primarily to the presence of litter on undeveloped land.

Litter and Graffiti

The windshield survey also recorded the presence of litter and graffiti on each parcel, and trees in the adjoining right-of-way (Table 7.6). Graffiti levels are lower than the other NSP2 selected neighborhoods, but there is a considerable amount of litter. The number of street trees observed is similar to the numbers observed in other selected NSP2 neighborhoods.

Table 7.6: Condition of Landscapes in the Cardinal/Valencia Area

Street Trees	Parcels with	Parcels with
(Trees in ROW)	Litter	Graffiti
7.5%	42%	3.2%



Approximately 82 percent of homes have trees on their property in the Cardinal/Valencia area.



Figure 7.21: Overall Condition of Landscapes in Cardinal/Valencia Area (residential and commercial)



Parking lots were considered "Average" landscapes if they were well maintained and free of litter and weeds.



The vast majority of landscapes in the Cardinal/Valencia area are well maintained.



All Multi-Family Residential Structures

All Single-Family (Non Mobile Home) Structures





Figure 7.22: Condition of Landscapes by Property Type in the Cardinal/Valencia Area

Vacant and Unoccupied Structures

Due to conflicting definitions of vacancy, only structures with boarded windows and doors are labeled "vacant." Using this definition, in the Cardinal/Valencia area, eight of the 691 parcels with structures (1.6 percent) were vacant as of December 2010. This vacancy rate is relatively low compared to 2010 U.S. Census data which has a broader definition of vacancy.

The Census definition incorporates as vacant housing units: those for rent or for sale; those vacant properties that are vacant due to seasonal, recreational, or occasional use; and "other vacant" which may be recent foreclosures or units that owners or renters have walked away from (see Table 7.7). According to the 2010 U.S. Census, the total vacancy rate in the Cardinal/Valencia area is 6.8 percent.

Structures with 'For Sale' or 'For Rent' signs are also noted by the windshield survey teams. Some 1.8 percent of the neighborhood parcels had "for sale" signs, and none had "for rent" signs in December 2010 (Table 7.8). Structures with 'For Sale' of 'For Rent' signs, even ones that appear uninhabited, are not classified as 'Vacant' unless windows and doors are either missing or boarded up. Three parcels were visually inaccessible from public areas and could not be surveyed by the Drachman team.

Foreclosures

The Drachman windshield survey team was unable to visually determine the number of foreclosures in each neighborhood.



Structures classified as 'Vacant' had missing or boarded up doors or windows, per the definition of Pima County.

The Department of Housing and Urban Development (HUD) determines a "Foreclosure Risk Score" by census tract. This score is on a scale from 1-20, with 20 being the highest risk. From May 2009 to June 2010, the foreclosure risk score for the census tracts that includes the Cardinal/Valencia Area decreased from 19 and 20 to 18. As of June 2010, 16.1 and 16.4 percent of mortgages in the census tracts were in serious delinquency (90+ days) or in foreclosure. The number of "foreclosure starts" between July 2009 and July 2010 for this area was 122, and the number of "foreclosure completions" between July 2009 and July 2010 was 80 (out of a total of 1,621 addresses.)

Impacting Vacant and Foreclosed Properties

HUD estimates that a minimum of 20 percent of foreclosures in an area would need to be addressed to make a visible impact in a given area. For the census blocks that compose the Cardinal/Valencia area, the combined impact

Table 7.7: Housing Units by VacancyStatus in the Cardinal/Valencia Area*

Vacant Units	Units	Percent
For Rent	8	1.5%
Rented, not occupied	1	0.1%
For Sale	18	2.6%
Sold, not occupied	4	0.6%
Other Vacant**	14	2.0%
For seasonal/ recreational/ occasional use	2	0.3%
For Migrant Workers	0	0.0%
Total Vacant Units	47	6.8%
Total Housing Units	696	100%

*Source: U.S. Census 2010 Summary File 1 (ESRI) ** Includes recent foreclosures or units that owners have walked away from. See text for more information.

Table	7.8: Observed Available Properties
in the	Cardinal/Valencia Area

Sign	Parcels	Percent of Neighborhood
For Sale	13	1.8%
For Rent	0	0.0%
number is 24.

Vacant and Undeveloped Land

Twenty-three lots (3.2 percent) are observed to be vacant. Due to their large size, however, the vacant lots make up about a quarter of the total land in the area (Figure 7.23).



Vacant lots make up about a quarter of the total land in the Cardinal/Valencia area.



Figure 7.23: Vacant Land in the Cardinal/Valencia Area

Dark shaded parcels indicate vacant land identified by the Drachman windshield survey. Grey parcels indicate land identified as vacant by Arizona Department of Revenue and Pima County Assessor in December 2006.

Location of Commercial Services

Virtually all of the commercial services near residents of the Cardinal/Valencia area are located along Valencia Road (see Figure 7.24).

The Cardinal/Valencia area, located far from the City core, has fewer services within a half-mile of its perimeter than most of the other NSP2 selected neighborhoods. Most of the area businesses are located in stand-alone buildings centered around Valencia and Cardinal Roads, but there is also one large commercial strip.

Available Services and Amenities

The services offered in this area are a large grocery store, a Walmart, beauty services, a

bank, four restaurants, five fast food outlets, and a convenience store. A recently completed development includes a large stand-alone drug store. Approximately two miles east on Valencia Road, near I-19 and north of Elvira neighborhood, there is a large concentration of commercial goods and services, as shown in the Elvira neighborhood chapter of this report.

Miller Elementary School, a public school in the Tucson Unified School District, one church, and two neighborhood parks are also located in the study area. There are no libraries, fire or police stations within the immediate area.



An exercise loop with fitness stations is provided in Ebonee Marie Moody Neighborhood Park.



Automobile-related retail is common in all of the NSP2 selected neighborhoods.



Safeway and Walmart are the two grocery outlets nearest to the study area.



A hardware store is one of a few retail stores close to the Cardinal/Valencia study area.



Figure 7.24: Services and Amenities in the Cardinal/Valencia Area Almost all of the services and amenities in the Cardinal/Valencia area are found along Valencia Road.





A Walmart on Valencia Road



A locally owned restaurant on Valencia Road at the north end of the study area



Neighborhood children enjoy the play structure at Mission Ridge Neighborhood Park just south of the study area.

Location and Geography

The Cardinal/Valencia area includes two sizable drainage ways. The location of the area west of the city limits adjacent to farm land and the San Xavier District of the Tohono O'odham Reservation gives it a rural character.

Demographics and Housing Characteristics

Approximately a third of the population of the Cardinal/Valencia study area is under the age of 18. The area has a higher proportion of children than almost all of the other selected NSP2 neighborhoods, with 50.1 percent of the households having children.

The vast majority of Cardinal/Valencia residents own their home, and just 17.9 percent of residents in the area are renters. This is well below the Tucson renter-occupied rate of 48.1 percent.

The median year that the householder moved into Cardinal/Valencia is 1997, and 61.4 percent of residents have lived in the area ten years or more. The overwhelming majority of the housing units in Cardinal/Valencia are single-family (96.9 percent), with a median home value of \$140,561.

Development Patterns

The Cardinal/Valencia area was developed primarily during the 1970s and 1980s when the large subdivisions to the west and then east of Cardinal Road were developed. Prior to 1960, the land was entirely undeveloped. The only significant recent construction has been commercial development along Valencia Road, an area that remained undeveloped prior to the 1980's.

Affordability

Comparing the price of housing in the neighborhoods to income shows housing stock to be affordable in the Cardinal/Valencia area. Despite this, the combined cost of housing plus transportation is quite unaffordable. Area residents are spending 56 to 59 percent of their income on housing plus transportation. This is well above the 45 percent considered affordable. It is of note that the highest proportion of foreclosures in the NSP2 selected neighborhoods is in the Cardinal/Valencia area.

Walkability, Transportation, and Accessibility

The Cardinal/Valencia area is largely cardependent. Very few services exist within a quarter mile of the neighborhood perimeter, let alone a quarter mile from most residents. There are no sidewalks inside the study area, and virtually no street trees, although in some areas trees on private property shade the street due to short set-backs. Bus stops can be found only along Valencia and Cardinal, and most are unsheltered and have accessibility problems. There is no neighborhood street lighting. Lighting is very scarce even along the major roads in the area.

Assessment of Structures and Landscapes

The majority of structures are in 'good' or 'excellent' condition in the Cardinal/Valencia area. Multi-family structures are very few, and all are in fair condition. Mobile homes have the largest need of repairs and improvements. Only one structure, a single family home, is identified as being in need of replacement.

Landscapes are generally in good condition in Cardinal/Valencia. Many residential landscapes are in excellent condition, and few are in poor condition. Multi-family and mobile home landscapes are generally in much worse shape than other residences. Litter was observed in the washes and on undeveloped land.

Services and Amenities

Virtually all of the services and amenities in and around the Cardinal/Valencia area are located along Valencia Road and are not within a quarter mile walking distance of very many residents. The variety and number of services is also limited.



Control Neighborhood (Stella Mann)

Neighborhood Introduction Photographs Demographics and Housing Characteristics Zoning Land Use Development Density Hydrology and Drainage Transportation and Circulation	188 189 190 192 193	Housing and Transportation Affordability Airport Zones Lighting Assessment of Structures Assessment of Landscapes Vacant Structures and Land Services and Amenities Neighborhood Summary	199 200 201 202 204 206 208 210
Transportation and Circulation	194		

Control Neighborhood

A control neighborhood is included here for evaluation purposes. In future evaluations the baseline data from all selected neighborhoods may be used to explore changes over time in the NSP2 neighborhoods compared to the control neighborhood located outside the NSP2 Target Area.

Stella Mann was selected as the control neighborhood based on its similarity to the NSP2 Target Neighborhoods in this study. These had been previously identified and selected by Pima County NSP2 staff for assessment by Drachman Institute. This process is described in more detail in Chapter 2: Data and Methods.

Neighborhood Location

The control neighborhood Stella Mann is located on the east side of Tucson and bounded by Golf Links Road to the north, Kolb Road to the east, Craycroft Road to the west, and Escalante Road to the south (Figures 8.0 and 8.1). It is located in Pima County Supervisor District 2.

The Drachman windshield survey team was active in the area during December 2010 and assessed 1,559 parcels.



Figure 8.0: Control Neighborhood Stella Mann Location

Stella Mann is located east of the central core of the City of Tucson and outside the northeastern edge of the NSP2 Target Area.

Neighborhood Characteristics

The control neighborhood Stella Mann is typical of a mid-town Tucson development. It has a large area of single family detached residential development with a density of four or five units per acre, set within a perimeter of commercial strip businesses. The businesses face the street with their "back" facing the neighborhood. The residential area road patterns are comprised of curves, bends, and cul-de-sacs.

As in the NSP2 selected neighborhoods, at least one of the neighborhood edges in Stella Mann is distinct and impenetrable. This neighborhood is bounded on the south by the "hard edge" of Davis-Monthan Air Force Base and is therefore relatively inaccessible from this direction. The Aviation Bikeway runs along the southwestern border of the neighborhood.

Development Patterns

The shaded areas in Figure 8.1 indicate developed land around the neighborhood. Most of the area is developed, although parts of the Air Force Base are not built-out. Development in Stella Mann Neighborhood occurred almost exclusively during the 1960s and 1970s.



Figure 8.1: Development Surrounding Control Neighborhood Stella Mann Stella Mann Neighborhood is adjacent to Davis-Monthan Air Force Base.

Photographs



The parks located in Stella Mann provide the neighborhood with a wide variety of amenities.



The "Airplane Graveyard" at Davis-Monthan Air Force Base is located just south of Stella Mann Neighborhood.



A public pool is located in Escalante Park.



Compared to many Tucson neighborhoods, most Stella Mann streets have rolled curbs and sidewalks.



The Alamo Wash passes through the eastern half of Stella Mann Neighborhood.



There are a number of large apartment complexes within or adjacent to Stella Mann Neighborhood.



Figure 8.2: Control Neighborhood Stella Mann Location of Photographs

Census Tract Location

The control neighborhood Stella Mann is located within two census tracts: 40.33 and 40.34 (see Figure 8.3).

Demographics

The population of Stella Mann is slightly younger than the City average (Table 8.1). Twenty-seven percent of this area is eighteen years or younger. This is above the city-wide percentage but below some of the NSP2 neighborhoods, where this demographic makes up closer to 30 percent. The percent of the population above 65 years of age is 8.3 percent, compared to 11.9 percent in the City of Tucson as a whole.

The average median household income for Stella Mann Neighborhood is slightly above the Tucson median income. The percent of households under the federal poverty threshold is lower than the City of Tucson percentage.

Of adults over the age of 25 in the Control Neighborhood Stella Mann, approximately 89 percent have completed an education level of high school or above (Table 8.1).



Figure 8.3: Stella Mann Census Tracts

Stella Mann is comprised of portions of two census tracts, as shown above. The neighborhood boundary is in black. Data from Pima County GIS.

	Stella Mann	Tract 40.33	Tract 40.34	Tucson
Median Age	31.6	32.5	31.4	33.1
Percent Under 18	27.0%	24.4%	28.8%	23.3%
Percent Over 65	8.3%	9.3%	7.8%	11.9%
Median Income	\$36,903	\$29,357	\$40,599	\$35,499
Percent Hispanic	32.9%	32.9%	39.2%	41.6%
Percent High School Graduate or Higher	88.9%	64.4%	76.8%	83.1%
Percent Bachelor's Degree or Higher	15.6%	16.4%	17.3%	24.8%
Percent in Poverty	15.9%	12.8%	17.3%	17.8%

Table 8.1: Stella Mann Demographics

All statistics are from the 2010 Census (provided by ESRI), with the exception of education data and Percent Households in Poverty, which come from the American Community Survey 2005-2009 5-year estimates, provided by ESRI.

Housing Characteristics

In contrast to the NSP2 selected neighborhoods, almost half of Stella Mann residents are renters (Figure 8.4). This is similar to the City of Tucson but well above the percentage of renters found in most of the NSP2 neighborhoods.

Almost half of the home values of owner-occupied units fall between \$100,000-\$149,999, with a median home value of \$136,771 (Table 8.2).

According to U.S. Census data, approximately 38.1 percent of residents have lived in the Stella Mann Neighborhood for ten years or more.

The housing stock in the neighborhood is mainly single-family attached or detached (67.4 percent).



Figure 8.4: Stella Mann Households by Tenure and Mortgage Status, 2010 Census (ESRI)

	Stella Mann	Tract 40.33	Tract 40.34	Tucson
Housing Values* (owner-occupied units)				
\$0-99,999	14.8%	9.1%	17.2%	19.2%
\$100,000-149,999	48.5%	34.3%	47.4%	20.1%
\$150-199,999	29.0%	37.7%	31.1%	25.2%
\$200,000+	7.7%	18.9%	4.3%	35.5%
Median	\$136,771	\$158,600	\$134,300	\$169,900
Median Year Householder Moved into Unit*	2002	2004	2001	2003
Percent Owner- Occupied**	51.2%	44.2%	53.2%	51.9%
Average Household Size**	2.8	2.35	2.62	2.43
Single-Family Units*	67.4%	46.7%	76.3%	59.5%

Table 8.2: Stella Mann Housing Characteristics

*American Community Survey 2005-2009 5-year estimates, ESRI. **2010 Census Summary File, ESRI

Zoning

The control neighborhood Stella Mann includes five City of Tucson zoning classifications as shown in Figure $8.5.^1$

The vast majority of the parcels in the neighborhood are zoned for "residential" use with densities appropriate under the R-1 and R-2 classification. There are no zones of R-3 classification in the neighborhood.

1 See Appendix C for a complete list of City of Tucson Zoning Classifications and summary descriptions.

The C-2 and C-3 Commercial zones, as well as an RX-1 zone along Golf Links Road are not officially part of Stella Mann Neighborhood. The only areas of non-residential zoning within the neighborhood proper are two O-3 office zones located on the far east and far west sides of the neighborhood.



Figure 8.5: Zoning Classifications in the Control Neighborhood Stella Mann

Land Use

Zoning in two O-3 areas allows for approximately 15 percent of the control neighborhood Stella Mann to be developed with mid-rise office development or equivalent levels of density (Figure 8.6). The R-2 zoning also allows for medium-density multi-family development in almost half the neighborhood. Despite this, the windshield survey team found that the majority of the parcels in the neighborhood (70.9 percent) are developed with single-family homes, and virtually the entire neighborhood is currently residential (Table 8.3 and Figure 8.6).

Table 8.3: Land Use in Stella Mann

Land Use	Number of Parcels	Percentage of Parcels
Single Family Residence(SFR)	1103	70.9%
Multi-Family Residence (MFR)	435	28.0%
Retail	0	0.0%
Office	0	0.0%
Industrial	0	0.0%
Vacant Lot (None)	1	0.1%
Mobile Home	0	0.0%
Other*	17	1.1%
Unable to Observe	0	0.0%

*Includes schools, parks, private streets, and uses not otherwise classified.



Figure 8.6: Land Use in Control Neighborhood Stella Mann

Development Patterns

Stella Mann is a younger neighborhood, developed almost exclusively during the 1960s and 1970s. The neighborhoods surrounding Stella Mann were also largely developed during the 1970s and later. Existing structures and roads are shown in Figure 8.7. system of Tucson, but with some curves and culde-sacs. Development patterns during the 1970's focused on much shorter cul-de-sac streets. The pattern of development by parcel and decade is found in Figure 8.8.

Development patterns in the oldest sections of the neighborhood largely honor the established grid



Figure 8.7: Current Neighborhood Build-Out in Control Neighborhood Stella Mann Structures (black), and roads (grey) in the Stella Mann Neighborhood



Stella Mann Neighborhood 1949



Stella Mann Neighborhood 1969



Stella Mann Neighborhood 1989

Stella Mann Neighborhood 2010

Figure 8.8: Control Neighborhood Stella Mann Development Over Time Source: Pima County GIS, 2010



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Stella Mann Neighborhood 1959



Stella Mann Neighborhood 1979



Density

Stella Mann Neighborhood had an average density of around 8,000 people per square mile in 2010 (Figure 8.9).² That is over three times the Tucson average of nearly 2,300.

This high density is due at least in part to the R-3 zoning and large-scale rental apartment developments located just outside the neighborhood but within the same census block.

2 2010 U.S. Census



Figure 8.9: Density by Block Group in the Control Neighborhood Stella Mann

Numbers indicate people per square mile based on the 2010 U.S. Census. Dotted lines indicate Block Group boundaries; the solid black line indicates the neighborhood boundary. Data provided by Pima County GIS.

Rivers and Washes

The control neighborhood Stella Mann has one major wash: the Alamo Wash. Alamo Wash flows just past Vista del Prado Park in Stella Mann and through of the eastern part of the neighborhood (Figure 8.11).

Flooding

Alamo Wash is channelized but not concrete lined. Most trees, shrubs and other growth is removed regularly, and the channel is mostly free of debris. Although the wash passes under Kolb Road, at Birch and Stella Roads the wash is left to flow over, not under, the street. This may cause some safety problems during and after precipitation events, but no part of the neighborhood is in the FEMA 100-year flood zone.



The Alamo Wash is channelized, but not concrete lined.



The Alamo Wash cuts through much of the eastern half of Stella Mann Neighborhood running over, not under, Stella Road as shown above.



Figure 8.11: Hydrology and Drainage in the Control Neighborhood Stella Mann

The Alamo Wash is the only wash in the Stella Mann Neighborhood. Shaded circles indicate two areas where the wash flows across neighborhood roads. The striped area along Alamo Wash north of the neighborhood indicates the FEMA 100-year flood zone.

Bicycles

Stella Mann has three different kinds of bicycle facilities in and around the neighborhood. There are striped bicycle lanes along Golf Links, Kolb, Wilmot and Escalante Roads. There are also two City of Tucson-identified bike routes through the heart of the neighborhood on Stella and Mann Roads (Figure 8.12).

Stella Mann has direct access at Stella Road to the multi-use path along Aviation Parkway. The Aviation Bikeway provides residents with a safe and continuous dedicated bicycle and pedestrian path from Kolb Road all to downtown Tucson.

Pedestrians

The control neighborhood Stella Mann has a Walk Score of 44 out of 100, and is hence considered "Car Dependent."³ Not many services are located within a reasonable walking distance, although many good walking routes exist. Stella Mann is an unusual neighborhood in Tucson in that virtually the entire neighborhood has sidewalks (Figure 8.13). There is only one area without sidewalks located just west of Erickson Elementary School.

3 Source: www.walkscore.com.Walk Score Ratings: 90-100 "Walker's Paradise"; 70-89 "Very Walkable"; 50-69 "Somewhat Walkable"; 25-49 "Car Dependent"; 0-24 "Very Car Dependent."



Figure 8.12: Bicycle Routes in Control Neighborhood Stella Mann

Street trees provide shade, reduce temperatures, calm traffic and help provide better air quality. As such, street trees are a key component to good walking routes. Despite the presence of sidewalks, street trees grow in the right-of-way in just 5.5 percent of parcels in the neighborhood (Table 8.4).

As such, street trees are a key component to good walking routes. Despite the presence of sidewalks, street trees grow in the right-of-way in just 5.5 percent of parcels in the neighborhood, as shown Table 8.1. There are relatively more street trees in the north-central part of the neighborhood (Figure 8.10), but no streets have a continuous block or more of trees, and walking routes are exposed to the elements.

Table8.4:StellaMannStreetTreeCoverage*

Trees in Right- of- Way	Parcels	Percentage
No	1471	94.5%
Yes	85	5.5%

* Source: Drachman windshield survey



Stella Mann has a more complete sidewalk system than any of the NSP2 selected neighborhoods.



Rolled curbs allow for easier parking within the rightof-way, obstructing pedestrian paths.



Most of the sidewalks have no street trees or ADAcompliant curb ramps.



Pedestrian crossing Kolb Road at Stella Road.



Figure 8.13: Sidewalks and Street Trees in the Control Neighborhood Stella Mann The map above shows existing sidewalks (in red) and parcels with at least one street tree in the right-of-way (green outline).

Public Transit

Stella Mann Neighborhood is served by three city bus lines (Figure 8.14). These bus lines provide good coverage of the metropolitan area (Figure 8.15). There is one Park and Ride location at the corner of Golf Links and Kolb Roads. Most Stella Mann residents live within a quarter mile of a bus stop, and all live within a half mile. However, about 40 percent of stops are un-sheltered (Figure 8.14).

The bus routes serving Stella Mann include some of the more popular routes in the city (Table 8.5). See Appendix E for the complete existing transit system and Appendix F for Projected Transit routes.

Route	City-Wide Ridership/Yr	Percent of City Total
3	85,687	5.0%
4	140,669	8.3%
17	77,834	4.6%

* Data Provided by Sun Tran, 2010

 Table 8.5: Bus Ridership in Stella Mann*

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Approximately 60 percent of bus stops in Stella Mann Neighborhood have a shelter.



Figure 8.14: Bus Routes and Stops in Control Neighborhood Stella Mann

Lines show existing city bus routes in and around the neighborhood. White dots indicate the location of un-sheltered bus stops; black triangles the location of sheltered stops.



Figure 8.15: Control Neighborhood Stella Mann Connectivity by Public Transit Stella Mann Neighborhood is served by four bus routes. The routes that serve Stella Mann Neighborhood are shown in red above. The remaining bus transit system is shown in green.

Vehicles

The average number of vehicle miles traveled per household per year in Tucson is 18,988.76. In Stella Mann the vehicle miles traveled averaged approximately 17,795.7⁴ per year in 2010 (Figure 8.16). Residents in the southern section of the neighborhood tend to drive more on average than those in the northern and central sections.



 $^{4 \ {\}rm Based}$ on Regional Typical Values; see Appendix G for source and methods.

Figure 8.16: Annual Vehicle Miles Traveled in Control Neighborhood Stella Mann

Housing Affordability

The Department of Housing and Urban Development (HUD) defines affordable housing as housing that costs thirty percent or less of total household income. Housing costs in the control neighborhood Stella Mann, when taken alone, consume approximately 22 percent of residents' income, and thus are considered affordable (Figure 8.17).

Housing + Transportation Affordability

The Housing+Transportation Affordability Index was developed by the Center for Neighborhood Technology (CNT)⁵ to show the importance of transportation costs to overall housing affordability. In this calculation, anything above

5 See Appendix G for source and methods.

45 percent of income spent on housing plus transportation is deemed to be unaffordable.

Despite the low percentage of income spent on housing, Stella Mann Neighborhood exceeds the affordable limit when considering the combined cost of housing plus transportation. (Figure 8.18).

Stella Mann neighbors spend approximately 50.3 percent of their income on the combined costs of housing plus transportation. Every area within the neighborhood spends more on transportation than housing. The combined costs of housing plus transportation range from 48 to just over 52 percent throughout the neighborhood.



Figure 8.17: Control Neighborhood Stella Mann Average Housing Cost as a Percentage of Income

Spending over 30 percent of income on housing is considered unaffordable.

Image and data provided by the Center for Neighborhood Technology.



Figure 8.18: Control Neighborhood Stella Mann Average Housing + Transportation Cost as Percentage of Income

Spending over 45 percent of income on housing plus transportation is considered unaffordable. Image and data provided by the Center for Neighborhood Technology.

Airport Zones

Although the control neighborhood Stella Mann is located adjacent to the Davis-Monthan Air Force Base (DMAFB), it is not under its flight path. This means that the neighborhood is not within the Height Zone, nor is it within the Noise Zone, and is therefore not subject to any development restrictions (Figure 8.10).

Despite this, the proximity of the Air Force Base does impact the neighborhood. Planes and helicopters are both more audible and visible here than in neighborhoods located further from the Base, and the neighborhood is a convenient location for Base employees to live or shop.



Stella Mann Neighborhood is located adjacent to the Davis-Monthan Air Force Base.



Figure 8.10: Davis-Monthan Airport Height Zone and Air Force Base (in grey) Although Stella Mann is adjacent to the Davis-Monthan Air Force Base, it is not under its flight paths.

Street Lighting

As in most Tucson neighborhoods, the lighting provided in the Stella Mann Neighborhood is primarily for automobile traffic. Lights are exclusively mounted on tall, metal poles spaced at fairly long intervals from each other and are located along the major routes at the periphery of the neighborhood, but also along several streets within the neighborhood (Figure 8.19).

Many of the houses in Stella Mann did not have visible exterior lighting to the street when surveyed in December. As a result, most of the neighborhood was dark in the evening despite the presence of interior neighborhood street lighting.

The shopping mall located at the northeast corner of the neighborhood contains grocery stores and beauty services, which remain open and active in the evening.



The corner of Golf Links and Kolb is awash in light. but a block away, Stella Mann is quiet and dark.



Figure 8.19: Control Neighborhood Stella Mann Street Lighting

Stella Mann Neighborhood has street lighting along the three largest streets in the neighborhood, as well as two smaller ones.

Building Characteristics

Structures in control neighborhood Stella Mann are in very good condition, with 95 percent of structures rated "Good" or "Excellent" (Figure 8.20). Approximately four percent of structures are in "Fair" condition, requiring between \$5,000 and \$15,000 in repairs. Only three structures are in "Poor" condition (indicating a need for repairs on the order of \$15,000 to \$50,000), and no structures are assessed as "Replacement."

Although structures are generally in very good condition, multi-family structures are in slightly better condition than single-family homes (Figure 8.21).



Multi-family homes in Stella Mann.



Figure 8.20: Overall Condition of Structures in Control Neighborhood Stella Mann (residential and commercial)



This single family home is typical of the style found in Stella Mann Neighborhood.



Very few structures in Stella Mann are found to be in "poor" condition.



The condition of landscape and structure are surveyed separately for each parcel.



All Multi-Family Residential Structures

All Single-Family (Non Mobile Home) Structures



Figure 8.21: Condition of Structures by Property Type in Control Neighborhood Stella Mann

Landscape Conditions

Sixty-seven percent of landscapes in Stella Mann are considered "Average" (Figure 8.22). Most properties in the neighborhood show little "intentional" landscaping, but most yards are well maintained. Landscapes are generally in better condition on multi-family properties than single family properties (Figure 8.23).

Litter and Graffiti

The windshield survey also recorded the presence of litter and graffiti on each parcel and trees in the adjoining right-of-way (Table 8.6). Litter and graffiti levels are lower here than in any of the NSP2 selected neighborhoods. Compared to the selected neighborhoods, there are fewer trees in the right-of-way and on private property.

Table 8.6: Condition of Landscapes inStella Mann

Parcels with Street Trees (Trees in ROW)	Parcels with Litter	Parcels with Graffiti
5.5%	28.2%	1.0%



Parking lots are considered "Average" landscapes if they are well maintained and free of litter and weeds.



Figure 8.22: Overall Condition of Landscape in Control Neighborhood Stella Mann (residential and commercial)



Undeveloped lots are considered "Average" if they are mostly free of weeds, litter, and debris.



Most landscapes in Stella Mann are well maintained but had few plants or other improvements.



All Multi-Family Residential Landscapes

All Single-Family Residential Landscapes



Figure 8.23: Condition of Landscape by Property Type in Control Neighborhood Stella Mann

Vacant and Unoccupied Structures

Due to conflicting definitions of vacancy, only structures with boarded windows and doors are labeled "vacant." Using this definition, in Stella Mann Neighborhood 11 of the 1551 parcels with structures (0.7 percent) were vacant as of December 2010. This vacancy rate is relatively low compared to 2010 U.S. Census data which has a broader definition of vacancy.

The Census definition incorporates as vacant housing units: those for rent or for sale; those vacant properties that are vacant due to seasonal,

Table 8.7: Housing Units by VacancyStatus in the Stella Mann Neighborhood*

Vacant Units	Units	Percent
For Rent	70	4.1%
Rented, not occupied	3	0.2%
For Sale	24	1.4%
Sold, not occupied	3	0.2%
Other Vacant**	42	2.5%
For seasonal/ recreational/ occasional use	7	0.4%
For Migrant Workers	0	0.0%
Total Vacant Units	149	8.7%
Total Housing Units	1717	100%

*Source: U.S. Census 2010 Summary File 1 (ESRI) ** Includes recent foreclosures or units that owners have walked away from. See text for more information. recreational, or occasional use; and "other vacant" which may be recent foreclosures or units that owners or renters have walked away from (see Table 8.7). According to the 2010 U.S. Census, the total vacancy rate in Stella Mann Neighborhood is 8.7 percent.

Structures with 'For Sale' or 'For Rent' signs were also noted by the windshield survey team. Some 5.5 percent of the neighborhood parcels were either for sale or for rent in December 2010 (Table 8.8). Structures with 'For Sale' of 'For Rent' signs, even those that appeared uninhabited, are not classified as 'Vacant' unless windows and doors are either missing or boarded up.

Three parcels are visually inaccessible from public areas and could not be surveyed by the Drachman team.

Foreclosures

The Drachman windshield survey team was unable to visually determine the number of foreclosures in each neighborhood. The Department of Housing and Urban Development (HUD) determines a "Foreclosure Risk Score" by census tract. This score is on a scale from 1-20, with 20 being the highest risk. From May 2009 to June 2010, the foreclosure risk score for the census tracts that include the Stella Mann Neighborhood increased from 15 and 17 to 17 and 18. As of June 2010, 14.7 and 15.0 percent of mortgages in the census tracts were in serious



Structures classified as 'Vacant' have missing or boarded up doors or windows, per Pima County definition.

delinquency (90+ days) or in foreclosure. The number of "foreclosure starts" between July 2009 and July 2010 for these tracts was 126, and the number of "foreclosure completions" between July 2009 and July 2010 was 81 (out of a total of 3,408 addresses.)

Impacting Vacant and Foreclosed Properties

HUD estimates that a minimum of 20 percent of foreclosures in an area would need to be addressed to make a visible impact in a given area. For the census blocks that comprise the Stella Mann Neighborhood, the combined impact number is 26.

Vacant and Undeveloped Land

There are two very small vacant lots observed in Stella Mann (see Figure 8.24).

Table 8.8: Observed Available Propertiesin Stella Mann

Sign	Parcels	Percent of Neighborhood
For Sale	29	4.0%
For Rent	11	1.5%



Figure 8.24: Vacant Land in Control Neighborhood Stella Mann

Dark-shaded parcels indicate vacant land identified by the Windshield Survey. Light-shaded parcels indicate land identified as vacant by Arizona Department of Revenue and Pima County Assessor in December 2006.

Location of Commercial Services

The majority of the commercial services available to residents of Stella Mann Neighborhood are found along Golf Links Road, with a few located on Kolb and Wilmot Roads. As Stella Mann Neighborhood is bordered by the Air Force Base on two sides, it generally has few services along its perimeter (Figure 8.25).

Available Services and Amenities

The commercial services that are available are all located in large-scale retail developments. Services include a grocery store, fast food restaurants, beauty supplies and services, drug stores, auto services, and smaller retail stores. There is one elementary school, Erickson Elementary, located within Stella Mann itself. River of Life Christian School is located just north of the neighborhood on Golf Links road, along with the River of Life Baptist Church.

There are two neighborhood parks in Stella Mann. There are no libraries or fire stations, but a police station is located across 22nd Street from the neighborhood.



There are many auto-related shops and service centers along Golf Links by Stella Mann Neighborhood.



Two-thirds of the services located close to the southern section of Stella Mann are convenience stores.



El Rio Health Center is located on Golf Links Road just north of Stella Mann.



There are two large grocery stores within a quarter mile of Stella Mann Neighborhood.



Figure 8.25: Control Neighborhood Stella Mann Services and Amenities

The vast majority of services and amenities in Stella Mann Neighborhood are found along Golf Links Road.





Escalante Park has a pool for neighborhood families to enjoy.



Vista del Prado Park has ball fields, picnic areas, and mature shade trees.



This Walgreens is one of many services located on Golf Links Road within a quarter mile of Stella Mann.



Alamo Wash in Stella Mann.



There are at least six auto-related services located within a quarter mile of Stella Mann Neighborhood.



This movie rental shop is one of many services located on Golf Links Road within a quarter mile of Stella Mann.
Location and Geography

The control neighborhood Stella Mann is located in eastern Tucson and adjacent to the Davis-Monthan Air Force Base. It contains one sizable drainage way, the Alamo Wash.

Demographics and Housing Characteristics

The population of Stella Mann is slightly younger than the city average, with twenty-seven percent of the area being eighteen years or younger.

Of adults over the age of 25, approximately 89 percent have completed an education level of high school or above.

In contrast to the NSP2 selected neighborhoods, almost half of control neighborhood Stella Mann residents are renters. This is similar to the City of Tucson but well above the percentage of renters found in most of the NSP2 neighborhoods.

The housing stock in the neighborhood is mainly single-family attached or detached (67.4 percent).

Development Patterns

The control neighborhood Stella Mann was developed primarily during the 1960s and 1970s. The oldest structures in the neighborhood are found in the northwestern section. Prior to 1960, the land was almost entirely undeveloped, and new construction has been very rare since 1980. Significant recent construction has taken place on the adjacent Base and just to the west and southeast of the neighborhood.

Affordability

Comparing the price of housing in the neighborhood to income shows housing stock to be affordable in the Stella Mann neighborhood. Despite this, the combined cost of housing plus transportation is mostly unaffordable to residents. Area residents are spending approximately 50 percent of their income on housing plus transportation. This is above the 45 percent considered affordable.

Assessment of Structures and Landscapes

The vast majority of structures are in "Good" or "Excellent" condition in the Stella Mann Neighborhood, and only three structures are in "Poor" condition. Multi-family structures are in better condition than single family homes.

Landscapes are generally in "Average" condition in Stella Mann. Many residential landscapes are in excellent condition, particularly on multifamily residential properties. Non-residential landscapes have a proportion of "Poor" landscapes that is almost twice that of residential landscapes.

Walkability, Transportation and Accessibility

Residents in the Stella Mann area drive slightly less than the average Tucsonan, but the neighborhood exhibits infrastructure that encourages using alternative modes of transit. Walkability in the area is improved by the presence of a virtually complete sidewalk system. There are, however, very few street trees, and routes are exposed and sunny.

Bus stops are located within a quarter mile of approximately 80 percent of the neighborhood, and a majority are sheltered. The Aviation Bike Path also serves to connect the neighborhood to the urban core. There is some neighborhood street lighting along the largest roads in the area, which also illuminates the neighborhood bike and bus routes.

Services and Amenities

Virtually all of the services and amenities in and around the Stella Mann area are located at the corner of Golf Links and Kolb or Golf Links and Wilmot. These services are far from residents in the southern half of the neighborhood, but accessible within a quarter mile of most residents in the northern section. The two neighborhood parks and Erickson Elementary School are located in the central and southern sections and are within a quarter mile of most residents in the southern section.



Neighborhood Data Summary

Assessment of Structures

The general condition of structures in the neighborhoods studied is good, with the majority of structures in each neighborhood assessed to be in "Good" or "Excellent" condition (Tables 9.1-9.3).

The geographic distribution of structural condition is not generally well defined. Clusters of houses in "Excellent" condition are found in almost all the neighborhoods, and a clustering of structures in "Fair," "Poor," or "Replacement" condition is also observed, particularly in Rose, Elvira, and Keen neighborhoods. Cardinal/ Valencia, Julia Keen, and Santa Cruz Southwest are the only neighborhoods to show a clear clustering of structures in similar condition. In Rose, Julia Keen, and Elvira there is a noticeable incidence of structures next to and across the street from each other that are in markedly contrasting condition, i.e., a structure in "poor" condition across the street from several in "excellent" condition. Despite this lack of a strong pattern, each of the selected NSP2 neighborhoods has at

least one block where the structural condition of several houses in a row is either "Fair," "Poor," or "Replacement."

The windshield survey teams also recorded all structures with posted "For Sale" or "For Rent" signs in each neighborhood (see Table 9.4). The percentage is very similar in each of the neighborhoods--between 1.5 and 1.9 percent of parcels have "For Sale" signs posted.

Vacant structures were also recorded. Vacancy is difficult to determine through a windshield survey. The survey team consulted Pima County definitions of "vacancy," and in accordance with this definition marked as vacant only those structures that were either missing doors and windows entirely or had boarded-up doors and windows. As such, the vacancy rates are relatively low compared to 2010 U.S. Census data (see Table 9.4).

The visual windshield assessment found that Rose

	Elvira	Julia Keen	Rose	Santa Cruz Southwest	Cardinal/ Valencia	Stella Mann (control)
Decades of Primary Development	1950-1980	1950-1970	1950-1970	1970-1990	1970-1990	1960-1980
Excellent	13.1%	18.8%	15.8%	25.1%	24.1%	19.2%
Good	68.7%	70.0%	69.2%	52.8%	69.8%	76.6%
Fair	16.6%	10.6%	12.9%	17.4%	5.5%	4.0%
Poor	1.3%	0.6%	1.3%	3.4%	0.5%	0.2%

Table 9.1: Assessment of All Residential Structures

All assessment data based on Drachman Windshield Survey performed from October through December 2010.

	Elvira	Julia Keen	Rose	Santa Cruz Southwest	Cardinal/ Valencia	Stella Mann (control)
Excellent	13.2%	19.7%	15.7%	17.9%	24.5%	20.0%
Good	68.5%	67.7%	69.6%	55.1%	71.0%	75.1%
Fair	16.7%	12.0%	12.9%	21.4%	8.2%	4.6%
Poor	1.3%	0.6%	1.3%	4.0%	1.0%	0.3%
Replacement	0.2%	0.0%	0.2%	0.4%	0.15%	0.0%

* Includes mobile homes

All assessment data based on Drachman windshield survey performed from October through December 2010.

Neighborhoodhasthelargestvacancypercentage of all the selected NSP2 neighborhoods (2.3 percent of parcels have structures that are missing doors, windows, or are boarded up). In comparison, according to 2010 U.S. Census data, Julia Keen has the highest vacancy rate at 10.8 percent. The Census definition incorporates all vacant housing units including those for rent or for sale, those vacant properties that are vacant due to seasonal, recreational, or occasional use, and "other vacant" which may be recent foreclosures or units that owners or renters have walked away from (see Table 9.4).

	Elvira	Julia Keen	Rose	Santa Cruz Southwest	Cardinal/ Valencia	Stella Mann (control)
Excellent	10.2%	16.0%	23.1%	59.4%	0.0%	17.0%
Good	72.9%	76.8%	61.5%	42.9%	0.0%	80.5%
Fair	13.6%	6.6%	15.4%	1.1%	100%	2.3%
Poor	0.0%	0.6%	0.0%	1.1%	0.0%	0.0%
Replacement	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 9.3: Assessment of All Multi-Family* Residential Structures

* Includes duplexes, triplexes, and apartment and condominium complexes

All assessment data based on Drachman windshield survey performed from October through December 2010.

	Elvira	Julia Keen	Rose	Santa Cruz Southwest	Cardinal/ Valencia	Stella Mann (control)	
% of Parcels Unable to Observe	2.1%	0.2%	0.3%	7.6% 0.4%		0.1%	
% of Parcels No Structure	7.7%	2.7%	7.3%	8.5%	4.7%	0.8%	
For Sale Sign Present	1.7%	1.9%	1.5%	1.6%	1.8%	1.9%	
For Rent Sign Present	0.6%	2.1%	0.8%	0.4%	0.0%	1.5%	
% of Parcels with Vacant Unit (windshield survey)	1.5%	0.4%	2.3%	1.0%	1.2%	0.7%	
Vacant Housing Units (U.S. Census 2010)	10.0% (n=278)	10.8% (n=248)	6.8% (n=53)	9.1% (n=83)	6.8% (n=47)	8.7% (n=149)	
"Other Vacant: Units*	2.1% (n=58)	3.0% (n=69)	4.1% (n=32)	0.8% (n=7)	2.0% (n=14)	2.5% (n=42)	

Table 9.4: Summary of Vacant Structures

* 2010 U.S. Census, Summary File 1 (ESRI). "Other Vacant" includes recent foreclosures or units that owners or renters have walked away from.

Note: n=total number of vacant housing units

All assessment data based on Drachman windshield survey performed from October through December 2010.

Assessment of Landscapes

The Assessment of Landscapes was included in the survey to capture an aspect of "neighborhood pride" or "pride of ownership." The general condition of landscapes in the neighborhoods is "Average." Santa Cruz Southwest and Cardinal/ Valencia have the best landscapes overall, with approximately a third of landscapes being both "intentional" and "well-maintained." Generally, the older neighborhoods, Elvira and Rose in particular, have a higher incidence of "poor" landscapes as compared to the neighborhoods that were built out more recently (Table 9.5). These numbers are partially explained by the higher proportion of non-residential land uses and vacant lots in these neighborhoods (Table 9.6), but the trends hold up even when vacant lots are removed (Tables 9.7 and 9.8).

The Windshield Survey also assessed other components of the landscape, such as the presence of trees on private property and in the right-of-way, the presence of litter and graffiti, and water harvesting features. A summary of these assessments can be found in Table 9.9.

Table 9.5: Overall Assessment of Landscapes Summary

	Elvira	Julia Keen	Rose	Santa Cruz Southwest	Cardinal/ Valencia	Stella Mann (control)
Decades of Primary Development	1950-1980	1950-1970	1950-1970	1970-1990	1970-1990	1960-1980
Excellent	17.8%	16.2%	14.5%	33.1%	27.9%	12.5%
Average	58.6%	68.7%	57.8%	50.1%	60.5%	67.0%
Poor	23.6%	15.0%	27.7%	16.8%	11.6%	12.5%

All assessment data based on Drachman Windshield Survey performed from October through December 2010.

	Elvira	Julia Keen	Rose	Santa Cruz Southwest	Cardinal/ Valencia	Stella Mann (control)
Vacant Lots	6.6%	1.3%	5.0%	4.5%	3.2%	0.5%
Excellent	9.6%	24.6%	11.9%	15.8%	27.9%	11.1%
Average	25.5%	53.1%	43.6%	25.0%	60.5%	66.7%
Poor	64.9%	22.3%	44.6%	49.3%	59.2%	22.2%

All assessment data based on Drachman Windshield Survey performed from October through December 2010.

	Elvira	Julia Keen	Rose	Santa Cruz Southwest	Cardinal/ Valencia	Stella Mann (control)
Excellent	19.1%	18.2%	14.9%	26.2%	29.3%	19.8%
Average	62.5%	70.7%	60.3%	59.3%	63.1%	66.4%
Poor	18.7%	11.0%	24.9%	14.6%	7.6%	13.9%

Table 9.7: Assessment of All Single-Family* Residential Landscapes

*Included single family mobile homes.

All assessment data based on Drachman Windshield Survey performed from October through December 2010.

Table 9.8: Assessment of All Multi-Family* Residential Landscapes

	Elvira	Julia Keen	Rose	Santa Cruz Southwest	Cardinal/ Valencia	Stella Mann (control)
Excellent	8.6%	16.9%	18.4%	74.4%	0.0%	22.8%
Average	65.5%	65.1%	46.2%	25.6%	50.0%	68.7%
Poor	25.9%	18.0%	35.8%	0.0%	50.0%	8.5%

* Includes duplexes, triplexes, and apartment and condominium complexes.

All assessment data based on Drachman Windshield Survey performed from October through December 2010.

	Elvira	Julia Keen	Rose	Santa Cruz Southwest	Cardinal/ Valencia	Stella Mann (control)
Graffiti	3.9%	4.2%	6.8%	7.2%	3.2%	1.0%
Litter	42.9%	35.1%	51.2%	45.4%	42.0%	28.2%
Street Trees in ROW*	7.9%	5.8%	7.6%	11.0%	7.5%	5.5%
Trees on Property	85.5%	75.1%	80.1%	73.1%	82.7%	73.8%
Water Harvesting**	17/2313	1/1844	3/733	1/538	1/714	0/1556

Table 9.9: Windshield Assessment Summary

* ROW: Right-of-way

** Water Harvesting refers to any clearly visible and intentional attempt at capturing rainfall on site. Examples include water harvesting cisters, retention and detention basins, and curb cuts that harvest street run-off.

Water Harvesting Data Format (a/b):

a: number of parcets with water harvesting

b: total number of parcels

All assessment data based on Drachman Windshield Survey performed from October through December 2010.

Table 9.10: Neighborhood Summary

	Elvira	Julia Keen	Rose	Santa Cruz SW	Cardinal/ Valencia	Stella Mann (Control)	City of Tucson
Primary Era of Development	1950- 1980	1950- 1970	1950- 1970	1970- 1990	1970-1990	1960-1980	NA
Median Income ^a	\$33,208	\$29,838	\$34,765	\$27,718	\$52,173	\$36,903	\$35,499
Percent Households in Poverty ^b	14.9%	20.6%	16.0%	20.7%	11.1%	15.9%	17.8%
Percent Hispanic ^a	86.2%	64.4%	92.5%	78.4%	76.7%	32.9%	41.6%
Median Age ^a	30.1	37.6	40.5	30.4	31.2	31.6	33.1
Population under 18ª	32.5%	24.9%	25.2%	33.1%	32.0%	27.0%	23.3%
Population over 65 ^a	9.4%	14.8%	21.2%	10.7%	7.0%	8.3%	11.9%
Average Household Sizeª	3.54	2.59	2.98	3.13	3.52	2.8	2.43
People Per Square Mile	5,754	5,962	3,449	4,226	4,253	7,983	2,294
Percent Owner- Occupied ^a	67.0%	77.5%	71.5%	78.4%	82.1%	51.2%	51.9%
Median Yr. House- holder Moved In ^b	1998	1997	1990	2002	1997	2002	2003
Median Home Value ^b	\$124,855	\$114,833	\$116,607	\$32,717	\$140,561	\$136,771	\$169,900
Foreclosure Rate	3.8%	3.8%	3.3%	3.6%	6.8%	6.1%	n/a
Average % of Income Spent on Housing (<30%= affordable)°	28.13%	21.46%	28.9%	20.7%	27.4%	22%	25.29%
Average % of Income Spent on Housing Plus Transportation (<45%= affordable)°	65.39%	56.54%	65.3%	55.9%	58.1%	50.3%	54.83%
Average Vehicle Miles Traveled per Year ^c	18,344	15,516.6	16,925	16,889	20,087	17,795.7	18,988.76
Bus Ride Share % on Accessible Lines ^d	5.9%	18.7%	12.7%	3.2%	4.3%	17.91%	NA
Neighborhood % Within 1/4 mile of a Bus Stop (approx.) ^e	60%	95%	75%	50%	50%	80%	NA
Bus Stops Sheltered ^e	73%	30%	35%	48%	18%	59%	NA
WalkScore*	32	51	55	29	35	44	50
Sidewalks (approx.) ^e	45%	45%	10%	15%	0%	95%	NA
Parcels with Street Trees ^e	7.9% n=190	5.8% n=107	7.6% n=56	11.0% n=64	7.5% n=54	5.5% n=86	NA
Parks Within 1/4 Mile ^e	0	5	3	3	2	2	NA
Street Lighting ^e	35%	0%	70%	1%	0%	15%	NA

	Elvira	Julia Keen	Rose	Santa Cruz SW	Cardinal/ Valencia	Stella Mann (Control)	City of Tucson
Contamination Issues	Yes	No	Yes	No	No	No	NA
FEMA 100-Year Flood Zone	Yes	Yes (partial)	Yes	Yes	Yes	No	NA

*Walk Score Ratings: 90-100 "Walker's Paradise"; 70-89 "Very Walkable"; 50-69 "Somewhat Walkable"; 25-49 "Car Dependent"; 0-24 "Very Car Dependent."

^a U.S. Census 2010, Summary File 1 (ESRI)

^b American Community Survey 2005-2009, 5 Year Estimates (ESRI)

Demographics and Housing Characteristics

Residents in Santa Cruz Southwest and Julia Keen have both the lowest median incomes and the highest percentage of households under the federal poverty threshold.

All of the selected NSP2 neighborhoods have a high percentage of the population identifying as Hispanic (the lowest is 64.4 percent, significantly higher than the City of Tucson at 41.6 percent).

Of the selected neighborhoods, Rose has the highest proportion of elderly residents (21.2 percent are sixty-five years or older). In contrast, Santa Cruz Southwest has the lowest proportion of elderly residents and the highest proportion of residents under age 18.

In all of the selected NSP2 neighborhoods, the majority of residents are homeowners rather than renters. Rose Neighborhood stands out as having the most long-term residents, with half of all residents moving into the neighborhood prior to 1990. All of the selected neighborhoods have median home values that are significantly lower than the median for the City of Tucson. Santa Cruz Southwest has a particularly low median (\$32,717) due to the large number of mobile home units in the neighborhood.

Walkability, Transportation, and Affordability

Although WalkScore rates some of the neighborhoods as "Somewhat Walkable," none of the neighborhoods can be considered pedestrian friendly due to a lack of trees in the right-of-way and lack of universally accessible, good quality walking paths or sidewalks.

- ^c Center for Neighborhood Technology, 2012
- ^d Suntran, 2010
- ^e Drachman windshield survey, 2010

The level of bus service available to each neighborhood varies greatly, with Julia Keen being the most well connected. Very few bus stops in any neighborhood were easily accessible due to a lack of sidewalks and curb cuts or ramps. Bus ridership figures provided by Suntran indicate a low ridership share of 3.2 percent in Santa Cruz Southwest to a high of 18.7 percent in Julia Keen. Bus ridership and vehicle miles traveled indicate that overall, all of the neighborhoods studied are highly car dependent.

According to data from the Center for Neighborhood Technology (2012), in all of the NSP2 selected neighborhoods, housing costs constituteless than 30 percent of household income and are thus considered affordable. However, when transportation costs are considered, **none of the selected neighborhoods are considered affordable** (defined as housing + transportation costs constituting 45 percent or less of household income). Rose and Elvira neighborhoods stand out as the least affordable as residents are spending, on average, more than 65 percent of their income on housing and transportation.

Because housing and transportation are the two largest expenses in most American household budgets, any programs aimed at housing affordability and neighborhood revitalization must consider ways to decrease household transportation costs by increasing transit choices and investing in healthy, safe, walkable neighborhoods.





Appendix A: Sample Data Sheet: Appendix B: Zoning Classifications (Pima County) Appendix C: Zoning Classifications (City of Tucson)

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Appendix A: Sample Data Sheet:

parcel

address

parcel address _____ neighborhood _____ right-of-way **curb**.....Y ? N trees0 # cars parked street curb to pl both none r - o - w & property H2O harvesting Y ? N utilities Y ? N litter Y ? N graffitiY ? N sign ... for sale for rent none property landscape E A P trees.....0 ___# border. fence wall land/hardscape none structure . . . excellent poor good replace fair none unable vacant Y ? N height 0 1 2 3 _ **use** RSF RMF Off Retail Indust none other MH Homeless Camp. Y ? N Vacant Lot. Y ? N cars N ____# other **Drachman Institute 2010**

NSP2 Windshield Survey

parcel			
address			
neighborhood			
r i g h t - o f - w a y curb			
r - o - w & property			
H2O harvesting			
utilities Y ? N			
litter Y ? N			
graffiti Y ? N			
sign for sale for rent none			
property			
landscape E A P			
trees0#			
border fence wall			
land/hardscape none			
structure excellent poor			
good replace			
fair none unable			
vacant			
height0 1 2 3 _			
useRSF RMF Off Retail Indust none other MH			
Homeless Camp Y ? N			
Vacant Lot Y ? N			
carsN#			
other			
Note: all data entered is based on observations			

Note: all data entered is based on observations collected from the street or public right-of-way

neighborhood						
right-of-way curbY ? N trees0#						
cars parked street curb to pl both none						
r - o - w & property						
H2O harvestingY ? N						
utilities Y ? N						
litter Y ? N						
graffiti						
sign for sale for rent none						
property						
landscape E A P						
trees0#						
border fence wall land/hardscape none						
structure excellent poor good replace fair none unable						
vacantY ? N						
height0 1 2 3 _						
useRSF RMF Off Retail Indust none other MH						
Homeless Camp Y ? N						
Vacant Lot Y ? N						
cars N#						
other date						
windshield init						
data entry init						

10. Appendices

A-C

CB-1 Local Business Retail business, all TR uses

CB-2

General Business CB-1 uses; whole-sale; storage of equipment and household goods;

CI-1

Light/ Industrial Warehousing Limited CI-2 and intensive industrial uses

CI-2

General Industrial Limited CB-2, CI-1 uses; other industrial uses subject to conditions and performance stds.

CI-3 Heavy Industrial: Limited CI-2 and intensive industrial uses

CMH-1 Mobile Home 1 Manufactured or site built homes

CMH-2 Mobile Home 2 Manufactured or site built homes; mobile home park

CPI

Campus Park Industrial: Manufacturing; research

CR-1 Single Residence: Single family residences

CR-2 Single Residence: Single family residences

CR-3 Single Residence: Single family residences

CR-4 Mixed Dwelling Type: Single family & multifamily residences; duplexes

CR-5 CR-4 uses 6,000 (5 acre min site Opt.D)

D-N

GR-1

Rural Residential (April 1972): Residential and agricultural; limited conditional commercial use

IR

Institutional Reserve: Low-density residential; agricultural

MLZ Mount Lemmon Zone: Single family residences

RH

Rural Homestead Low-density residential; limited conditional commercial use; agricultural use

MR

Major Resort: Major resort Minimum 20 acre site area. One guest room per 4,356 square foot site area

MU

Multiple Use: Site-built or manufactured homes commercial or light industrial if MU use permit is obtained

O-Z

RVC

Rural Village Center: Retail Business Maximum 20 acre zoning district

SH

Suburban Homestead: SR uses; manufactured homes (max. 2 per lot); duplexes

SR

Suburban Ranch: Single family residences; agriculture

SR-2 Suburban Ranch Estate: Single family residences

TH Trailer Homesite: Trailer (RV) park

TR

Transitional CR-3, CR-4, CR-5 uses; offices; day care center; motel/ hotel; health care center

For more classifications and detailed descriptions see: http://www.pimaxpress.com/Planning/plan4c.htm

A-C

C-1

Low-intensity, commercial and other uses that are compatible with adjacent residential uses. Residential and other related uses are permitted.

C-2

General commercial uses that serve the community and region. Residential and other related uses are also permitted.

C-3

Mid-rise development of general commercial uses that serve the community and region, located downtown or in other major activity center areas. Residential and other related uses are also permitted.

D-N

I-1

Industrial uses, that do not have offensive characteristics, in addition to land uses allowed in more restrictive nonresidential zones.

I-2

Industrial uses that are generally nuisances, making them incompatible with most other land use. These nuisances may be in the form of air pollutants; excessive noise, traffic, glare, or vibration; noxious odors; the use of hazardous materials; or unsightly appearance.

MH-1

Low to medium density, residential development primarily in mobile home structures on individual lots and within mobile home parks. Civic, educational, recreational, and religious uses are also permitted.

NC

Low-intensity, small-scale, commercial and office uses that are compatible in size and design with adjacent residential uses. Residential and other related uses are permitted.

O-Z

O-1

Administrative and professional office uses that will complement the residential environment. Development within this zone typically consists of office conversions from existing residential uses fronting on major streets and new construction of small-scale office projects.

O-2

Office, medical, civic, and other land uses which provide reasonable compatibility with adjoining residential uses. Typical development within this zone is two-story office or medical projects.

O-3

Mid-rise office development and other land uses which provide reasonable compatibility with adjoining residential uses.

P-1

Corporate business centers and for wholesaling and manufacturing activities that can be carried on in an unobtrusive, controlled manner.

R-1

Urban, low-density, single-family, residential development together with schools, parks, and other public services.

R-2

Medium density, single-family and multifamily, residential development together with schools, parks, and other public services.

R-3

High density, residential development and compatible uses.

For more classifications and detailed descriptions see: http://cms3.tucsonaz.gov/planning/codes/luc/index.html

Water Harvesting



Active and Passive Rainwater Harvesting on a Residential Site Cisterns and land sculpting can work together to help capture rain water and irrigate a landscape.



Active Rainwater Harvesting Cisterns capture rainwater from hard surfaces, usually roofs, and store the water for later use. This is referred to as active rainwater harvesting.



Passive Rainwater Harvesting Berms, basins and other land sculpting can slow the flow

of rain water and help retain it on site, allowing more water to percolate into the ground at a certain location. Land sculpting is called passive harvesting because the water is not saved for later use.

Curb Cuts

The term "curb cut" refers to making cuts into a standard raised curb. These cuts can be made to improve accessibility for people or vehicles, or to help capture rain water from street run-off. The most common applications of curb cuts seen in Tucson are shown below.



Accessibility Curb Cut This curb cut with a non-slip ramp allows for universal accessibility to and from the sidewalk level.



Water Harvesting Curb Cut The lateral curb cuts allow street flow to be captured and held in a small, vegetated detention basin.



Water Harvesting and Accessibility Curb Cuts The lateral curb cuts allow water to flow into a small retention basin, flow under the sidewalk, and then overflow back out into the street. The orange area is an accessibility curb cut with a ramp and non-slip, highly visible tread.



Vehicular Curb Cut This curb cut is meant to provide vehicular access to a drive-way.

Pedestrian Paths and Bus Stop Typologies



Pedestrian Walking Path

Pedestrian walking paths can function like sidewalks by being placed within the back-of-curb area and providing a dedicated space for pedestrians. This kind of back-ofcurb path is often not ADA accessible, however.



Sidewalk

Sidewalks are paved, level paths within the back-of-curb area that provide a dedicated space for pedestrians separate from motor vehicle and bicycle traffic.



Sheltered Bus Stop Sheltered bus stops provide a rain and sun proof cover, and often wind-dampening side panels and seating.



Un-Sheltered Bus Stop Un-sheltered bus stops are locations where a bus will pick-up and drop-off passengers, but where no structure

has been provided for those waiting.

Crossing Typologies



Signed and Striped Pedestrian Crosswalk Provides greater visibility for a pedestrian crossing location.



HAWK Crossing Signaled single phase pedest



PELICAN Crossing

This crossing is two phased, with a pedestrian refuge island in the median. The pelican can utilize a full signal (red, yellow, green) or a flashing red light.



TOUCAN Crossing This crossing allows both bicyclists and pedestrians to cross. Both bike buttons and pedestrian signal buttons are usually provided. Toucans typically utilize a full signal (red, yellow, green).



Existing Sun Tran Bus Service and the NSP2 Selected Neighborhoods The dark blue outlined area indicates the NSP2 Target Area.



2040 RTP Proposed Plan

Source: Pima Association of Governments (PAG) 2010 http://www.pagnet.org/RegionalData/GISDataandMaps/MapsandGISDownloads/tabid/902/Default.aspx

Center for Neighborhood Technology: Methods and Data

The Drachman Institute utilized data analyses by the Center for Neighborhood Technology (CNT) to create housing and transportation affordability maps for each neighborhood.

The following information (taken from the CNT website) provides a brief explanation of their methods and data. For more detailed information on the Housing and Transportation Affordability Index, see http://htaindex.cnt.org/.

The Housing and Transportation Affordability Index (H&T Index) was constructed to estimate three dependent variables (auto ownership, auto use, and transit use) as functions of eleven independent variables (median income, per capita income, average household size, average commuters per household, residential density, gross density, average block size, intersection density, transit connectivity, transit access shed, and employment access). The H&T Index was constructed at the Census block group level using the 2009 American Community Survey 5-year estimates as the primary dataset.

VARIABLES

Dependent Variables: Transportation Costs

Three components of transportation behavior (auto ownership, auto use, and transit use) are combined to estimate the cost of transportation.

Independent Variables: Household Characteristics

- HOUSEHOLD INCOME Median household income is obtained from the 2009 American Community Survey, 5-Year Estimates. Per capita income is calculated as median household income divided by average household size.
- AVERAGE HOUSEHOLD SIZE "Total Population in Occupied Housing Units by Tenure" and "Tenure" are used to define the universe of occupied housing units and average household size.
- AVERAGE COMMUTERS PER HOUSEHOLD

Average commuters per household is calculated using the total number of workers age sixteen and older who do not work at home and means of transportation to work.

Independent Variables: Neighborhood Characteristics

HOUSEHOLD DENSITY

Residential density represents household density of residential areas, in contrast to population density on land area. Gross density is calculated as total households divided by total land acres.

- STREET CONNECTIVITY AND WALKABILITY Street connectivity and walkability are calculated through average block size and intersection density.
- TRANSIT ACCESS

Transit access is measured through General Transit Feed Specification (GTFS) data collected and created by the Center for Neighborhood Technology. As of February 2012, CNT has compiled station and stop data for bus, rail, and ferry service for more than 75 percent of all metropolitan and micropolitan areas in the United States.

EMPLOYMENT ACCESS

The Employment Access Index calculates both the quantity and distance to all employment destinations, relative to any given block group.

REGIONAL TYPICAL, REGIONAL MODERATE, AND NATIONAL TYPICAL

Regional Typical

The Regional Typical Household assumes a household income that is the median income for the region, the average household size for the region, and the average commuters per household for the region. An important aspect of the H+T Index is that transportation costs are modeled for the "typical" household in a region, or the household represented by these three values. By fixing income, household size, and commuters, the model controls for the impact of these variables on transportation costs. Differences in transportation costs are therefore a result of neighborhood characteristics and variation in the built environment. When variables are shown as a percent of income, this median income value is used. Therefore, the variable can be interpreted as the cost impact of a given location on the average household in the region.

Regional Moderate and National Typical

CNT has modeled data for three typical households, each with a different income level. The first is the Regional Typical Household, with its assumptions described above. Second is the Regional Moderate Household, which assumes a household income of 80 percent or less of the regional median, the regional average household size, and the regional average commuters per household. Third, the National Typical Household assumes a household income of \$51,425 (the national median household income), a national average household size of 2.6, and a national average number of commuters per household of 1.15.

Application To Selected NSP2 Neighborhoods

Given the recommendations provided by CNT, the selected NSP2 neighborhoods utilized either the Regional Typical or the Regional Moderate model (see Table 10.1). Based on CNT's calculations, the Regional Typical income is \$45,885, while the Regional Moderate Income is \$36,708. All of the neighborhoods except Cardinal/Valencia have median incomes that fall below 80 percent of the Regional Typical income, thus the Regional Moderate model is used to calculate housing and transportation affordability in all neighborhoods except Cardinal/Valencia and Stella Mann.

Neighborhood	Neighborhood Median Income	Model Utilized*	
Elvira	\$33,208	Moderate	
Rose	\$29,838	Moderate	
Julia Keen	\$34,765	Moderate	
Santa Cruz SW	\$27,718	Moderate	
Cardinal/Valencia	\$52,173	Typical	
Stella Mann	\$36,903	Typical	

Table 10.1: Neighborhood Designation as Regional Moderateor Regional Typical

Regional Typical: \$45,885 Regional Moderate (80% of Regional Typical): \$36,708

*Model Utilized is designated based off of a comparison of the Neighborhood Median Income to the Regional Typical or Regional Moderate Household income levels.