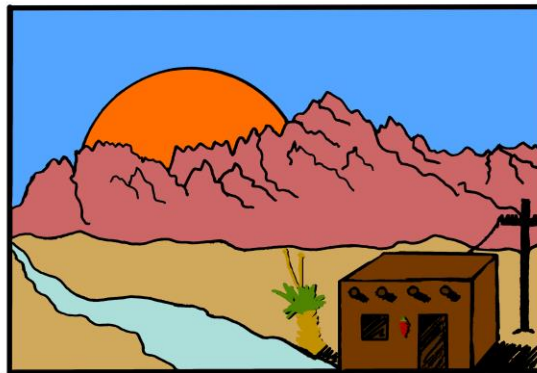


# **Parks and Multi-Use Trails in The Doña Ana County Comprehensive Plan: A Health Impact Assessment**

**May 2015**



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**Doña Ana PLACE MATTERS partners with community members and policy makers to advance health equity in Southern New Mexico. For more information, please contact 575-521-4794 or visit [www.nmhealthequitypartnership.org](http://www.nmhealthequitypartnership.org)**

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## **Executive Summary**

### **What is Health Impact Assessment (HIA)?**

As defined by the CDC, “HIA is a process that helps evaluate the potential health effects of a plan, project or policy before it is built or implemented. An HIA can provide recommendations to increase positive health outcomes and minimize adverse health outcomes. HIA brings potential public health impacts and considerations to the decision-making process for plans, projects, and policies that fall outside the traditional public health arenas, such as transportation and land use” (2015, para. 2). HIA employs a broad definition of health, viewing it as a state of complete physical, mental, and social well-being.

### **What is the focus of this HIA?**

This HIA conducted by Doña Ana PLACE MATTERS analyzes the Doña Ana County Comprehensive Plan Draft 01 (2015) as it relates to parks and multi-use trails in Doña Ana County. The ultimate aim is to insert language about health into all aspects of the 20-year Comprehensive Plan and the accompanying Unified Development Code in an effort to eliminate systemic and unjust health disparities and achieve health equity.

The HIA offers recommendations to reduce negative health impacts in the Comprehensive Plan more broadly as well, particularly related to outdoor recreational and active transit space, and seeks to hold decision makers accountable for those outcomes. The study’s findings were generated from robust community input gathered during five focus groups held in small communities as well as epidemiological data, geospatial analysis, and an extensive literature review.

### **The Context**

U.S. children ages eight to 18 spend about 44 hours per week in front of a screen. Only 46 percent of adults and 31 percent of adolescents in Doña Ana County meet recommendations for physical activity, and 68 percent of adults and 26 percent of youth are overweight or obese. Health outcomes are worse for nonwhite residents with low incomes.

### **Why is Access to Parks and Multi-Use Trails Important?**

Physical activity helps residents prevent and manage chronic diseases. The physical activity and socialization associated with visits outdoor recreational and active transit spaces can also improve mental well-being and reduce stress. These locations create spaces for enhanced socialization and communication among residents which can lead to greater community cohesion.

Improved facilities increase the likelihood that residents will use these public spaces and partake in physical activity. Parks and multi-use trail spaces that are incorporated into residential neighborhoods encourage more residents to travel to and use the areas for physical activity.

## Key Research Findings

The HIA team concluded that access to outdoor recreational and active transit spaces is influenced by three factors:

**Proximity:** Nearly 50 percent of county residents do not live within walking distance (one quarter mile) of a park or multi-use trail, and most of these spaces are located in the city of Las Cruces. Even getting to these spaces can be challenging, as many streets lack paving, sidewalks, and lighting.

**Facilities:** Many outdoor recreational and active transit spaces lack facilities and amenities, such as lighting, fencing, restrooms, water fountains, seating, and shade. Some of the facilities that do exist are not well maintained.

**Safety Concerns:** Many residents have safety concerns related to outdoor recreational and active transit spaces including trash, loose dogs, substance use, uneven ground, unsafe driving, and lack of sidewalks.

## Predictions

If the recommendations below are incorporated into the Comprehensive Plan and into county policy, a strategic plan for new parks and trails in underserved areas and an asset management plan for those spaces will be created, and park and trail safety will be emphasized.

As a result, access to recreational spaces will likely increase, there will be more facilities in existing locations, and safety will be enhanced. The expected result will be increased opportunities for recreational activities and thus increased usage of parks and trails. The final outcomes should be higher levels of physical activity and social capital and decreased incidence of chronic disease and health disparities. In contrast, if the recommendations of the HIA are not implemented, these desirable outcomes will likely not be realized.

## Recommendations

### 1. Improve Opportunities for Residents to Access Existing Parks and Multi-Use Trails

- a. Connect parks and multi-use trails with transportation infrastructure.
- b. Develop and implement an asset management plan for parks and trails infrastructure.
- c. Add amenities to parks and trails based on community input.
- d. Implement traffic calming measures (speed bumps, stop signs, crosswalks, and enhanced law enforcement) near parks and multi-use trails.
- e. Develop and implement a plan to hold events in parks in underserved areas.

## **2. Establish Additional Parks and Multi-Use Trails**

- a. Plan new parks and multi-use trails within one quarter mile of concentrations of underserved residents.
- b. Require that new subdivisions include parks and multi-use trails.
- c. Adopt shared use agreements with school districts to enable residents to access recreational facilities after school hours. About 86 percent of residents would then live within walking distance of recreational community space.
- d. Adopt a shared use agreement with Elephant Butte Irrigation District to utilize drainage easements and levees as multi-use trails.

## **3. Adopt a Health in All Policies (HiAP) Approach**

- a. Include community trails and trails along arroyos in the Open Space and Trails Vision Plan.
- b. Develop and implement a County Parks Master Plan and link it to a budget line item.
- c. Include multi-use trails under the Parks and Facilities Department.

## **4. Access Diverse Funding Sources**

- a. Use gross receipts tax revenue as match to attract other funding sources.
- b. Submit a coordinated Infrastructure Capital Improvement Plan funding request based on community input.
- c. Build community members' capacity to write grants.

## **Conclusion**

The Comprehensive Plan and the Unified Development Code are not merely documents that prescribe how lands in Doña Ana County will be developed. They are blueprints that shape the lives of all residents, and as such they should explicitly address systemic and inequitable disparities related to health. This HIA illustrates how these two planning documents can be modified to provide all county residents with fair opportunities to attain their full health potential.

## **Introduction and Background**

Many systems-level factors influence human health, including housing, transportation, education, environmental quality, access to healthy food, and access to recreational spaces. Coordinated community planning can positively impact these factors and thereby improve health outcomes and contribute to a more equitable society.

The mission of Doña Ana PLACE MATTERS (DAPM) is to address the root causes of health inequities in the county by working with members of communities at risk for poor health outcomes and with policy makers. The ultimate goal is to enact policies that address these inequities while bringing communities and policy makers together.

In 2012, Doña Ana County initiated a process to develop a comprehensive plan designed to guide future planning and growth. The Doña Ana County Comprehensive Plan is being developed by an outside consulting firm through extensive consultation with county planning staff, policy makers, and the public. The plan incorporates smart growth principles and mixed-use zoning and proposes to create two zoning tracks from which property owners would be able to choose: intensity zones (multi-use zones) and use districts (single-use zones).

This HIA was conducted in reference to the first draft of the Doña Ana County Comprehensive Plan, issued on January 15, 2015 (Draft 01, 2015). The second draft of the Comprehensive Plan, issued on May 15, 2015, is referenced periodically in this report as well (Draft 02, 2015).

DAPM carried out this Health Impact Assessment (HIA) in order to provide input into the Comprehensive Plan prior to its adoption by the Board of County Commissioners. The goal of this HIA is that health language be included in all aspects of the Comprehensive Plan and in the accompanying Unified Development Code.

A Health Impact Assessment examines a development project, a general plan, or a policy on the basis of its potential health impacts. An HIA aims to hold planning decisions accountable for their effects on health, where health is defined broadly as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. An HIA brings together evidence so policy makers can understand how their decisions affect health. An HIA also offers recommendations to eliminate, reduce, or mitigate negative health impacts.

Performing an HIA on the entire Comprehensive Plan would have been exceedingly complex, costly, and time consuming. After conducting focus groups and a preliminary literature review, DAPM narrowed its focus to one aspect of the plan that impacts health: parks and multi-use trails. While targeted, this work has informed broader discussions as well, including those related to civic spaces, complete streets, and transit connectivity.

An intensive HIA training was held in Las Cruces in November 2014. Several local organizations and individuals attended to learn more about how to assess the health impacts of project and planning decisions. After the training, a local HIA Team and Steering Committee was formed that advised the HIA project team throughout the process.



## **Methods**

This HIA was conducted using several research techniques, including reviews of current literature, mapping of community health data, and qualitative data collected through focus groups.

The literature review examined the potential health impacts of access to parks and trails. Community health data was collected using the New Mexico Indicator Based Surveillance System (NM-IBIS), New Mexico Community Data Collaborative (NMCDC), New Mexico Department of Health (NMDOH), and United States Census Bureau.

Five focus groups were conducted, one in each of the following communities: Butterfield, Chaparral, Doña Ana, Hatch, and Vado/Del Cerro. Residents from each of these communities attended, as well as people from the surrounding communities of Salem, Rodey, and the Otero County side of Chaparral, for a total of 37 individuals. Focus group members participated in a discussion and filled out a short survey about park and multi-use trail usage (See Appendix 3). Simultaneous translation was provided in English and Spanish to facilitate communication.

Ninety four percent of the participants in the community focus groups identified themselves as Hispanic or Latino, with females making up 67 percent of the participants. The majority of participants were between the ages of 30 and 64.

## **Overview of Doña Ana County**

### **Demographics**

Doña Ana County is situated in Southern New Mexico and is bordered by Texas and Mexico. The population of 213,460 people is 67 percent Hispanic, 29 percent non-Hispanic White, two percent African American, and two percent Native American (US Census Bureau, 2014). The county has a much higher Hispanic population than the overall state average of 43 percent. Eight percent of residents are under the age of five and 13 percent are over the age of 65 (New Mexico Department of Health, 2011).

### **Current Status of Health in Doña Ana County**

#### *Existing Health Conditions*

More than one in four New Mexicans over the age of 45 has been diagnosed with two or more chronic diseases (NMDOH, 2013). Chronic diseases, such as heart disease, cancer, stroke, and diabetes, account for four of the six leading causes of death in New Mexico (NM-IBIS, 2014). Diabetes and obesity are prominent among populations in the state of New Mexico. Approximately 11 percent of adults in New Mexico were diagnosed with diabetes in 2013, compared to the national rate of ten percent (NM-IBIS, 2014). In 2010, diabetes treatment alone cost the state of New Mexico approximately 1.3 billion dollars and costs are estimated to rise to 3.1 billion dollars by 2025 (IAF, 2011).

The table below compares the mortality rates in the county, state, and nation for several illnesses that are leading causes of deaths in Doña Ana County. Rates are age adjusted per 100,000 people.

**Table 1.**  
**Average Annual Mortality Rates**

<b>Cause of Death</b>	<b>County</b>	<b>NM</b>	<b>US</b>
Heart disease (2008-2012)	126	150	171
Diabetes (2011-2013)	25	28	21
Stroke (2008-2012)	34	34	37
Female breast cancer (2008-2012)	19	20	22
Suicide (2008-2012)	17	20	13
Falls (2013)	76	94	54

*County and state: NM IBIS 2008-2013 data (2015)*

*US: CDC 2012 data (2013)*

The following table compares the county and state rates of doctor-diagnosed health conditions. In general, county rates are higher than those for the state.

**Table 2.**  
**Doctor-Diagnosed Health Conditions**

<b>Condition</b>	<b>County</b>	<b>NM</b>
Depression (2013)	20%	20%
Arthritis (2013)	21%	23%
Angina or coronary heart disease (2011-2013)	4%	3%
High blood pressure (2013)	29%	27%
High cholesterol (2013)	34%	31%
Diabetes (2013)	12%	10%
Pre-diabetes (2013)	8%	8%

*BRFSS (2014)*

*Behavioral Risk Factors*

The two tables below depict rates of physical inactivity and mental health status for adults and youth in Doña Ana County and in New Mexico. Physical inactivity is a risk factor for many chronic conditions, including obesity, diabetes, and heart disease. Individuals who suffer from depression are much more likely to suffer from chronic conditions such as asthma, diabetes, coronary disease, and stroke (NMDOH, 2013).

**Table 3.  
Adult Risk Factors**

<b>Behavioral Risk Factor</b>	<b>County</b>	<b>NM</b>
Physical inactivity (2011-2013)	26%	24%
Overweight or obese (2011-2013)	68%	63%
Mental health status (6+days not good last month) (2013)	18%	18%
Mental health status (14+ days not good last month) (2013)	12%	12%
Felt depressed all or most of the last 30 days (2012)	18%	16%

BRFSS (2014)

**Table 4.  
Youth Risk Factors**

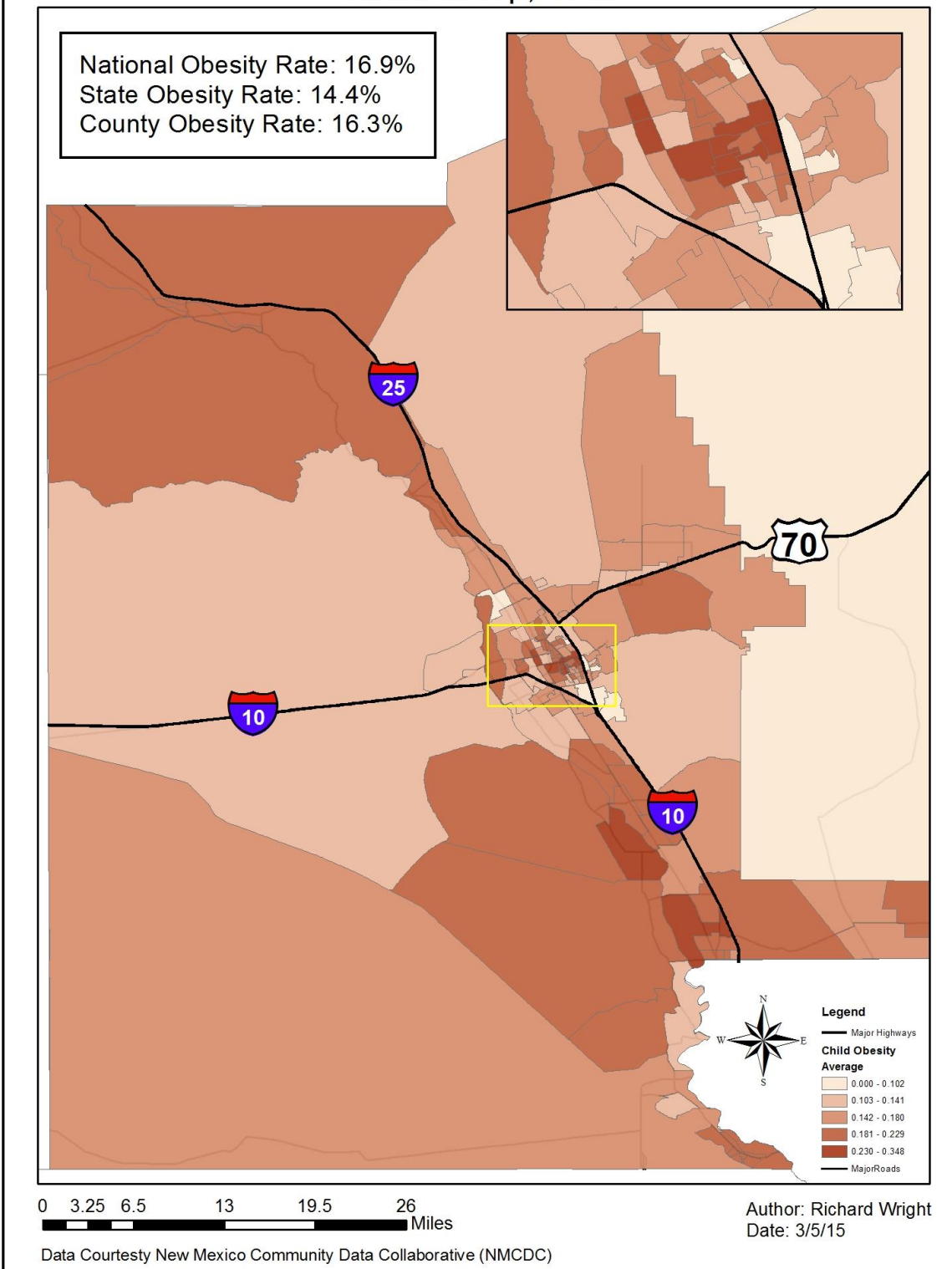
<b>Behavioral Risk Factor</b>	<b>County</b>	<b>NM</b>
Participated in insufficient amount of physical activity	37%	39%
Participated in no daily physical activity	18%	13%
Overweight (BMI between the 85 <sup>th</sup> and 95 <sup>th</sup> percentiles)	11%	14%
Obese (BMI above the 95 <sup>th</sup> percentile)	15%	13%
Vomited or took laxatives to lose or avoid gaining weight	10%	7%
Felt sad or hopeless	34%	29%
Seriously considered attempting suicide	19%	17%
Made a suicide plan	14%	13%
Attempted suicide	11%	9%

NM YRSS 2011 data (2015)

The map in Figure 1 below illustrates the childhood obesity risk estimates for the entire county. The county estimate is higher than that for the state but slightly below the national rate. Obesity risk estimates are highest in the northwestern and south-central portions of the county, where most colonias are located. The inset located in the top right-hand corner shows a detailed view within the city limits of Las Cruces.

Storymaps that display this same information in an interactive format are available at <http://nmcdc.maps.arcgis.com/apps/MapJournal/index.html?appid=5a55e9a972bb4f52896549b06bbcf650> (NM Community Data Collaborative, 2015).

# Child Obesity Risk Estimates in Dona Ana County, Ages 10-17, Block Group, 2010



**Figure 1. Child Obesity Risk Estimates.**

## *Youth Substance Use*

The table below indicates rates of alcohol and drug use by county youth grades 9 through 12. Drug use figures are for teens who reported using substances on at least one occasion in the last 30 days.

**Table 5.**  
**Youth Substance Use**

<b>Alcohol Use</b>	<b>County</b>	<b>State</b>
Currently drinking	45%	43%
Binge drinking	29%	28%
Drove after drinking	13%	12%
Rode with a driver who had been drinking	36%	30%
<b>Drug Use</b>		
Painkillers to get high	10%	9%
Inhalants	6%	6%
Cocaine	8%	5%
Methamphetamine	5%	4%
Heroin	4%	3%
Marijuana	26%	28%
Synthetic marijuana	11%	9%
Ecstasy	10%	5%

Alcohol use: NM YRSS 2001-2011 data (2015)

Drug use: NM YRSS 2013 data (2013)

## **Physical Activity Goals and Objectives**

### *National Goals*

Over the last three decades, the United States has outlined national objectives for healthy living. The Healthy People 2020 initiative creates a framework for monitoring the efficacy of prevention programs. The overarching goals are to achieve health equity and eliminate health disparities; create social and physical environments that promote health for all citizens; promote quality of life through the establishment of healthy behaviors; and assure that residents attain high quality, longer lives (Healthy People, 2015). The initiative monitors progress via four types of indicators: the general health status of groups of people; health-related quality of life and well-being; determinants of health; and health disparities within individual communities.

One of the goals of Healthy People 2020 is to increase physical activity rates for all Americans. According to the 2008 Physical Activity Guidelines Summary for Americans, more than 80 percent of adults do not meet the recommended guidelines for aerobic and muscle-strengthening activities. Adults are advised to participate in at least 150 minutes of moderate intensity physical activity or 75 minutes of intense physical activity per week (US Department of Health and

Human Services [HHS], 2008). Approximately 80 percent of adolescents do not get the recommended 60 minutes per day of physical activity (Healthy People 2020, 2015). While ideally all people should meet the recommended minimum physical activity rates, some physical activity is better than none (HHS, 2008).

### ***State Goals***

New Mexico’s statutes for physical education in schools are less rigorous than those of many other states. The NM Public Education Department requires all school districts to enact wellness policies that include a K-12 physical education curriculum. While students in grades 1-8 are required to take physical education, the state does not specify how often the classes must be held, and there is no requirement for physical fitness assessment. To graduate from high school, students must have obtained one unit in physical education (National Association of State Boards of Education, 2013).

### ***County Goals***

Of the three school districts in Doña Ana County, Las Cruces Public Schools is the only one to have passed a district-specific policy related to physical activity. LCPS requires that physical activity be included in the daily education program for all grades, but this includes co-curricular activities and recess and there is no specification regarding how many days per week students must participate in physical education. LCPS prohibits both assigning and withholding physical activity as punishment (Las Cruces Public Schools, 2014).

## **Findings**

The following sections outline the key findings of this HIA. Each section contains two subsections, one for literature review and another for community discussion. Some sections also include maps.

### **Active Transportation and Community Connectivity**

The walkability of a community can impact park and trail usage. Community walkability may also play a role in physical activity levels of individuals and social capital of the community as a whole.

#### ***Literature Review***

The CDC defines active transportation as “any self-propelled, human-powered mode of transportation, such as walking or bicycling.” Many barriers can impact the choice to walk or bike, including fear of traffic and lack of infrastructure to support safe walking and biking, such as sidewalks, crosswalks, and bicycle facilities (2011b).

Approaches to community planning and development vary considerably across the country. In many cases, the focus continues to be on constructing automobile-dependent suburbs as a result of urban policies that reinforce single-use zoning (Duany et al., 2000). However, many

communities are now implementing smart growth principles and mixed use zoning codes that prioritize walkability and connectivity. Lyden posits that the way we build our communities influences how well social capital is created, thus influencing the population's overall mental and physical health. In one study, residents who lived in walkable, mixed-use neighborhoods were more likely to know their neighbors, participate politically, trust one another, and be socially involved (2001).

Smart growth encourages compact design of communities and thus promotes walkability, creates transportation options, and improves connectivity (American Planning Association, 2006). Three primary smart growth goals are to support the already existing rural landscape, help existing places thrive, and create vibrant new places (Mishkovsky et al., 2010). When carried out intentionally, smart growth can address health inequities such as chronic health conditions, food deserts, barriers to physical activity, and lack of access to recreation areas (American Planning Association, 2012).

A complementary tool often utilized in combination with smart growth is that of mixed-use zoning, which allows for the blending of different uses in one area, such as residential and commercial. Mixed-use zoning makes it easier for planners to design compact locations dedicated to outdoor recreation (Mishkovsky et al., 2010).

Trails and paths both play an important role in communities by helping connect people and places as well as providing opportunities for physical activity. Paths are associated with sidewalks, highways, and developed streets. Paths provide many benefits, such as fitness and health, alleviation of traffic congestion, and improved visual aesthetic (Moore and Shafer, 2001). Trails are found within a park, the natural environment, or in designated corridors that are not classified as roadways (Axelson et al., 1999). Trails can be divided into five types: traditional backcountry trails, recreational greenways, multiple-use trails, water trails, and rail-trails. Multiple-use trails are characterized by a wider, hardened tread that is suitable for higher densities of use across multiple activities (Moore and Ross, 1998).

Increasing the number of multi-use trails in a community potentially increases transit options, such as cycling and walking. Research reveals that as bicycle use increases, injury rates decrease, in spite of biking possessing some potential risk for bodily injury (Elvik, 2009). Currently, only one percent of all daily trips in the U.S. are made by bicycle (Pucher et al., 2011). However, approximately 40 percent of all trips made in the U.S. are shorter than two miles, meaning there is great potential for increased bike use if planning policies incorporate bicycle features into future designs (Active Living Research, 2013).

Reed et al. found that awareness of existing trails in one particular community was low and that residents who lived in close proximity to trails rarely accessed them (2004). The researchers concluded there is a need for marketing to promote trail usage, especially among older and irregularly active adults.

In summary, active transportation and connectivity increases community health both physically and socially. Trail development broadens transportation options, thereby facilitating fuel savings.

A connected community with multi-use trails in parks and other green spaces also makes communities more desirable, raising property values (Project EverGreen, n.d.).

### *Community Discussion*

Community members expressed a strong desire to have places to walk in their communities. Existing walking trails in Vado and Anthony are popular with people of all ages, but residents expressed frustration that they could not easily get to them without a car. One woman said she likes to walk on the Vado trail several times a week but has to rely on someone to give her a ride to the trail. Some residents in Berino expressed a desire for a path between their community and the elementary school so that children would not arrive at their destination covered in dust.

## **Factors that Influence Access to Parks and Multi-Use Trails**

Accessibility is defined as how easily a person can make use of a service or facility such as a park or trail (Nicholls, 2001). Access to parks has been identified as a major influencer of park usage. A national study of U.S. adults found that perceived access to parks and trails was positively associated with physical activity. Individuals who perceived that they had adequate access to parks and trails were two times more likely to meet appropriate physical activity guidelines (Sallis, Floyd, Rodriguez, & Saelens, 2012).

This HIA posits that residents' access to parks and multi-use trails is influenced by three factors: proximity, perceptions of safety, and facilities.

### *Proximity*

Residents and research both indicate that distance is often the primary reason for not visiting a park or using a trail. In many cases, access is most limited in the outlying communities, where health inequities tend to be more pronounced.

### *Literature Review*

Geographic proximity has an effect on how often people visit parks. Ease of access has been found to influence people's decisions whether to use local parks over large national parks, in particular for minority groups (Byrne, Wolch, & Zhang, 2009). Others have found that distance as well as park size are influential in determining the likelihood that a park will be used (Giles-Corti et al., 2005). Perceptions of access can influence behavior as much as actual access (Wang, Brown, Liu, and Mateo-Babiano, 2015). Several Australian studies found that even without any physical barriers to access, the majority of park users came from a 500-meter radius around the park (Giles-Corti et al., 2005).

Cohen et al. found that "people who lived within one mile of the park were four times as likely to visit the park once a week or more and had an average of 38 percent more exercise sessions per week than those living further away" (2007, p. 513). Proximity to green space is also linked to perceived general health. People with a greener environment within a one mile radius of their



homes have better self-perceived health than people that live in a less green environment (Maas et al., 2006).

### *Community Discussion*

Sixty seven percent of focus group participants reported that they lived more than one mile away from the nearest park or trail. Though some lived within a quarter mile of their community park, others had to travel over seven miles by car to the nearest park or multi-use trail.

Many participants stated that distance was their biggest reason for not going to the park or going for a walk on a trail. Many said they would go more often if these public spaces were within walking distance of their homes. One focus group participant asserted, “My doctor tells me to walk at my local park three times a week for my health, but the community doesn’t have one close by.” A mother stated, “My little boy would live at the park if we had one to take him to [nearby]. We have trouble taking him home when we do go.” Another resident who lives far from a park said, “I usually walk laps around my property for about 15 minutes each day, but it is very boring.”

### *Mapping of Proximity*

The three maps that follow show the proximity of county residences to parks and multi-use trails. Spatial analysis indicates that approximately 49 percent of county residents live within walking distance (0.25 mile) of a park or trail.

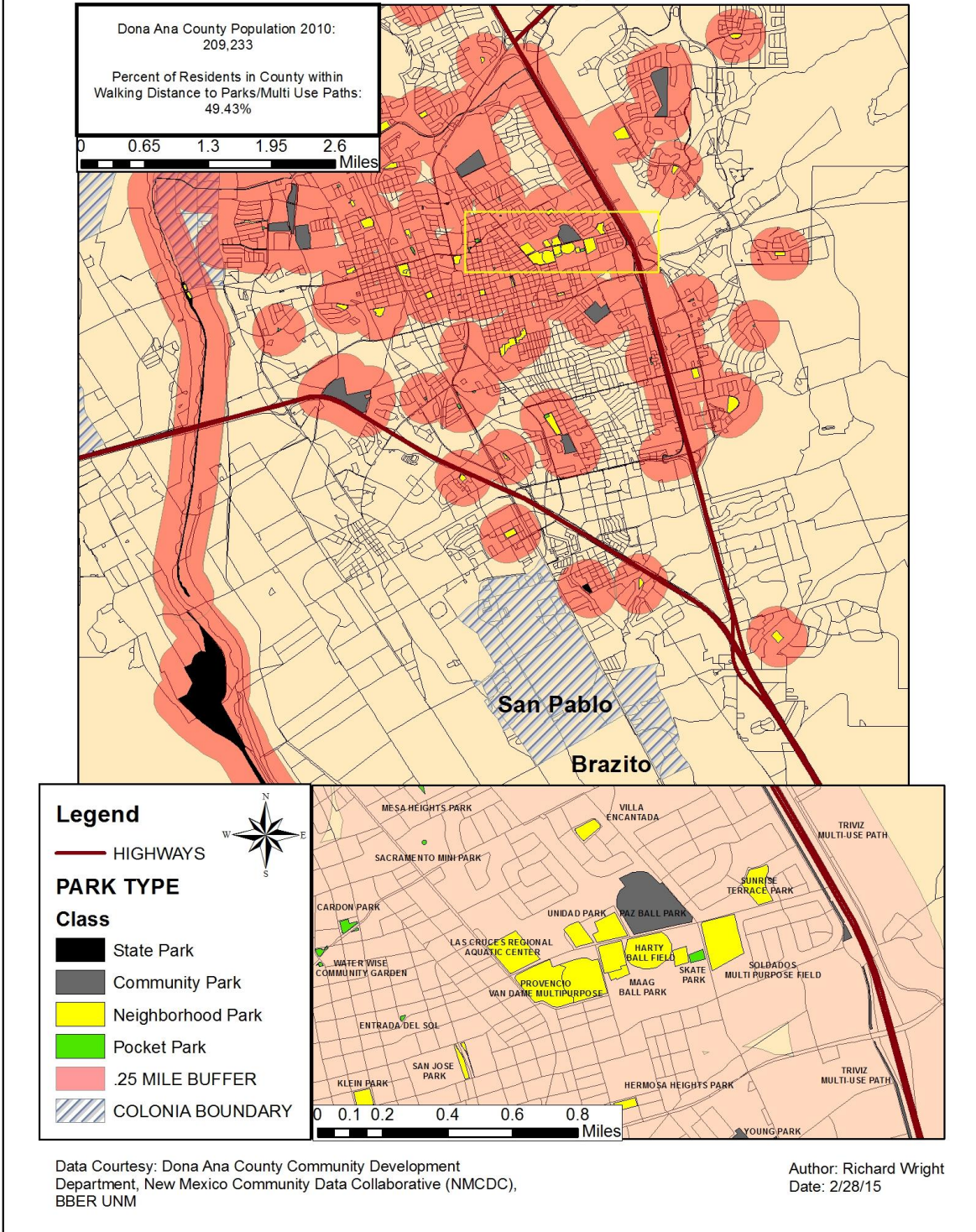
Figure 2 depicts the city of Las Cruces, the area with the highest concentration of residents who live within walking distance of parks and multi-use trails. In contrast, substantial portions of rural communities are located far from these facilities.

Figure 3 illustrates the distribution of parks and trails surrounding Butterfield, a small community to the east of Las Cruces and the site of one of the project’s focus groups. Recreational spaces are well outside of the quarter-mile walking distance necessary for many community members to have adequate, regular access to them. Because of the mountainous topography of this area, some recreational spaces are even harder to access than their distance from the community would imply.

Figure 4 indicates the percentage of residents in selected southern communities who live within walking distance of county parks. Communities where 50 percent of residents lack walking access to parks may be considered critically underserved. San Miguel and Vado do not have any county parks, and the communities of Anthony, Chamberino, Chaparral, Del Cerro, La Mesa, Mesquite, and Santa Teresa are also underserved by county parks. (The walking trails in Anthony, Chaparral, and Vado are not represented on this map.)

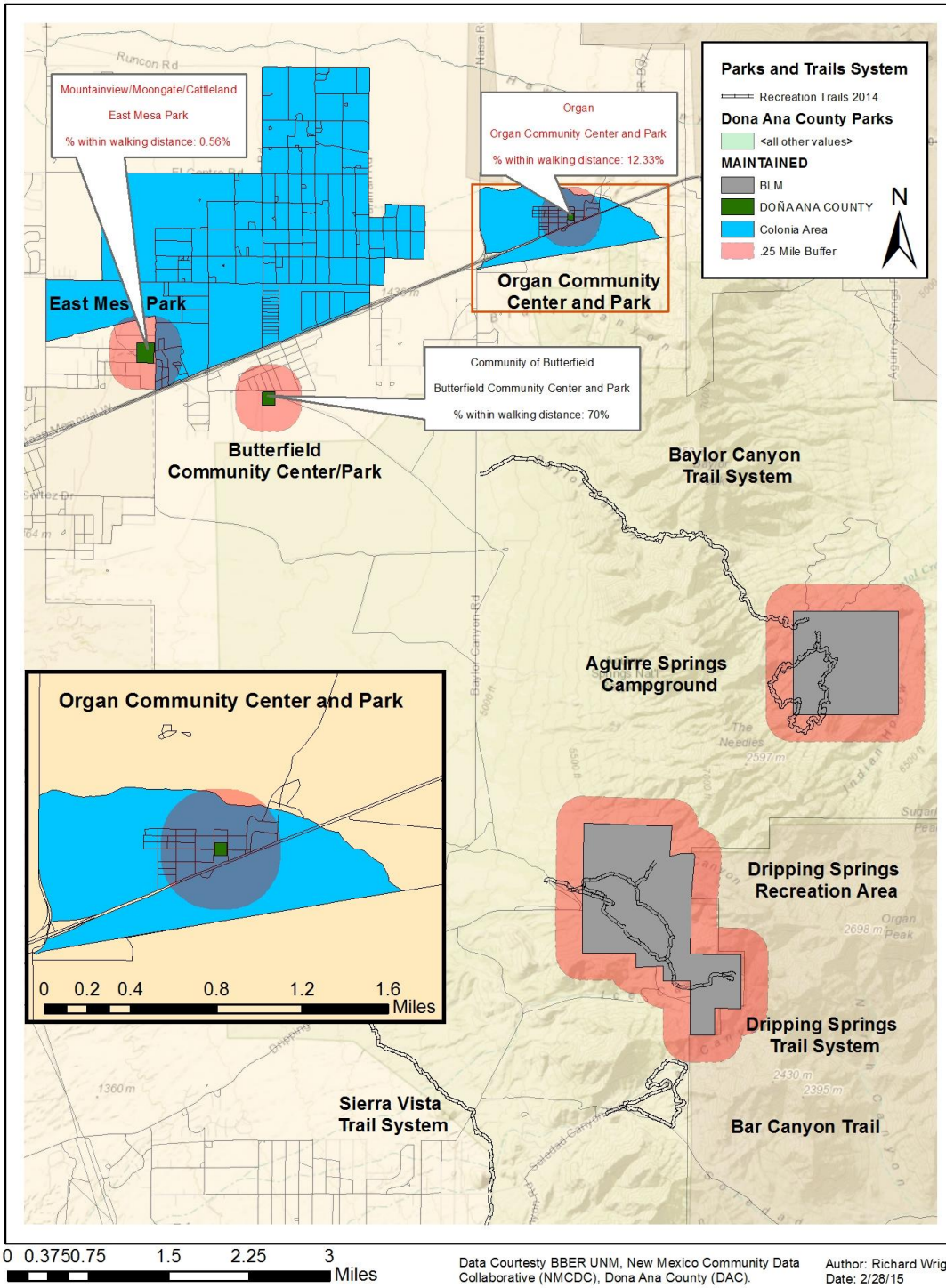
Storymaps that display this same information in an interactive format are available at <http://nmcde.maps.arcgis.com/apps/MapJournal/index.html?appid=5a55e9a972bb4f52896549b06bbcf650> (NM Community Data Collaborative, 2015).

## Walking Distance Access to Parks and Trails, Las Cruces, Dona Ana County, 2015

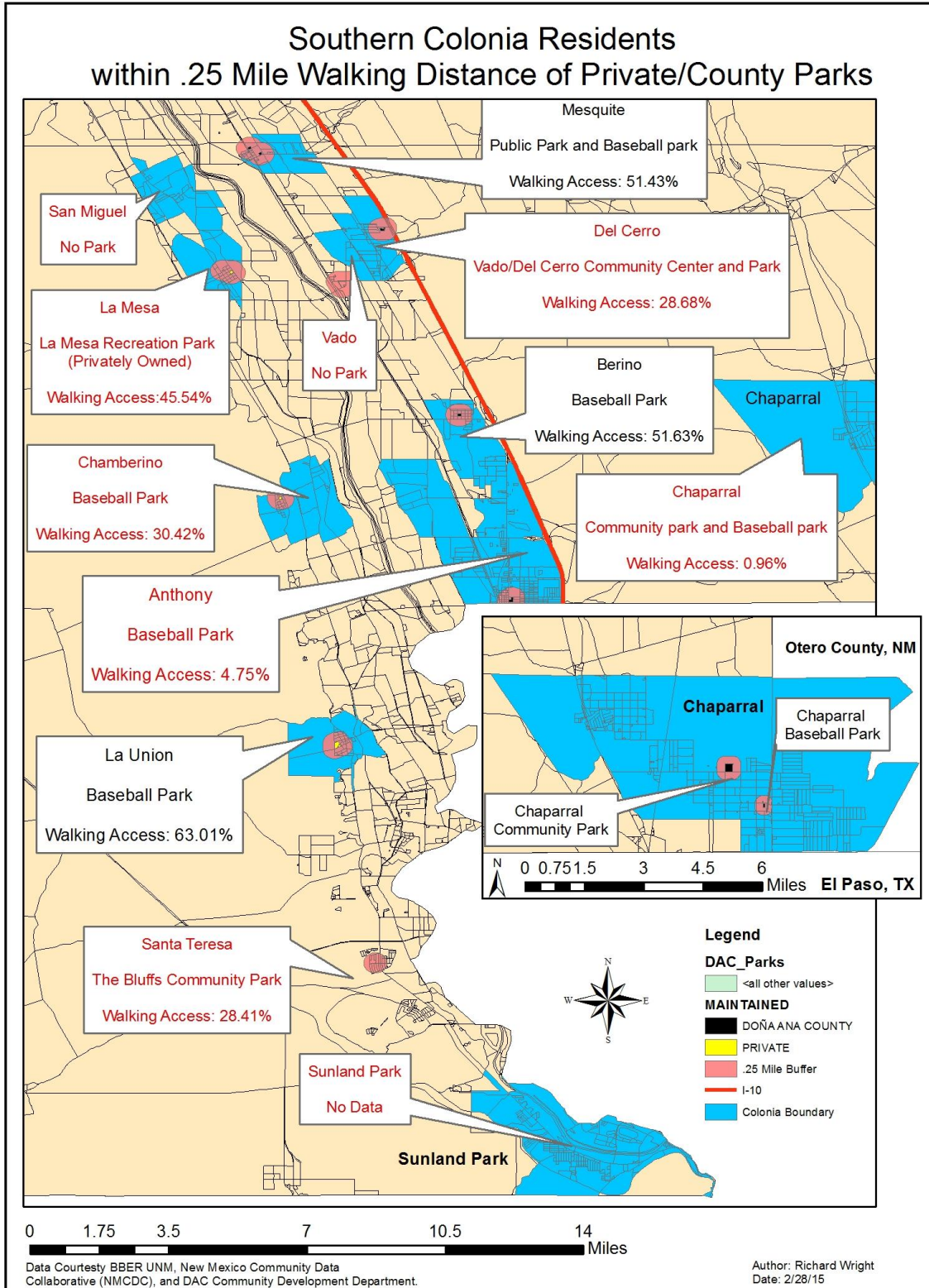


**Figure 2. Parks and Trails in and Near Las Cruces.**

## Parks and Trails around Butterfield Community Center, .25 Mile Buffer, 2015



**Figure 3. Parks and Trails in and Near Butterfield.**



**Figure 4. Parks and Trails in Southern Doña Ana County.**

## *Perceptions of Safety*

Perceptions of park and trail safety can affect access to and use of these spaces by community members. In addition, safety concerns regarding the streets that lead to these public spaces also affect usage.

### *Literature Review*

Research suggests that perceptions of safety vary by neighborhood: parks attached to residential areas are often considered to be safer, and they foster social interaction (Cohen et al., 2010). Residential neighborhoods connected to green spaces experience fewer violent and property crimes and stronger social capital between residents. Such outdoor recreation areas increase informal interactions between members in a community, strengthening social ties that empower people to help and protect one another (American Planning Association, 2003).

In contrast, parks in dense, high poverty areas are sometimes perceived to be unsafe. One study found that perceptions of park safety were lowest in areas with high population density, high rates of poverty, and high percentages of Hispanic residents (Cohen et al., 2010). Other researchers learned that a negative perception of safety can prevent people from using parks or open spaces (Loukaitou-Sideris and Sideris, 2010). In a third study, increasing neighborhood safety where children played was linked to an increase in physical activity of 49 minutes per week (Molnar, Gortmaker, Bull, & Buka, 2004).

While the perception that a park is dangerous can deter people from using it, the perception that a park is safe does not on its own appear to facilitate park use. Other factors also influence usage rates, and holding events at parks, including sports competitions, appears to be the strongest correlate of park use and community-level physical activity (Cohen et al., 2007). Improvements to parks may not automatically result in increased use and physical activity, especially when programming decreases (Cohen et al., 2009).

### *Community Discussion*

While safety is important to Doña Ana County residents, perceptions vary about how safe parks are in the county. For instance, one focus group participant indicated she never had any trouble walking to and from the community park. The participant sitting next to her asserted that she always had trouble with “vicious dogs” that threatened to attack her around the same park and therefore she was afraid to walk. Some of the common themes that emerged were poor lighting of parks and communities, lack of sidewalks, reckless driving, lax animal control, substance use, vandalism, and a fear of violence.

Focus group participants added that feeling unsafe walking in their communities limited how frequently they left their homes and how they interacted with their neighbors. Barriers to walking safely on roads included lack of animal control, poor lighting, speeding traffic, and a fear of community and gang violence. Participants in one community expressed a fear that if they reported criminal activity occurring in the community they would face retaliation from their neighbors. Many also stated they would only leave the house when they could drive and if they

could not drive, they did not go out. One participant stated, “I drive my car to the next block to the store, because I’m afraid to walk. There are aggressive dogs and I don’t want to get attacked.” Another stated that he only walks when “carrying a very big stick” to protect himself.

### *Facilities*

The availability of facilities can impact both how and how much a park or trail is used. Those that lack features such as drinking fountains or permanent restrooms are less likely to be used by residents of the community.

### *Literature Review*

The size of a park plays a role in usage: large parks are used more often than smaller parks. When facilities are tailored to the interests of likely users, park usage is increased (Kaczynski et al., 2008).

The vigor of physical activity performed at parks varies based on the types of facilities located there. The existence of trails appears to have the strongest relationship with physical activity, as parks with a paved trail were found to be 26 times more likely to be used for physical activity than parks without them (Kaczynski et al., 2008). Parks containing soccer fields, tennis and racquetball courts, basketball courts, volleyball courts, and playgrounds were associated with moderate to vigorous levels of physical activity and higher levels of park-based energy expenditures as opposed to parks that did not contain these features (Floyd et al., 2008). Others have found that sedentary activity is more prominent in open green spaces containing picnic areas (Shores and West, 2008).

### *Community Discussion*

Focus group participants indicated that their community parks and trails commonly lack working drinking fountains, seating, and restroom facilities. Residents indicated that parks and trails containing these features were used far more often than public parks and trails lacking them. Many participants expressed the desire for additional indoor recreational facilities and community centers to be appended to existing community parks. The participants stated that parks with existing community centers were far more versatile than parks lacking these facilities. Such community centers provide extra space for community events and improve communication among neighbors. Participants suggested that if these community centers were available for rental by community members for special events, funds could be generated to help maintain the nearby parks and their facilities.

## **How Does Access to Parks and Multi-Use Trails Influence Health?**

### ***Physical Activity***

#### *Literature Review*

Increased physical activity can improve health outcomes for people of all ages and sizes (Centers for Disease Control and Prevention, 2013). There is strong evidence of the benefits of physical activity including lower risk of early death, stroke, and adverse blood lipid profiles, as well as improved cognitive function in older adults (HHS, 2008). Sufficient physical activity can promote both physical and mental health in children and adolescents (Oreskovic et al., 2015).

Exercise can be classified into three categories based on motivation and social necessity: exercise necessary for living, exercise undertaken to improve health, and exercise done for pleasure (Godbey, 2009). Of the three functional categories, activities that are inherently pleasurable have the greatest potential to increase human movement in daily life (Chow, 2007).

Middle-aged and older adults are more physically active during leisure activity than they are at their jobs or performing housework or personal care tasks (Chow, 2007). Physical activity rates are positively influenced by improvements in the built environment, such as parks, bike lanes, trails, and sidewalks, as well as by legislative policies that increase access to these facilities (Healthy People 2020, 2015). Types of facilities may also play a role in determining youth physical activity levels. Parks and neighborhood play areas were found to be most important for boys, whereas commercial facilities and neighborhood play areas were found to be most important for girls (Hoefer et al., 2002).

#### *Community Discussion*

Many participants stated they like to walk around parks for exercise, bring their children or grandchildren to play, attend special events, and participate in or watch sports activities. Sports activities included baseball, soccer, and basketball where the appropriate facilities were available. Of those surveyed, 56 percent said they bring children to the park with them. The majority of participants also indicated that they spend time at parks with other family members or friends. The majority of those who use parks stay for at least an hour.

### ***Sedentarism***

#### *Literature Review*

Sedentarism refers to activities that are performed in states of low energy consumption, including sitting, lying down, and sleeping. When these activities accumulate into a prolonged period they are termed sedentary behavior (Fox, 2012). Physical inactivity or sedentarism is a risk factor for chronic diseases including cardiovascular disease, colon cancer, breast cancer, obesity, hypertension, diabetes, depression, and osteoporosis (Warburton, Nicol, & Bredin, 2006).

Women who reported sitting for more than six hours during their leisure time versus less than three hours a day had an approximately 40 percent higher all-cause death rate, while men had an approximately 20 percent higher death rate, independent of the amount of physical activity they performed. The combination of sitting more and being less physically active was found to be associated with increases in all-cause death rates of 94 percent for women and 48 percent for men compared to those who sat the least and were most active (Patel et al., 2010).

Sedentarism is also a concern for youth. Children ages eight to 18 years of age spend approximately 44 hours per week in front of an electronic screen (Roberts et al., 2005). Outdoor activity has been replaced by videophilia: a love of playing video games, browsing the web, and watching movies and TV (Pergams and Zaradic, 2006). In addition, overdevelopment, building regulations, and other development and school policies send the message to children that, “free range play is unwelcome, that organized sports on manicured playing fields is the only officially sanctioned form of outdoor activity” (Godbey, 2009). Another primary deterrent of childhood physical activity is that fewer than half of American children have a playground or trail within walking distance of their homes, according to a nationwide Gallup survey (2003).

### *Community Discussion*

Residents report that without safe, adequately sized spaces to play, children stay inside and watch TV and play video games, particularly in the summer. According to residents, many of the existing parks in the communities are not big enough. “The park comfortably allows for about 75 people, however there are hundreds of people in the community,” stated one participant. Another indicated, “My children love to play basketball but there are only two courts at the park.” A third participant stated, “During the summer there is a huge problem with lack of equipment. My kids don’t want to go to the park, because there are only two swings and there are too many kids for them to do the things they want to do. Instead, they stay home and play Xbox.” In addition, the playground equipment available to children at many of the parks is poorly maintained and often subject to vandalism.

### *Mental Health*

Research suggests parks can help manage stress and stave off depression among certain groups by providing opportunities for social interaction and physical activity. Doña Ana County residents report experiencing depression, anxiety, and feelings of hopelessness or sadness. Those who suffer from serious, debilitating mental disorders may experience suicide attempts, significant role impairment, or lost work productivity (NMDOH, 2013).

### *Literature Review*

The American Institute of Stress reports that 77 percent of adults in the U.S. experience physical conditions caused by stress (2014). An estimated 75 percent of all visits to primary care physicians are for stress-related complaints and disorders (Godbey, 2009). People with high stress levels are more at risk of contracting colds, heart disease, and cancer. Stress has also been linked to obesity, high systolic blood pressure, and elevated heart rates (Bell et al., 1998; Brand et al., 2000). High stress levels are associated with youth violence and some believe that stress



produces “social illness” or pathological responses such as violent and reckless behavior, crime, drug abuse, and antisocial behavior (Godbey, 2009).

Other research indicates that excessive time spent in purely human environments such as urban cities and office buildings may lead to exhaustion and loss of vitality and health (Katcher and Beck, 1987; Stilgoe, 2001). Stressful physical environments can also trigger human aggression because crowding, high temperatures, and noise can all exacerbate aggressive behavior (Kuo and Sullivan, 2001).

Spending time in nature or even viewing nature appears to reduce stress and contact with nature has the potential to reduce aggression and violence among individuals in a given population (Kaplan, 1995). Numerous studies find speedier recovery time from injury through exposure to plants or nature, fewer illnesses in prison inmates whose cell windows face nature, and calming effects of viewing natural landscape images after people are stressed (Frumkin, 2001; Moore, 1981; Ulrich, 1984; Parsons et al., 1998). Stress reduction is viewed as an important benefit by older visitors to local parks (Godbey and Blazey, 1983). Negative moods decrease after spending time in a park, and park users report lower levels of anxiety and sadness (More and Payne, 1978). The longer people stay at a park, the less stressed they report feeling (Hull and Michael, 1995).

Nearby green spaces can help to increase the frequency of casual contact between residents in a neighborhood, which helps strengthen social ties among community members (American Planning Association, 2003). However in other circumstances such spaces have been found to increase rates of social anxiety, predominantly among women (Brown and Harris, 1978).

Social capital refers to the “individual and communal time and energy that is available for such things as community improvement, social networking, civic engagement, personal recreation, and other activities that create social bonds between individuals and groups” (CDC, 2013b, para.1). The creation of social capital within communities benefits individuals’ psychological health by moving them away from isolating situations so that positive socialization can act as a buffer against stress and depression (Kawachi and Berkman, 2001). At the community level, places with higher levels of social capital are typically safer and better governed (Putnam, 2000).

It can be posited that the development and maintenance of green spaces contributes not only to the physical cohesiveness of a neighborhood but also bolsters important social networks, fostering communication of ideas and strengthening relationships between residents. Such relationships can increase resiliency at both the individual and community level, equipping residents with the tools they need to confront health and other challenges.

### *Community Discussion*

Mental health questions were not posed during the focus groups out of respect for participants’ privacy. However, many residents did express feelings of stress and anxiety about living in their communities. The Otero County residents of Chaparral were the most vocal in this regard. One woman described an occasion when a drive by shooting took place in front of her house and bullets flew through her window. She was afraid to live in her own home, let alone venture out to

a park that many residents viewed as isolated and dangerous, especially in the evening. Others added that the main community park was quite far from where they lived. In addition, the Otero County residents County cannot access the community's health clinic because it is located on the Doña Ana County side of the community. Taken together, these factors likely compound the stress experienced by community members.

### ***Groups who are Vulnerable to Poor Access***

Numerous groups are vulnerable to poor access to parks and trails, including residents who are not able to drive or walk to them. These include youth who do not yet drive, adults without cars, and individuals who suffer from mobility challenges.

Unfortunately, many public health efforts to prevent or manage chronic diseases are mandated to focus on a single specific disease or risk factor. As noted by the NM Department of Health, this approach does not appropriately address populations that are burdened by multiple risk factors and chronic diseases simultaneously (2013). Many chronic diseases share the same potentially modifiable risk factors such as physical inactivity, tobacco use, unhealthy eating, and excess weight, which tend to cluster within communities and individual behaviors. These shared chronic disease risk factors are strongly related to potentially modifiable social determinants such as poverty, unsafe neighborhoods, discrimination, and low educational attainment. Promoting funding and maintenance for outdoor parks and trails is one way that these risk factors can be modified to address multiple chronic illnesses instead of targeting a single specific disease or risk factor.

### ***Low- Income Residents***

Twenty-five percent of residents in Doña Ana County live below the federal poverty level. Several population groups in Doña Ana County are disproportionately affected by poverty, including 32 percent of families with children under the age of 18 and 53 percent of female single-parent households (US Census Bureau, 2013).

Socioeconomic status correlates with levels of physical activity and potentially affects health (Tester & Baker, 2009). Exposure to green spaces may help reduce urban socioeconomic health inequalities (Adkins et al., 2004). Even after adjusting for socioeconomic status, residents of neighborhoods without a park have been found to be less active (Kavanagh et al. 2005). Low-income residents are at a higher risk of having limited access to recreational facilities, partly because they are not provided them, and also because they face greater challenges in traveling to them (Estabrooks et al., 2003).

These conclusions are borne out in other countries as well. In Melbourne, Australia green spaces in poorer neighborhoods were found to have fewer facilities to support physical activity amongst children (Crawford et al., 2008). Similarly, public parks were also better provided in more affluent areas of Glasgow, Scotland (Macintyre et al., 2008).

A study by Sallis et al. found that inner city and poor populations are less likely to report participation in outdoor recreation activities. Teenagers living in disadvantaged neighborhoods

lack access to parks they considered safe and are therefore less likely to participate in physical activities than teens in more affluent neighborhoods. The unequal distribution of green space could account for some of the cross-cultural and socioeconomic variations in their activity levels. Health disparity and socioeconomic status influence access to green space because parks are not distributed equitably across urban space and parks are not always viewed as safe in areas with lower socioeconomic status.

### ***Residents of Unincorporated Rural Communities***

Research has found that people living in rural communities participate in physical activity less often than those who live in more urbanized communities (Reis et al., 2006; Parks et al., 2003). Rural communities are vulnerable to poor health due to geographic isolation and the associated lack of access to healthy foods, medical care, businesses and services, and education about healthy behaviors (Harris, 2015). In addition, the built environment in rural communities is less likely to be walkable and residents are more likely to be obese (Yousefian et al., 2009).

### ***Children and Adolescents***

Over one-fourth of residents in Doña Ana County are under the age of 18 (US Census Bureau, 2015). Children and adolescents with access to recreational facilities and programs, usually near their homes, are more active than those without such access (Sallis, Prochaska, & Taylor, 2000). Adolescent girls' physical activity levels have been found to be directly related to the proximity of recreational facilities (Norman et al., 2006).

Access to safe places to play and walk can have a direct impact on the health of children and adolescents. Childhood is linked to physical inactivity, and children who are obese are more likely to suffer both short and long term consequences, including increased risk of cardiovascular disease, diabetes, bone and joint problems, and cancer (CDC, 2014). Hispanic youth in New Mexico suffer from overweight and obesity at higher rates than their white peers. In 2014, 36 percent of Hispanic third graders were overweight or obese compared to 25 percent of Whites (NMDOH, 2014).

Physical inactivity is also linked to Attention Deficit Hyperactivity Disorder (ADHD). According to the Centers for Disease Control and Prevention, approximately 11 percent of children ages 4 to 17 have been diagnosed with ADHD (2011a). Researchers have found that spending even a little time outdoors can help reduce the symptoms of ADHD (Godbey, 2009). A direct observational study concluded that even children whose symptoms had not responded to medication showed behavioral improvement in outdoor settings (Kuo and Taylor, 2004).

### ***Older Adults***

Older adults are more likely to suffer from multiple chronic diseases than younger adults. The primary chronic diseases afflicting elderly populations are arthritis and diabetes. Seniors also experience risk factors including high blood pressure and high cholesterol at higher rates than the general population. Partly due to mobility challenges caused by conditions including arthritis,

older adults in New Mexico report less participation in leisure-time physical activity and a high prevalence of obesity (NMDOH, 2013).

Outdoor parks and trails offer seniors a low-risk means of improving their health, and walking is associated with most forms of outdoor recreation (Godbey, 2009). Exercise such as walking has been shown to have many health benefits for older adults. These include decreased risk for heart attack, stroke, and fractures of the lower hip; reductions in arthritis pain and stress levels; improvements in cholesterol levels, weight control, blood pressure control, and muscle and joint strength; and longer lifespan (Godbey, 2009).

## **Increasing Access through Shared Use Agreements**

### *Literature Review*

Public health organizations including the Centers for Disease Control and Prevention, the American Academy of Pediatrics, and the U.S. Department of Health and Human Services promote the establishment of shared use agreements to facilitate physical activity and increase access to healthy civic spaces (Active Living Research, 2012). The terms shared use agreement (SUA) and joint use agreement (JUA) are often used interchangeably. For the sake of clarity, the term SUA will be used in this discussion.

An SUA is “a formal agreement between two separate government entities, often between a school and a city or county – setting forth the terms and conditions for shared use of public property or facilities” (National Policy and Legal Analysis Network [NPLAN], 2009). SUAs can range from relatively simple contracts that allow the use of school playgrounds outside of school hours to more complex agreements, such as those that provide community members and groups access to school facilities or give schools access to city or county facilities (NPLAN, 2009). For example, an SUA could provide the opportunity for local youth sports leagues to use school fields during afterschool hours or promote reciprocal use of school facilities and local parks (Active Living Research, 2012).

Numerous studies support the assertion that SUAs positively influence physical activity rates of residents in the surrounding community, especially youth. A survey of adolescents ages 12 to 18 in three cities found that they were significantly more likely to be physically active when they had access to fields and play areas after school (Durant et al., 2009). Similarly, a study of two low-income New Orleans communities found that the number of children who engaged in physical activity outside was 84 percent higher in a community that allowed access to the schoolyard after hours than in communities where the schools did not allow such access. In addition, children living in the community with the open schoolyard spent less time watching television or playing video games on weekdays (Farley et al., 2007). Another study found a significant increase in children’s activity levels at schools with renovated schoolyards (Brink et al., 2010). An evaluation of a shared use program between the Honolulu Department of Parks and Recreation and a nearby high school found that the program provided 1,000 participants with new opportunities for physical activity such as senior fitness classes, adult fitness and recreation programs, and teen strength training (Choy et al., 2008).

The Institute of Medicine recommends that local governments “collaborate with school districts and other organizations to establish shared use of facilities agreements allowing playing fields, playgrounds, and recreation centers to be used by community residents when schools are closed; and if necessary, adopt regulatory and legislative policies to address liability issues that might block implementation (Parker et al, 2010).” Those who pursue such agreements should clearly identify facilities that may be used for recreational purposes, clearly define eligible users and the times when facilities are available, and specify liability and repair responsibilities for eligible users (Bridging the Gap, 2012).

In 2006, only 29 percent of schools granted afterschool access to youth sport teams or activity lessons, supervised open gym or free play, or outdoor activities for those not in a program (U.S. Department of Health and Human Services, 2010). A study of school administrators found they were primarily concerned about liability, maintenance, vandalism, scheduling, costs and operations, crime, and other safety issues (Active Living Research, 2012).

Liability is the greatest concern for many parties considering SUAs. The threat or fear of liability often serves as a justification to restrict public access to school recreational facilities (Spengler, Young, and Linton, 2007). Negligence is the most common type of lawsuit schools face, and such issues are governed by common-law tort rules. The state’s interpretation of the law often determines the outcome of such cases. New Mexico is not one of the 28 states that has enacted laws supporting shared use (Trust for America’s Health and Robert Wood Johnson Foundation, 2014).

### *Community Discussion*

Many community members expressed a desire to access school recreation areas after school hours, including playgrounds, tracks, and fields. A Vado resident who lives across the street from the elementary school said she cannot take her children to play there because the school locks the gate as soon as school lets out, and the nearest park is too far away to reach on foot.

### *Mapping of Shared Use*

The map in Figure 5 depicts the existing parks in a southern portion of the county. No shared use agreements are illustrated, as none are currently in place.

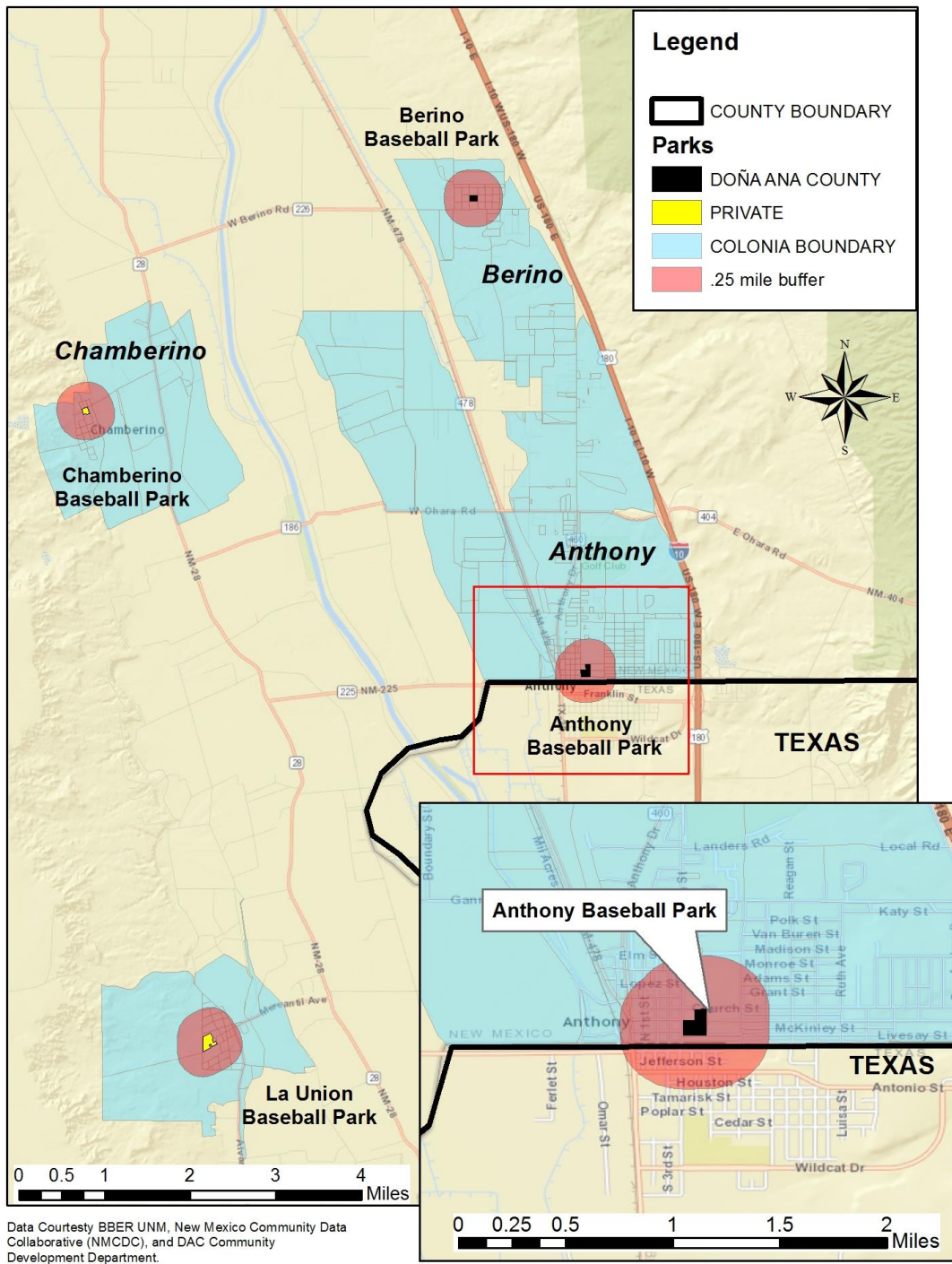
Figure 6 illustrates potential trails that could be utilized under a shared use agreement with Elephant Butte Irrigation District (EBID), though it should be noted that some of these trails are drainage ditches and may not be ideal for trail use. Laterals such as those illustrated in the inset might be most easily utilized as multi-use trails since they are located in close proximity to residents’ homes in the surrounding communities.

Figure 7 depicts how access to recreational spaces would change if a shared use agreement were enacted between school districts and the county. Access to parks and playground equipment would increase significantly if such agreements were implemented. In fact, 86 percent of county residents would live within one quarter mile of a park if shared use agreements were implemented with the three school districts, compared to 50 percent currently.

Figure 8 illustrates what access to parks and multi-use trails would look like if shared use agreements were implemented between the county, EBID, and the three school districts. As the map indicates, there is potential for a substantial increase in accessibility to parks, playgrounds, and potential multi-use trails in this southern portion of the county, and transit connectivity within and between these communities would be greatly enhanced.

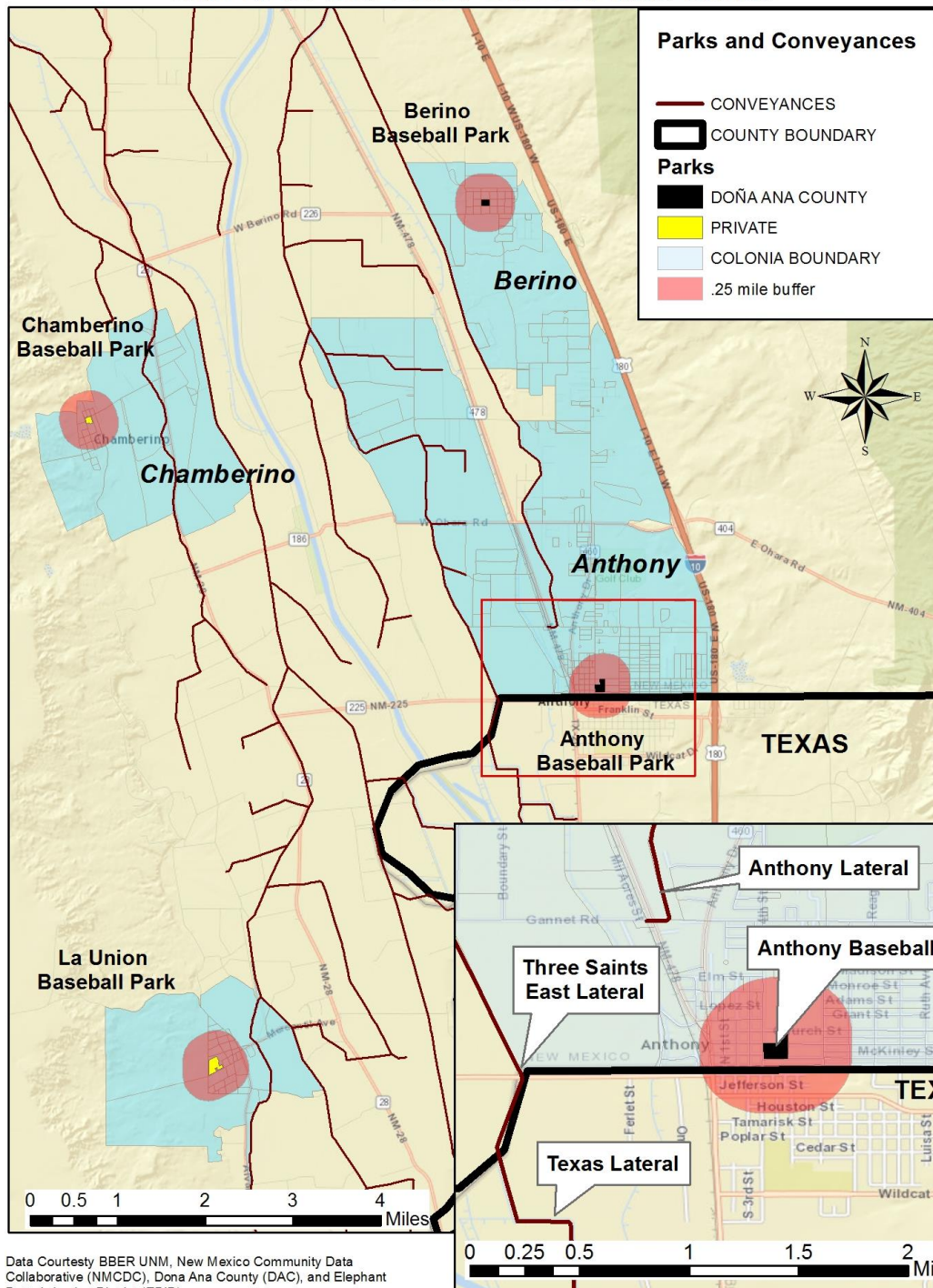
Storymaps that display this same information in an interactive format are available at <http://nmcddc.maps.arcgis.com/apps/MapJournal/index.html?appid=5a55e9a972bb4f52896549b06bbcf650> (NM Community Data Collaborative, 2015).

## Current Parks in a Southern Sector of Dona Ana County, .25 Mile Buffer, 2015



**Figure 5. Parks in a Southern Sector of Doña Ana County.**

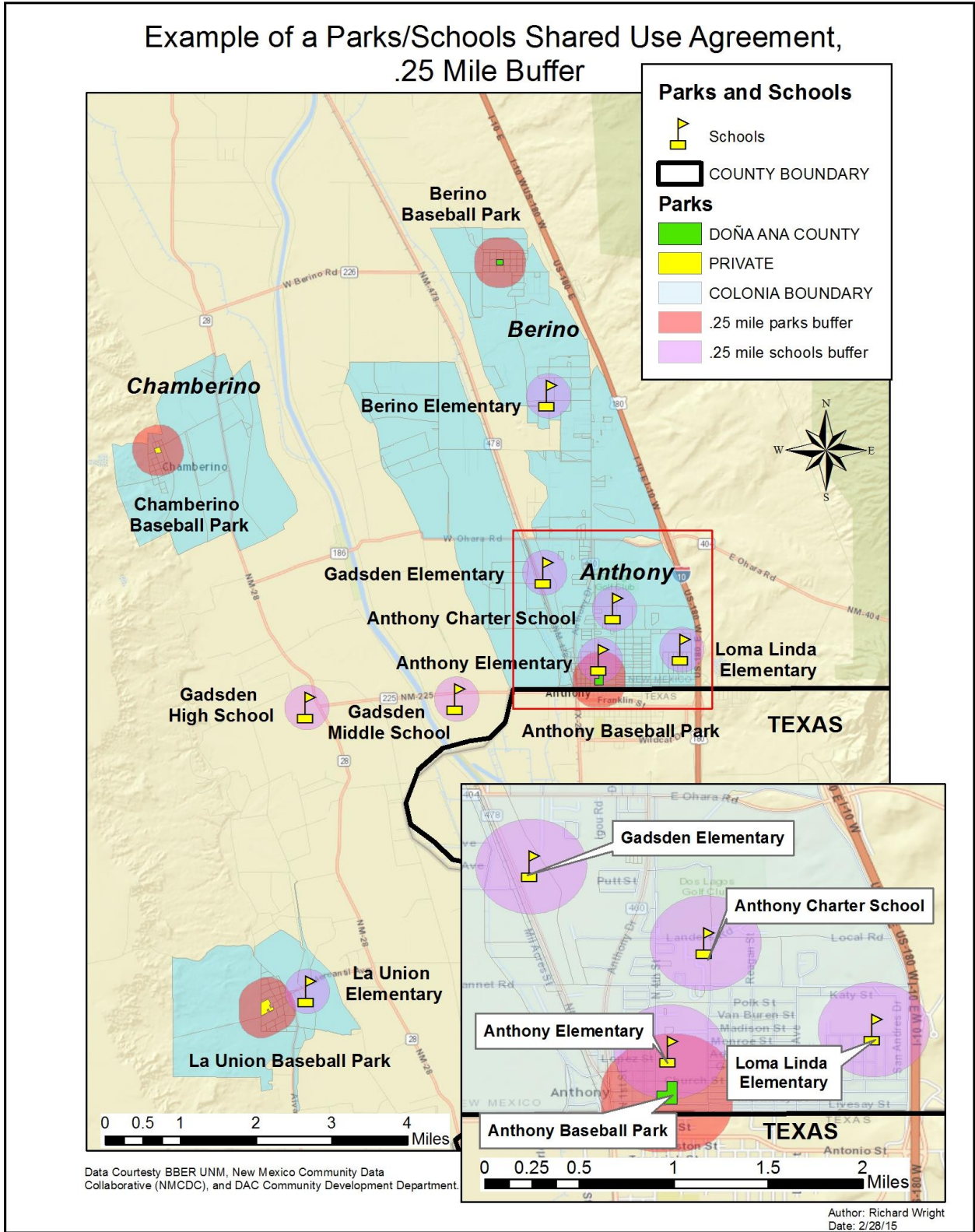
## Parks and Potential Trails for Shared Use Agreement with DAC and EBID with .25 Mile Buffer



**Figure 6. Shared Use with Irrigation District.**

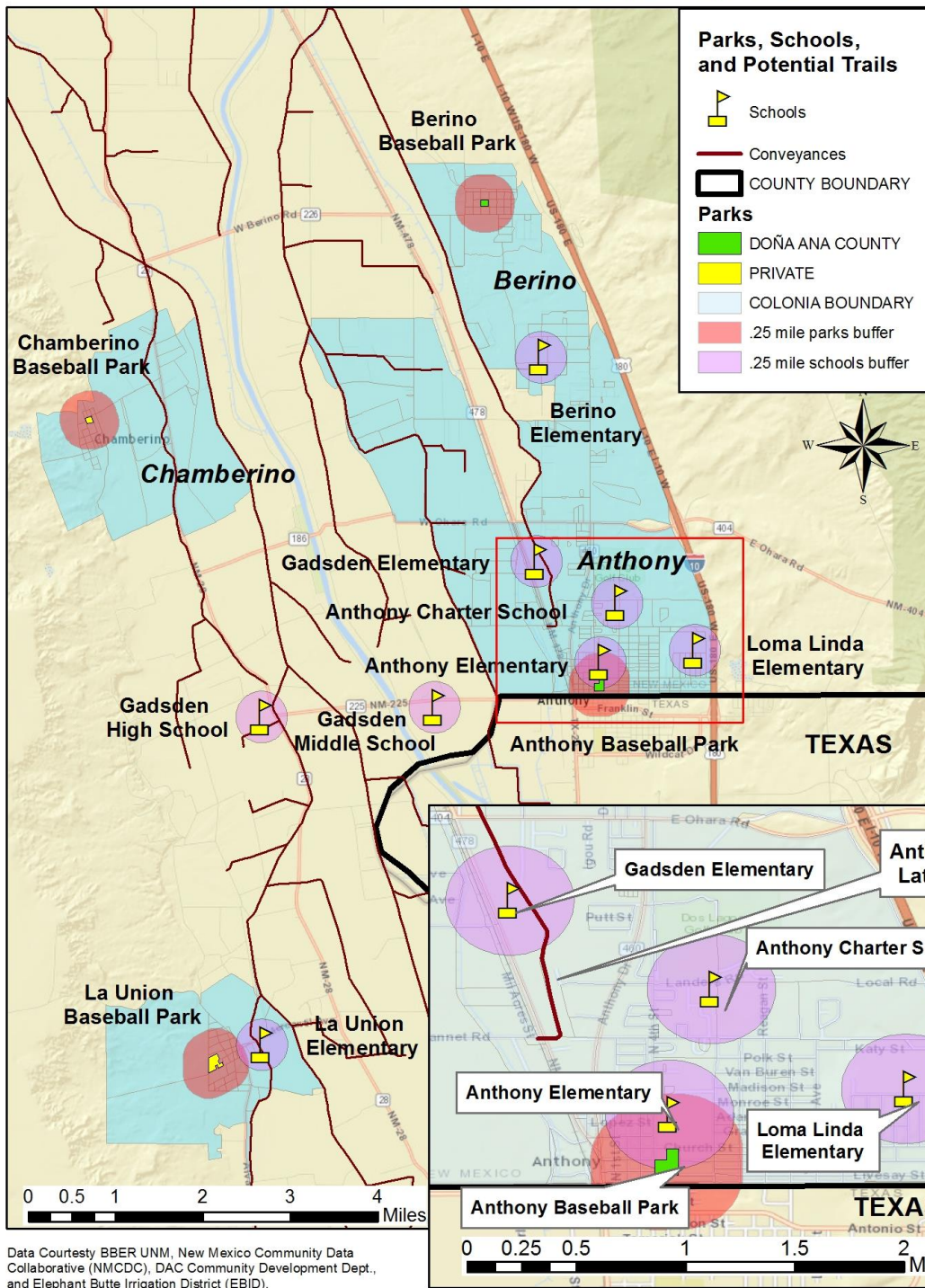


## Example of a Parks/Schools Shared Use Agreement, .25 Mile Buffer



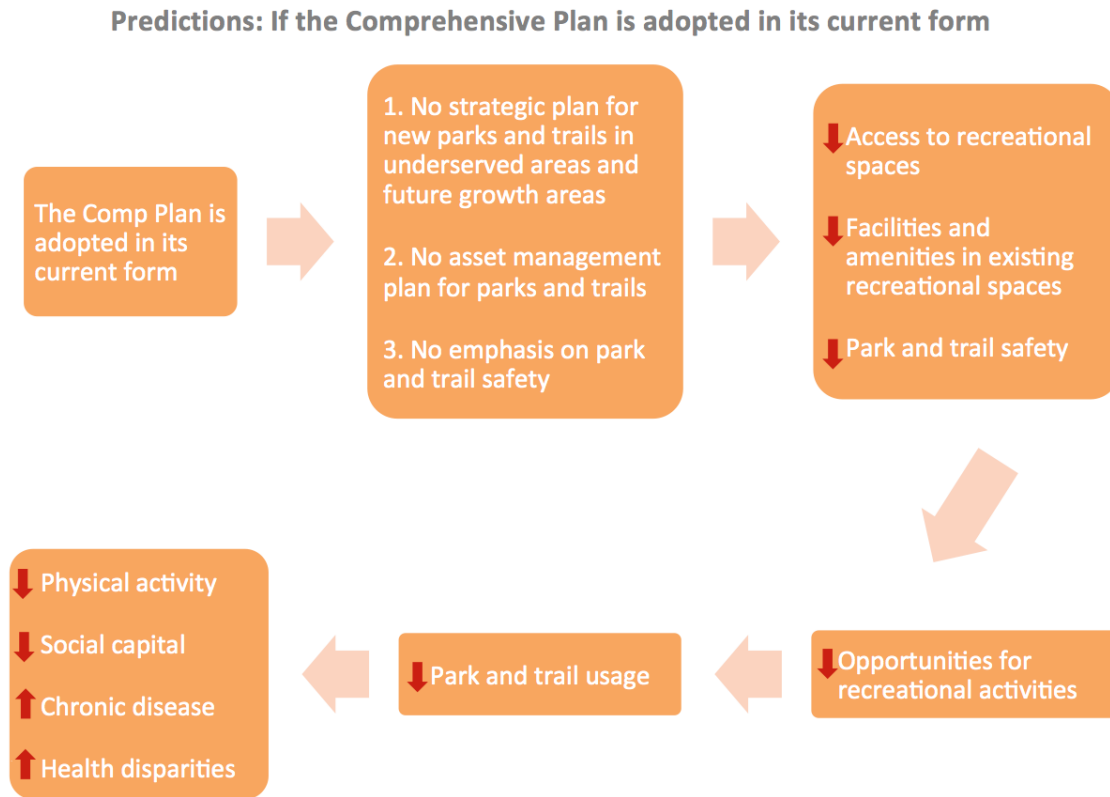
**Figure 7. Shared Use with School District.**

## Example of a Parks/Schools/EBID Shared Use Agreement, .25 Mile Buffer around Parks and Schools



**Figure 8. Shared Use with Irrigation District and School District.**

## Predictions



**Figure 9. Predictions Diagram.**

The pathway above depicts what would likely occur if the Comprehensive Plan were implemented in its January 15, 2015 form. (While that draft of the plan did not specifically mention future development, maintenance, and reinvestment in parks and multi-use trails, the second draft does incorporate many of our HIA recommendations.) If this first draft were adopted by the county, the Doña Ana PLACE MATTERS Team predicts the following outcomes:

1. Currently, only 50 percent of Doña Ana County residents live within a quarter mile of a park or trail. Research indicates that residents' **proximity** to a park or trail affects usage, and usage substantially decreases the farther people live away from parks. If additional parks are not built and the population grows as it is expected to do, a lower percentage of residents will live within walking distance of recreational facilities. With more residents living farther away from existing parks, it is likely that access to recreational spaces will decrease, as will per capita usage rates of these spaces.
2. Research indicates that parks and trails with quality **facilities** receive greater usage than parks without them. Recreational spaces without facilities like drinking fountains, restrooms, seating, lighting, paved trails, courts and playgrounds are less likely to be used by residents. In addition, those with poorly maintained facilities are not attractive to residents. The first draft of the Comprehensive Plan does not call for

an asset management plan for improving existing park facilities. In the absence of additional investment to existing parks, usage of these facilities will likely decrease over time.

3. Residents already hold negative perceptions related to the **safety** of their community parks and trails. Insufficient lighting and law enforcement, loose dogs, substance use, vandalism, fears of violence, and speeding cars all contribute to a perceived lack of safety that reduces usage of existing parks and trails. Without an increased focus on park safety, safety will be unlikely to increase and usage of parks and trails will likely drop.

Lack of improvements in these three areas—proximity, facilities, and safety—will likely contribute to decreased physical activity levels, lower social capital, higher incidences of chronic diseases, and a worsening of health disparities. Alternatively, adoption of the recommendations below could put in motion the opposite pathway, leading to positive outcomes.

## **Recommendations**

### **1. Improve Opportunities for Residents to Access Existing Parks and Multi-Use Trails**

- a. Connect parks and multi-use trails with transportation infrastructure.
- b. Develop and implement an asset management plan for parks and trails infrastructure.
- c. Add amenities to parks and trails based on community input.
- d. Implement traffic calming measures (speed bumps, stop signs, crosswalks, and enhanced law enforcement) near parks and multi-use trails.
- e. Develop and implement a plan to hold events in parks in underserved areas.

### **2. Establish Additional Parks and Multi-Use Trails**

- a. Plan new parks and multi-use trails within one quarter mile of high concentrations of underserved residents.
- b. Require that new subdivisions include parks and multi-use trails.
- c. Adopt shared use agreements with school districts to enable residents to access recreational facilities after school hours. About 86 percent of residents would then live within walking distance of recreational community space.
- d. Adopt a shared use agreement with Elephant Butte Irrigation District to utilize drainage easements and levees as multi-use trails.

### **3. Adopt a Health in All Policies (HiAP) Approach**

- a. Expand the Open Space and Trails Vision Plan to include trails in communities and arroyos.
- b. Develop and implement a County Parks Master Plan and link it to a budget line item.
- c. Include multi-use trails under the Parks and Facilities Department.

#### **4. Access Diverse Funding Sources**

- a. Use gross receipts tax revenue as match to attract other funding sources.
- b. Submit a coordinated Infrastructure Capital Improvement Plan funding request based on community input.
- c. Build community members' capacity to write grants.

#### **Conclusion**

This HIA presents an array of strategies to county planners and other decision makers for incorporating health into the design of current and future parks and multi-use trails. Opportunities for inclusion of these HIA recommendations exist at multiple steps in the planning process, beginning with the Doña Ana County Comprehensive Plan and progressing through the Unified Development Code, zoning decisions, and finally to specific community projects. As decision makers proceed, they should focus on the three issues of proximity, facilities, and safety.

If those who are at greatest risk for negative health outcomes are to receive a fair chance to be healthy, it will not be enough to build parks and multi-use trails. In order for the goals of this HIA to be achieved, existing relationships must be strengthened and new partnerships must be created. County staff, elected officials, community members, commercial interests, and agency personnel must come together in a spirit of mutual respect, open to listening to and learning from each other. Only then will the trust and broad-based support be achieved to create the political and community will to install and maintain facilities where those most in danger of poor health can best utilize them.

While improvements to and creation of parks and multi-use trails will not on their own eliminate health inequities, such projects have the potential to yield substantial improvements in community health at an affordable cost. Enhancing accessibility to outdoor recreational and active transit spaces will increase community connectivity while empowering residents to take charge of their physical and mental health.

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# Appendices

## **Appendix 1: Steps of the HIA Process**

## **Appendix 1. Steps of the HIA Process**

**The HIA team engaged in the following critical steps to complete this report:**

- A. Screening– Determine if an HIA is warranted and would be helpful to the decision-making process;
- B. Scoping– Determine through collaboration and consensus which health determinants to evaluate, the methods the team would use for analysis, create pathway diagrams and a work plan to guide the process;
- C. Assessment– Gather both qualitative and quantitative data to convey existing conditions and help predict future health impacts of the proposed project;
- D. Development of Recommendations– Engage a varied and diverse group of stakeholders to help prioritize evidence-based findings to optimize positive health outcomes of the proposed project, as well as mitigate potential negative outcomes;
- E. Reporting– Communicate the HIA results to the stakeholders, especially the San Miguel County Commission;
- F. Evaluation– Examine internally how the process has gone for current and future learning; and
- G. Monitoring– Evaluate the effects of the HIA on the decision-making process, as well as its implementation regarding health determinants.



## **Appendix 2: Scoping Plan**

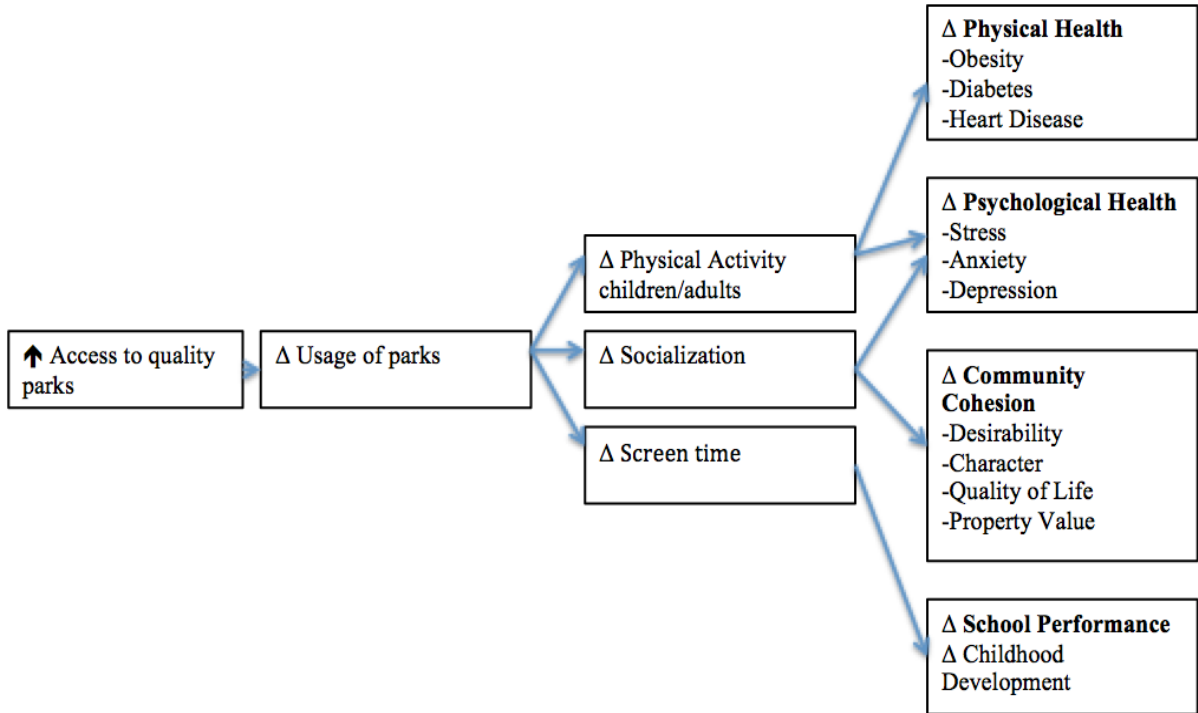
## Appendix 2A. Scoping Plan Worksheet

<b>Project:</b>	Doña Ana Comprehensive Plan- Parks and Trails				
<b>Health Determinants:</b>	Access to parks, protection of community cohesion				
<b>Geographic Scope:</b>	Doña Ana County, New Mexico				
<b>Relevant Health Issues</b>	<b>Existing Conditions Research Questions</b>	<b>Impact Research Questions</b>	<b>Indicators</b>	<b>Data Sources</b>	<b>Methods</b>
<ul style="list-style-type: none"> <li>• Exercise (Diabetes, heart disease, etc.)</li> <li>• Mental health (depression, suicide rates)</li> <li>• Social cohesion</li> <li>• Childhood and adult obesity</li> <li>• Social integration</li> <li>• Reduced private motorized transport (air quality, noise, stress)</li> <li>• Socioemotional Development</li> </ul>	What is the physical activity rate of Doña Ana County residents?	How does proximity to a park or trail impact physical activity rates?	Hours of physical activity weekly	BRFSS School district	Literature review Focus groups
	What are the current rates of chronic disease, such as obesity, diabetes, hypertension, heart disease, and arthritis?	How will a change in physical activity level impact physical health and chronic disease rates?	Obesity rates Diabetes Hypertension	NM IBIS Hospital records Death rates Literature review BRFSS  La Clinica Ben Archer	Literature Review
	How many parks are currently in the community?	How would shared-use agreements with school districts impact access to recreation areas?	Parks Population Number of schools	Doña Ana County facilities and Parks	Lit. review GIS Mapping

	How do people feel about safety of existing parks in the community?	How do perceptions of safety impact park usage?	Usage rates	Focus group narratives	Lit review Focus group
	What are the current rates of depression/anxiety/suicide in Doña Ana County?	How does a change in physical activity impact mental health?	Depression rates Anxiety rates Suicide rates	NM-IBIS	Quantitative analysis (lit review)
	How much time do children and adolescents in Doña Ana County spend using electronic devices each day?	How does a change in park usage impact screen time?	Screen time rates Hours spent outside	Focus groups YRRS	Lit review Focus group discussions
	What is the current state of facilities and amenities at parks in Doña Ana County?	How do facilities and amenities impact parks and trail usage?	Quality of facilities Proximity	Focus groups Mapping	Lit review Community discussions Mapping

## Appendix 2B. Pathway Diagram for Access to Parks

### Access to Parks Pathways



**Planning  
issue**

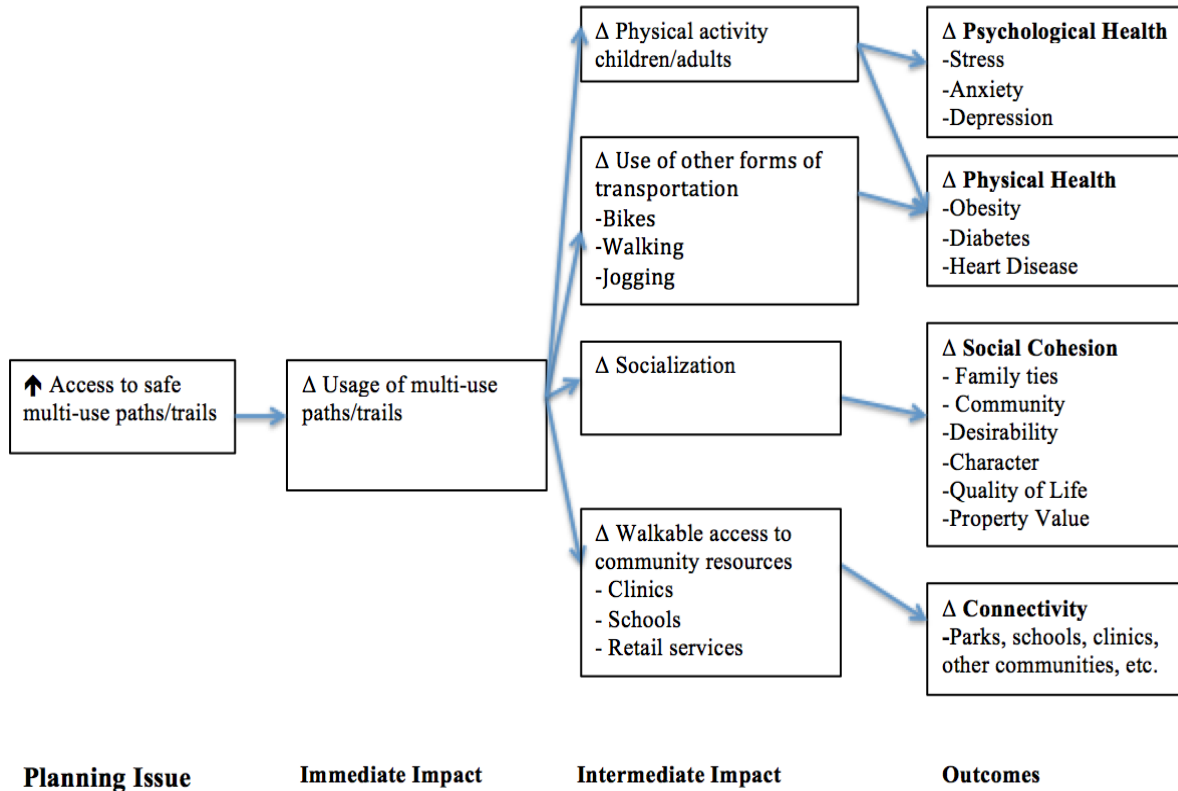
Immediate  
Impact

Intermediate Impact

Outcomes

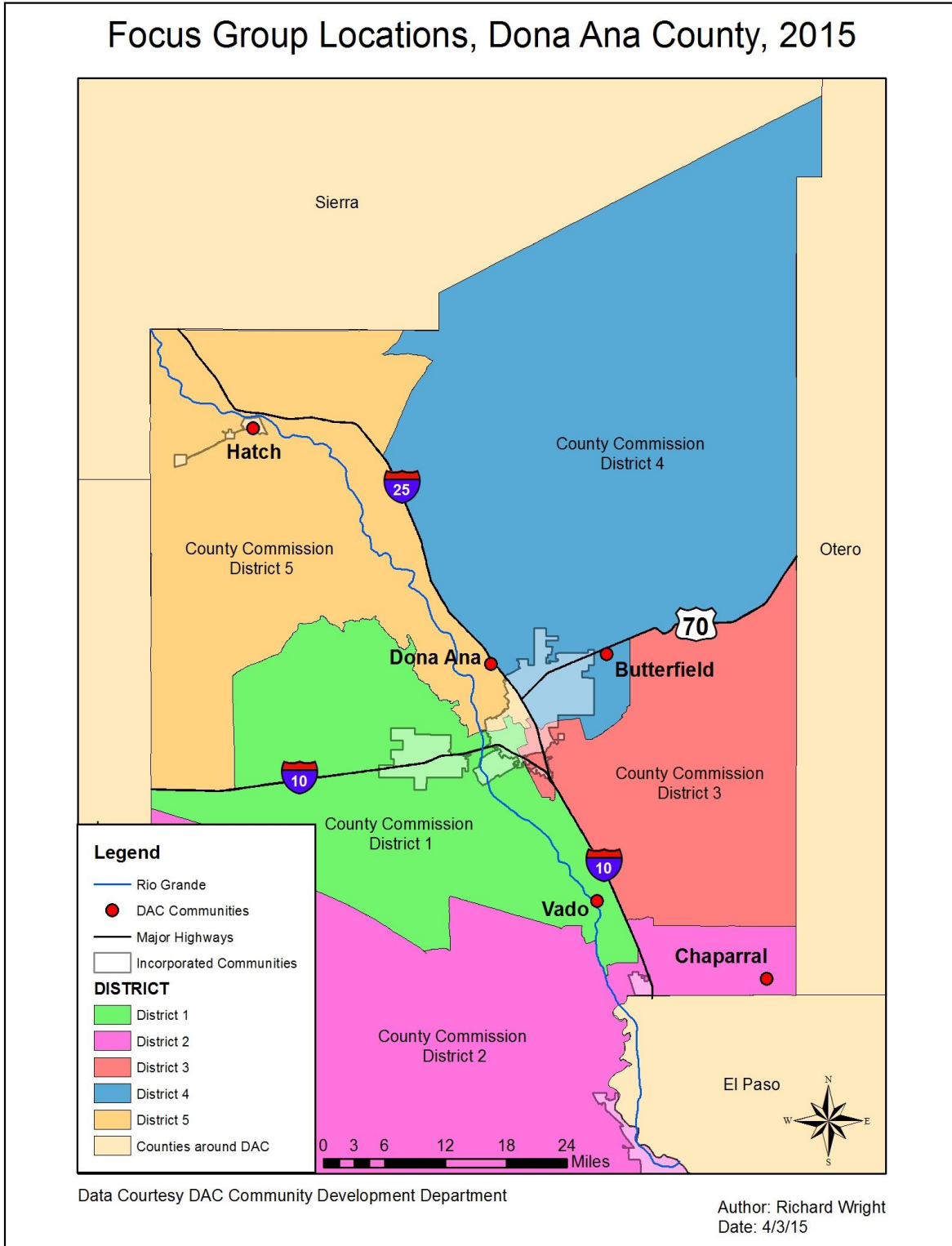
## Appendix 2C. Pathway Diagram for Access to Multi-Use Trails

### Access to Trails Pathways



## **Appendix 3: Primary Data Collection Methods and Instruments**

### Appendix 3A. Map of Focus Group Locations



## Appendix 3B. Parks and Trails HIA Focus Group Discussion Guide

<b>Population</b>	Doña Ana County residents
<b>Target # of participants</b>	5-8
<b>Length of focus group</b>	2 hours

**Location:** Chaparral, Vado/Del Cerro, Hatch, Butterfield, and Doña Ana

**Date/Time:** February 2015

**Contacts:**

- Doña Ana Place Matters- Jenna Kendall
- Community Foundation Southern New Mexico

**Set up:** sign-in sheet, nametags (they can make up a name for the day), info sheet on project, chairs in a circle, food/beverages, audio recorder, sign-up sheet for receiving report

**Introduction:**

- Thank you for agreeing to participate in this focus group!
- Facilitators introduce themselves and their organizations.

**Background on Doña Ana Comprehensive Plan:**

The Doña Ana Comprehensive Plan is the 20-year plan for the county that helps to guide future development and policies. We are performing a health impact assessment, which looks at how the comprehensive plan will impact health in the community and use what we gather to help policymakers better include health in the plan. We are focusing on access to parks and trails in the county and how that will affect health.

**Our Goals:**

- We hope to gather information on how you currently use or not use existing parks and trails in your community.
- We want to better understand what is needed and how things can be improved.
- We hope to use this information to inform policymakers about the needs of the community.

**You are here because**

- Your health and experiences using parks and trails in the community are important.
- We want to make sure we include your perspective in our report.

Before we start, here are some guidelines for our discussion:

**Anonymity**

- Participation is completely voluntary – you can choose not to participate or leave at any time



- Discussion is totally anonymous. We may include comments and quotes from today but will never write your name. We will not keep participants' names or addresses with the answers to the questions.
- You can use a name you make up for today, instead of your real name.
- Your opinions and feedback during this discussion will be combined with other information from our study.

### **Time**

- We have scheduled 2 hours total for this group.

### **Introducing people's roles:**

- My role and the role of the co-facilitator is to guide the discussion.
- Your role is to answer the questions and tell us about your experiences
- [Note taker] will be taking notes to jot down what you have said.
- Staff from Doña Ana Place Matters will write the report and compile the research.

### **Consent for audio recording:**

- In addition to taking notes, we would also like to record the conversation, to make sure we correctly capture what was said, if that's ok with folks. This will help us make sure our notes are correct, and also help us get quotes word-for-word.
- Is everyone OK with being recorded? Is everyone ok with us using the comments you make today – but not your names – in a final report or other materials?

### **Ground rules for the discussion:**

- Speak one at a time.
- Give everyone a chance to speak. If you find yourself speaking a lot, then please give others a turn to speak.
- There are no right or wrong answers. We all have different points of view. Feel free to react – agree or disagree – with what others say, just make sure you do so in a respectful way.
- To respect each other's confidentiality we ask that no one here repeats who was at this meeting or what certain people said.
- Sometimes I might have to move everyone onto another question so we can get through it – or to give everyone a chance to speak. Please don't take it personally!
- So, as a group, can we all agree on these guidelines? (wait for group to say yes)

## **FOCUS GROUP DISCUSSION QUESTIONS**

### **Introduction/Icebreaker (5-7 minutes)**

1. Let's go around and get to know one another. Please think of 3 things that you want people to know about you—it can be anything!

**For example**, three things that describe me are X, Y and Z (mother, gardener, singer)

**\*\*START AUDIO RECORDING HERE IF CONSENTED\*\***

## **Parks Questions**

### **Usage**

1. How many of you use your local park?
2. For those who do not use a park, are there reasons why not? What are those reasons?
3. For those who do use a park which parks do you use?
4. What kinds of things do you do at the park (walk, take the dog, sit, jog, run...)?
5. What do you like about the park? What do you dislike?
6. How often do you visit the park? (How many days, weeks, etc.)
7. How long do you usually stay at the park?
8. Are there special events held at the park that you like to attend or equipment that you like to use?

### **Profile Question**

9. Who are you with when you visit the park? (Children, friends, spouses, etc.)

### **Safety**

10. Do you feel it is safe to visit your park?
11. For those who think it is not safe, why do you feel that way? For those who feel it is safe, why do you feel that way?

### **Accessibility**

12. How far is it from your house, school, work, church?
13. Are you able to walk to the park?  
Do you feel it is safe to walk to the park?  
Why/Why not?
14. How long does it take to get there on average?
15. Would a convenient path or trail make it more or less likely that you would visit your park or visit it more often?

### **Recommendations**

16. What equipment or events would you like to see added to the area?

17. Is there anything else you would like to tell us about your parks?

## **Trails Questions**

### **Usage**

18. Do you ever use your local trails?
19. For those who do not use local trails are there reasons why not? What are those reasons?
20. For those who do use trails which do you use?
21. What kinds of things do you do on the trail (jog, bike, walk dog...)?
22. What do you like about the trail(s)? What do you dislike about the trail(s)?
23. How often do you use the trail? (How many days per week, month, etc.?)
24. How long do you usually use the trail for?
25. Are there special events held on or along the trail that you like to attend or equipment that you enjoy using?

### **Profile Question**

26. Who are you with when you visit the trail? (Children, friends, spouses, etc.)

### **Safety**

27. Do you feel it is safe to use your trail?
28. For those who think it is not safe, why do you feel that way?
29. For those who feel it is safe, why do you feel that way?

### **Accessibility**

30. How far is it from your house, school, work, church?
31. Are you able to walk to the trailhead?  
Do you feel it is safe to walk to the trail?  
Why/Why not?
32. How long does it take to get there on average?

33. Would a convenient path or walkway make it more or less likely that you would visit your trail or visit it more often?

### **Improvement/Recommendations**

34. What equipment or events would you like to see added to the area?

### **Wrap Up Question**

35. Is there anything else you would like to share about the parks and trails in your area?

### **Wrap-up Logistics**

- Hand out information sheet with contact information
- Distribute sign-up sheet for receiving a copy of the executive summary/report (expected to be completed sometime in August/September).
- Check that we have: sign-in sheets, sign-up sheets for final report, audio recorders, any other materials used

**Appendix 3C. Focus Group Data Coding Sheet**

**PARKS AND TRAILS FOCUS GROUPS HIA Codebook**

<b>Theme</b>	<b>Category</b>
<b>Parks</b>	
Park Usage	Reasons for using
	Reasons for not using
	Likes
	Dislikes
	Activities/events
	Features/amenities
	Who you attend the park with
Safety	Reasons why it feels safe
	Reasons why it feels unsafe
Accessibility	Distance
	Safe connection to park
	Time
	Convenience
Recommendations	Equipment
	Other
Usage	Reasons for using
	Reasons for not using
	Likes
	Dislikes
	Activities/events
	Equipment
	Who you use the trail with
Safety	Reasons why trails feels safe
	Reasons why trails feels unsafe
Accessibility	Distance
	Safe connection to park
	Time
	Convenience
Recommendations	Additional Equipment/Events
	Additional Comments/Concerns

## **Appendix 3D. Parks and Trails Neighborhood Survey**

### **1. How far away is the nearest park to your house?**

- a. Within ¼ of a mile*
- b. 1 mile*
- c. 2 miles*
- d. 3 miles*
- e. Other \_\_\_\_\_*

### **2. How often do you go to the park?**

- a. Frequently; more than 3 times each week*
- b. At least once a week*
- c. At least once a month*
- d. Rarely; at least once in a year*
- e. Never*

### **3. How many times in the last month did you go to a park?**

---

### **4. Are there any community events hosted at your park that you are aware of?**

- a. Frequently*
- b. Sometimes*
- c. Never*
- d. Don't know*

**5. About how long do you spend at the park on average when you go?**

- a. Do not go to the park
- b. 15 minutes
- c. 30 minutes
- d. 45 minutes
- e. 1 hour
- f. More than an hour

**6. Who do you go to the park with?**

- a. Children (0-18 years of age)
- b. Other adults
- c. Alone
- d. Pets
- e. Other \_\_\_\_\_

**7. What kinds of activities do you participate in at the park?**

- a. Sports. What kind? \_\_\_\_\_
- b. Walking
- c. Special events (example birthday parties)
- d. Use playground equipment
- e. Take pets
- f. Do not go

**8. On a scale of 1 to 10, how would you rate the safety of your park? With 1 being not safe at all and 10 being very safe?**

**1      2      3      4      5      6      7      8      9      10**

*(Not safe)*

*(Very safe)*

**9. Is there strewn garbage, litter, broken glass, clothes, or papers on the block face?**

1. Heavy
2. Moderate
3. Light
4. None

**10. On a scale of 1 to 10, how would you rate the cleanliness of the park? With 1 being not clean at all and 10 being very clean.**

**1      2      3      4      5      6      7      8      9      10**

*(Not Clean at all)*

*(Very Clean)*

**11. How often do you socialize with other members in your community?**

- a. Frequently (neighborhood watch, social gatherings, bbqs, dinners, other events)
- b. Moderately (Converse every once in a while)
- c. Not that much (Know neighbors as acquaintances only)
- d. Not at all (Don't talk to any of them)



**12. What is the condition of the sidewalk in your neighborhood?**

- a. Good
- b. Fair
- c. Poor
- d. Under construction
- e. No sidewalk

**13. Do you feel safe walking in your neighborhood?**

- a. Yes
- b. No

**14. Are there trails or walking paths near where you live?**

- a. Yes
- b. No
- c. Do not know

**15. What type of trail is it?**

- a. Paved
- b. Unpaved (dirt, gravel)
- c. Other

**16. What do you use the trail for?**

- a. Exercise
- b. Transportation (To get where you need to go)
- c. Other \_\_\_\_\_

**17. What activity do you do on the trail?**

- a. Walking alone or with a pet

- b. Walking with friends or family
- c. Biking
- d. Jogging

**18. How often do you use the trail?**

- a. Frequently; more than 3 times each week
- b. At least once a week
- c. At least once a month
- d. Rarely; at least once in a year
- e. Never

**19. How far away is the nearest trail to your house?**

- f. Within ¼ of a mile
- g. 1 mile
- h. 2 miles
- i. 3 miles
- j. Other \_\_\_\_\_

**20. On a scale of 1 to 10, how would you rate the safety of your trail? With 1 being not safe at all and 10 being very safe?**

**1    2    3    4    5    6    7    8    9    10**

*(Not safe)*

*(Very safe)*

**What is your gender?**

- a. Male
- b. Female

**What is your age?**

- a. 18-29
- b. 30-49
- c. 50-64
- d. Over the age of 65

**What is your ethnicity?**

- a. White
- b. Hispanic or Latino
- c. Black or African-American
- d. Native American or American Indian
- e. Asian/Pacific Islander
- f. Other

## **Appendix 4: Monitoring Plan**

## Appendix 4. Monitoring Plan

Monitoring Activity	Timing	Agencies responsible?
Did the recommendations get incorporated into the Comprehensive Plan?	Review of Final Draft of Comp. Plan	PLACE MATTERS
Conduct walkability assessment of DAC parks and multi-use trails.	2015-2016; repeat in 2020	PLACE MATTERS New Mexico State University Possible Grant Funding through Paso Del Norte IHL
Conduct usage assessment of DAC parks and multi-use trails.	2015-2016; repeat in 2020	PLACE MATTERS New Mexico State University Possible Grant Funding through Paso Del Norte IHL
Budget oversight- monitor whether funding is set aside for park development and maintenance.	Fiscal Year 2016	PLACE MATTERS, Town Councils such as Vado, La Union, etc.
Monitor the development of new parks, especially in vulnerable areas.	2-5 years	Town Councils, Parent/youth groups.
Monitor implementation of a shared-use agreement with Elephant Butte Irrigation District.	2-5 years	Town Councils
Monitor implementation of shared-use agreements with Las Cruces, Hatch, and Gadsden ISD.	2-5 years	Town Councils
Collect data (County, state, and national levels) on vulnerable population groups (low-income, youth, older adults) to monitor health impact. Indicators such as physical activity rates, screen usage, chronic disease hospitalization rates involving diabetes, stroke, heart disease, mental health issues. Data collected from YRRS and BRFSS.	Annually	Department of Health
Monitor whether a community needs assessment is performed. Community needs would entail access to parks/multi-use paths, adequate fencing and lighting in areas, additional perceptions of safety such as animal control.	2 years	PLACE MATTERS County Health Councils and Promotoras.

Monitor development of a 5 year plan for walkability improvements.	Annually for 5 years	PLACE MATTERS New Mexico State University
Monitor whether a feasibility analysis on expanding network of community centers was performed.	2 years	PLACE MATTERS New Mexico State University
Monitor creation of traffic calming measures in the areas near parks (speed bumps, stop signs, crosswalks).	2 years	PLACE MATTERS, Town Councils.
Assess ongoing relationships between committee members and participating agencies. Create a flow chart of involved stakeholders with contact information to determine how all members are communicating with one another. Assess how many meetings are conducted on a monthly basis, the topics of discussion, and whether old initiatives are being pursued and what new goals might be. Create and maintain a timeline of achieved and ongoing goals among stakeholders.	Ongoing	PLACE MATTERS, Town Councils, other HIA stakeholders.

## **Appendix 5: Media Advocacy Plan**

## Appendix 5. Media Advocacy Plan

Stage	Key Audiences	Communications Methods Used
Scoping	Community Members	<ul style="list-style-type: none"> <li>• Share scoping plan and pathway diagrams drafts with Community Advisory Committee</li> </ul>
	Advocacy Groups	<ul style="list-style-type: none"> <li>• Share scoping plan and pathway diagrams with Steering Committee</li> </ul>
Assessment/ Recommendations	Community Members	<ul style="list-style-type: none"> <li>• Community forums discussing goals for the project and plans</li> <li>• Community Advisory Committee meetings</li> </ul>
	Policy Makers	<ul style="list-style-type: none"> <li>• Discussions with policy makers</li> </ul>
	Advocacy Groups	<ul style="list-style-type: none"> <li>• Steering Committee meetings</li> </ul>
Reporting	Policy Makers	<p>Possible communications tools:</p> <ul style="list-style-type: none"> <li>• Legislative visits</li> <li>• Executive Summary</li> <li>• Full Report</li> <li>• Presentations during public comment period</li> <li>• Public testimony</li> </ul>
	Community Members/Advocacy Groups	<p>Possible communications tools:</p> <ul style="list-style-type: none"> <li>• Use of messengers to speak at community forums</li> <li>• Storytelling</li> <li>• Fact sheets</li> <li>• Infographics</li> <li>• Community Forums</li> <li>• Press Release</li> <li>• Social Media Posts</li> <li>• Websites</li> <li>• Info at Places of Worship/ Schools</li> </ul>



Monitoring	Advocacy Groups	<ul style="list-style-type: none"> <li>• Communications with key groups to aid in monitoring</li> </ul>
	Community Members	<ul style="list-style-type: none"> <li>• Follow-up steering/ community advisory committee to discuss the impacts and outcomes of the findings</li> </ul>