we all need PARKS PNA+

APPENDIX C TECHNICAL RESOURCES

This project was previously called the Regional and Rural Edition (RRE) to emphasize its focus on regional and rural recreation needs and priorities. This project name was used during the data collection, and community engagement and outreach phases which occurred primarily in 2021. As this report was being completed in 2022, DPR decided to rename the project the Parks Needs Assessment Plus (PNA+) to clarify and better communicate that this project complements and offers new information not previously included in the 2016 Parks Needs Assessment (PNA), such as mapping and analyses related to population vulnerability, environmental benefits, environmental burdens, and priority areas for environmental conservation, environmental restoration, regional recreation, and rural recreation. (Please note that there remains some text and graphic references to the RRE in this document because that was the project name when some components of this study were completed.)

ENVIRONMENTAL BENEFITS AND BURDENS

ENVIRONMENTAL BENEFITS

Five data layers were examined to determine a final score for Environmental Benefit throughout lands in Los Angeles County. These layers include Species Diversity (CDFW ACE 2021), Significant Habitats (CDFW ACE 2021), Habitat Connectivity (CDFW ACE 2019), Proximity to Waterbody (USGS NHD 2021), and Land Use Types (CALFIRE 2015).

Species diversity values are based on species occurrence and distribution information for amphibians, aquatic macroinvertebrates, birds, fish, mammals, plants, and reptiles. The data combines three measures of biodiversity: 1) native species richness, which represents overall native diversity of all species in the state, both common and rare; 2) rare species richness, which represents diversity of rare species; and 3) irreplaceability, which is a weighted measure of endemism.

Significant habitat values represent terrestrial habitats or vegetation types that are the focus of state, national, or locally legislated conservation laws, as well as key habitat areas that are essential to the survival and reproduction of focal wildlife species.

Habitat connectivity values summarize information on the presence of mapped terrestrial corridors or linkages and juxtaposition to large, contiguous, natural areas.

Proximity to waterbody values were calculated in GIS and categorized as less than 0.1 mile (highest benefit), 0.1 to 0.25 mile, 0.25 to 0.5 mile, 0.5 to 1.0 mile, or greater than 1.0 mile (lowest benefit).

Vegetation types are compiled from various sources into the California Wildlife Habitat Relationships (CWHR) classification scheme. Natural vegetation types received high benefit scores (10), while agriculture/barren/other (2) and urban (1) received low benefit scores.

In ArcGIS, raw scores for each attribute were reclassified to a standardized metric using the reclassify tool to assign values of 1 to 10. A metric value of 1 represents the lowest environmental benefit, while a metric value of 10 representing highest environmental benefit (Table C-1.). Most metric values were intuitively classified, as the source data layers provided a score that was directly adaptable to the metric value. For example, the CDFW ACE dataset provides raw scores from 1 to 5, which were rescaled (i.e., doubled) to metric values from 2 to 10. For the Proximity to Waterbody layer, distances from streams and rivers were derived in ArcGIS using the Euclidean Distance tool to calculate distance bins of 0 to 0.25 miles (10 metric value), 0.25 to 0.5 miles (9), 0.5 to 0.75 miles (8), 0.75 to 1 mile (5), and over 1 mile (1). Land Use Types were assigned a metric value of 10 for all natural habitats (e.g., Hardwood Forest, Hardwood Woodland, Desert Shrub). Disturbed habitats (e.g., Agriculture, Barren, and Other) were assigned a value of 2, and Urban lands were assigned a value of 1. Finally, each of the five metric values were summed to arrive at a final Environmental Benefit score between 5 (low) – 50 (high) for all areas within the County.

Santa Catalina Island is not included in the extent of the CDFW ACE datasets. Therefore, metric values for these layers were generated on the island, as follows. Species Diversity and Significant Habitats were scored with a 10 for natural land uses and a 1 for urban, agriculture, and barren/other land uses. Habitat Connectivity was scored as a 10 for natural land uses, 2 for agriculture and barren/other, and 1 for urban land uses.

Figure C-1: Species Diversity

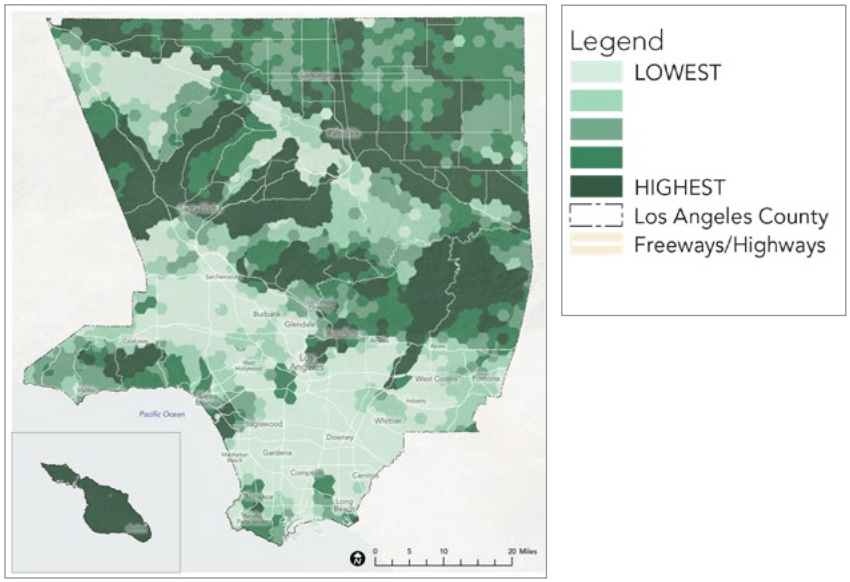


Figure C-2: Significant Habitats

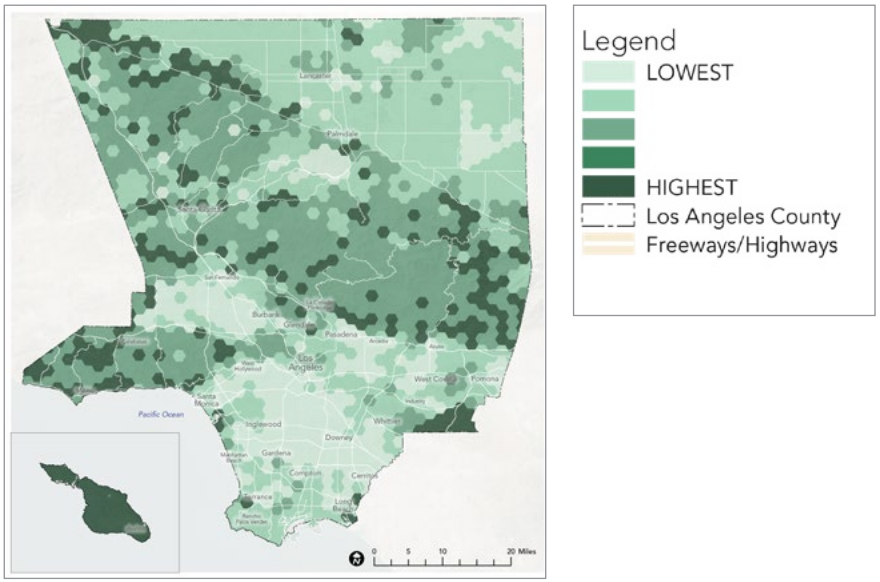


Figure C-3: Habitat Connectivity

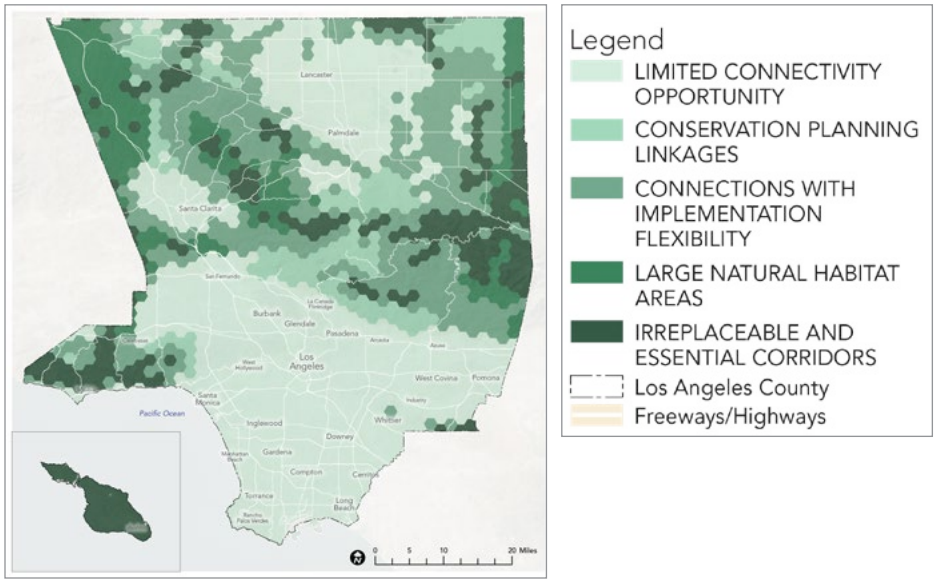


Figure C-4: Proximity to Waterbodies

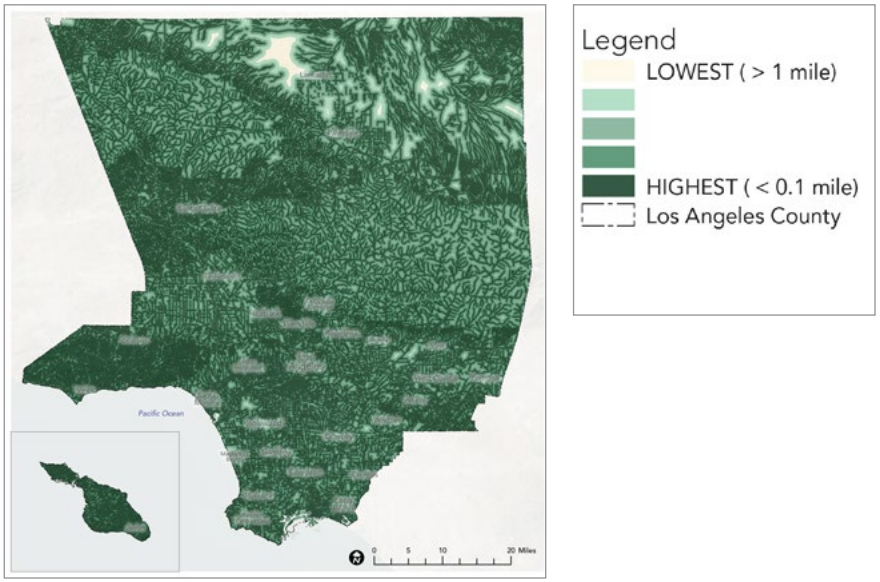
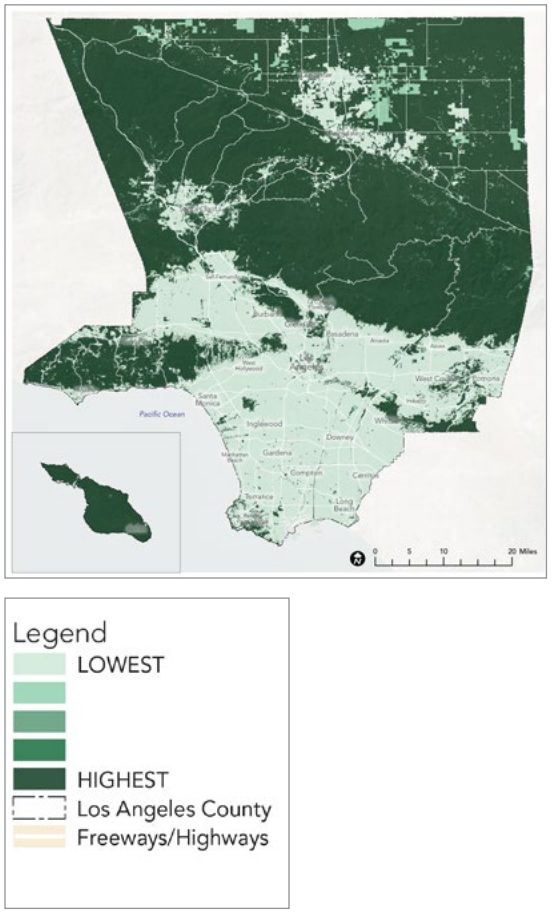


Figure C-5: Vegetation Types



ENVIRONMENTAL BURDENS

Five data layers were examined to determine a final score for Environmental Burden throughout County lands. These layers include Groundwater Threat, Hazardous Waste, Drinking Water Contamination, PM2.5, and Pollution Burden. All data layers were taken from CalEnviroScreen 4.0 (COEHHA 2021), which provides a raw score of 1 (lowest environmental burden) -100 (highest environmental burden) for each layer.

Groundwater threats come from many sources, including storage and disposal of hazardous materials on land and in underground storage tanks at various types of commercial, industrial, and military sites. Dairy farms and concentrated animal-feeding operations, which produce large quantities of animal manure pose a threat to groundwater. Other activities that pose threats to groundwater quality include produced water ponds, which are generated as a result of oil and gas development.

Hazardous waste facilities and generators pose widespread concerns for both human health and the environment from sites that serve to process or dispose of hazardous waste. The presence of these facilities represents a burden on communities proximal to the materials within.

Drinking water contaminants are introduced into drinking water sources in many ways, including natural occurrence, accidental discharge, industrial release, agricultural runoff and certain water disinfection methods. Cumulative exposure to contaminants, even at low levels, may negatively affect health.

Fine particulate matter (PM) that measures 2.5 microns or less in width represents a major contributor to air pollution and has been shown to cause significant adverse health effects, including heart and lung disease. PM2.5 contributes to substantial mortality across California.

Pollution burden is derived from the average percentiles of seven exposures indicators (ozone and PM2.5 concentrations, diesel PM emissions, drinking water contaminants, children's lead risk from housing, pesticide use, toxic releases from facilities, and traffic density) and five environmental effects indicators (cleanup sites, impaired water bodies, groundwater threats, hazardous waste facilities and generators, and solid waste sites and facilities).

In ArcGIS, raw scores for each attribute were reclassified by dividing the raw score by 10 and truncating the decimal. The final metric value ranged from 1 to 10 with a metric value of 1 representing lowest environmental burden and a metric value of 10 representing highest environmental burden (Table C-1.). Finally, each of the five metric values were summed to arrive at a final Environmental Burden score between 5 (low) – 50 (high) for all areas within the County.

Table C-1. Environmental Benefit/Burden Metrics

Indicator	Source	Raw Score	Metric
ENVIRONMENTAL BENEFIT			
Species Diversity	CDFW ACE 2021a	1-low	2
		2	4
		3	6
		4	8
		5-high	10
Significant Habitats	CDFW ACE 2021b	1-low	0
		2	4
		3	6
		5-high	10
Habitat Connectivity	CDFW ACE 2019	1 - Limited Connectivity Opportunity	2
		2 - Large Natural Habitat Areas	4
		3 - Connections with Implementation Flexibility	6
		4 - Conservation Planning Linkages	8
		5 - Irreplaceable and Essential Corridors	10
Proximity to Waterbody	USGS NHD 2021	> 1.0 mile	1
		> 0.5 mile	5
		> 0.25 mile	8
		> 0.1 mile	9
		< 0.1 mile	10
Habitat Type	CALFIRE FRAP 2015	Habitat Type: Urban	1
		Habitat Types: Agriculture / Barren / Other	2
		Habitat Types: Herbaceous / Shrub / Hardwood Forest / Hardwood Woodland / Desert Shrub /	10
		Water / Desert Woodland / Wetland / Conifer Woodland / Conifer Forest	

Indicator	Source	Raw Score	Metric
ENVIRONMENTAL BURDEN			
Groundwater Threat / Hazardous Waste / Drinking Water Contamination / PM2.5 / Pollution Burden	COEHHA 2021	1 – 10	1
		10 – 20	2
		20 – 30	3
		30 – 40	4
		40 – 50	5
		50 – 60	6
		60 – 70	7
		70 – 80	8
		80 – 90	9
		90 – 100	10

California Department of Fish and Wildlife (CDFW). 2021a. Species Diversity - Areas of Conservation Emphasis (ACE) [ds2769]. https://apps.wildlife.ca.gov/bios/?tool=cnddbQuick

California Department of Fish and Wildlife (CDFW). 2021b. Terrestrial Significant Habitats Summary - Areas of Conservation Emphasis (ACE) [ds2721]. https://apps.wildlife.ca.gov/bios/? tool=cnddbQuick

California Department of Fish and Wildlife (CDFW). 2019. Terrestrial Connectivity - Areas of Conservation Emphasis (ACE) [ds2734]. https://apps.wildlife.ca.gov/bios/?tool=cnddbQuick

US Geological Survey (USGS). 2021. National Hydrography Dataset (NHD). https://www.usgs.gov/core-science-systems/ngp/national-hydrography/access-national-hydrography-products

California Department of Forestry and Fire Protection (CALFIRE). Fire and Resource Assessment Program (FRAP). 2015. FVEG dataset. https://frap.fire.ca.gov/mapping/gis-data/

California Office of Environmental Health Hazard Assessment (COEHHA). 2021. CalEnviroScreen 4.0. https://oehha.ca.gov/calenviroscreen/report/draft-calenviroscreen-40

In developing the priority areas for environmental restoration, the Inglewood Oil Field and Puente Hills Landfill have been manually added given the policies and plans in place that call for their future conversion to park, open space, and/or other land uses that offer environmental benefits.

Figure C-6: Groundwater Threats

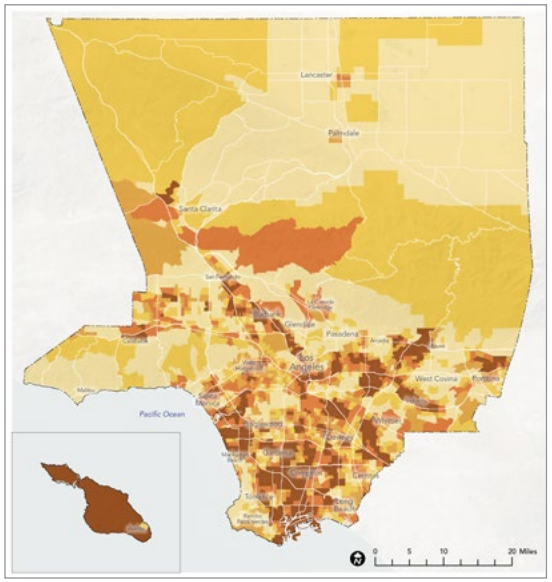


Figure C-7: Hazardous Waste Facilities

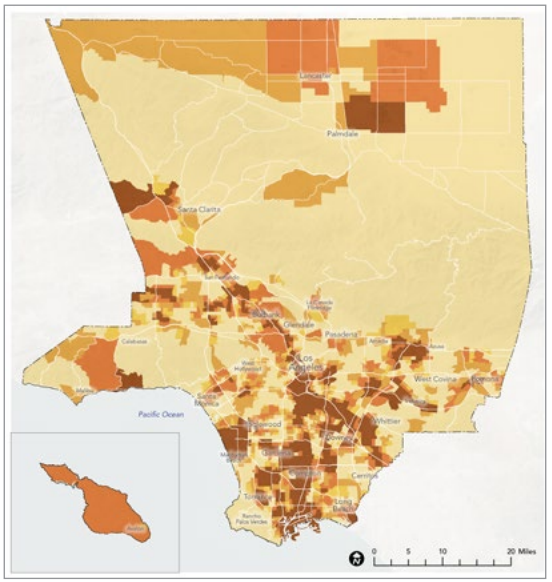


Figure C-8: Pollution Burden

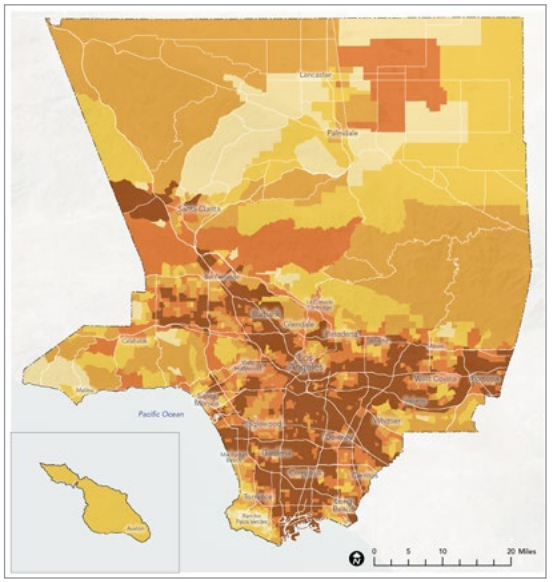


Figure C-9: Drinking Water Contaminants

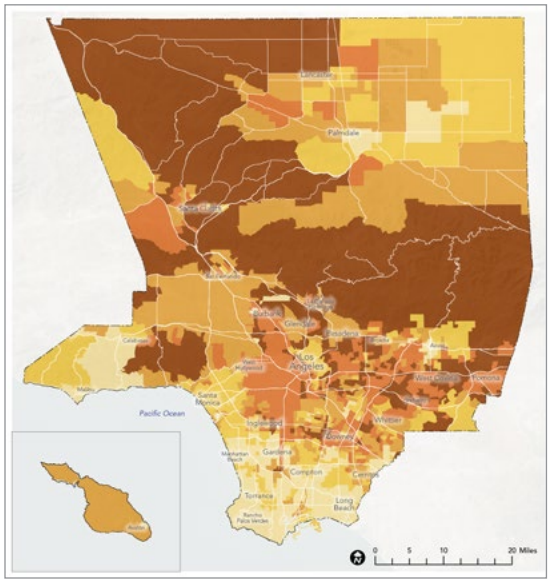
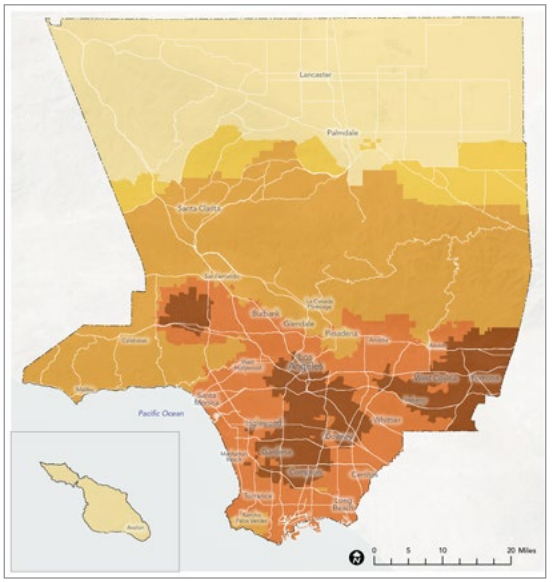


Figure C-10: Fine Particulate Matter



POPULATION VULNERABILITY

INDICATORS

DIMENSION 1: Indicators of Social Barriers to Accessing Outdoor Recreation Opportunities

- Poverty - Percent of the population with an income exceeding 200% of federal poverty level, lowest 25th percentile statewide
- Unemployed - Percentage of population aged 20-64 who are employed, lowest 25th percentile statewide
- Single Parent Households - Percentage of family households with children under 18 with two parents, lowest 25th percentile statewide
- Young Children - Percent of population under 5 years of age, lowest 25th percentile statewide
- Elderly - Percent of population 65 years of age and older, lowest 25th percentile statewide
- Non-English Speaking - Percentage of households where at least one person 14 years and older speaks English very well, lowest 25th percentile statewide
- Majority Minority Population - Percent of Whites in the total population, over 50 percent of population non-white (not a percentile)

Figure C-11: Poverty

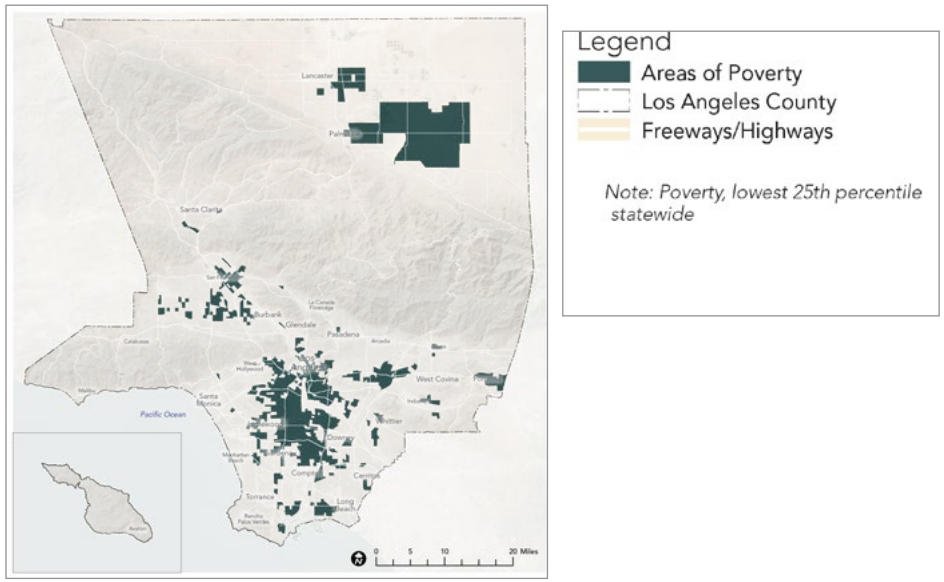


Figure C-12: Unemployed

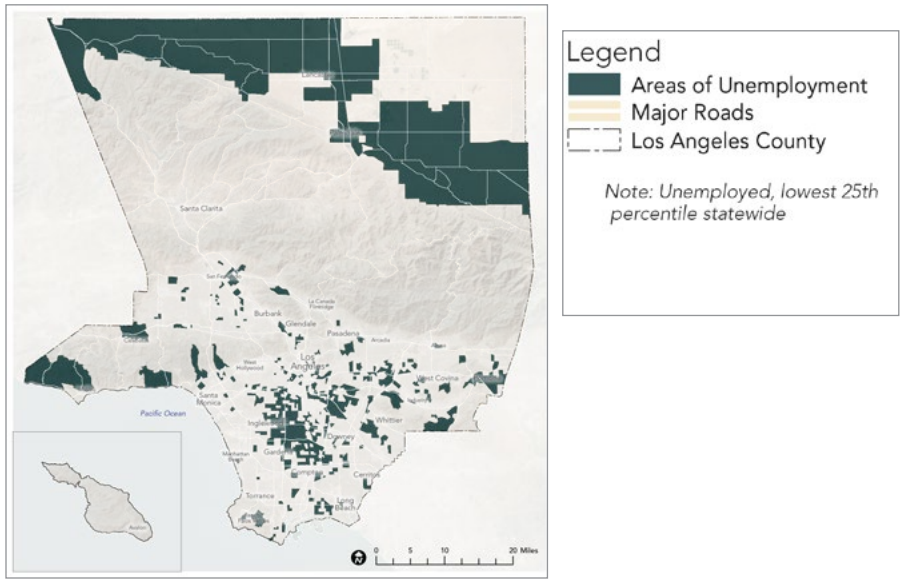


Figure C-13: Single Parent Household

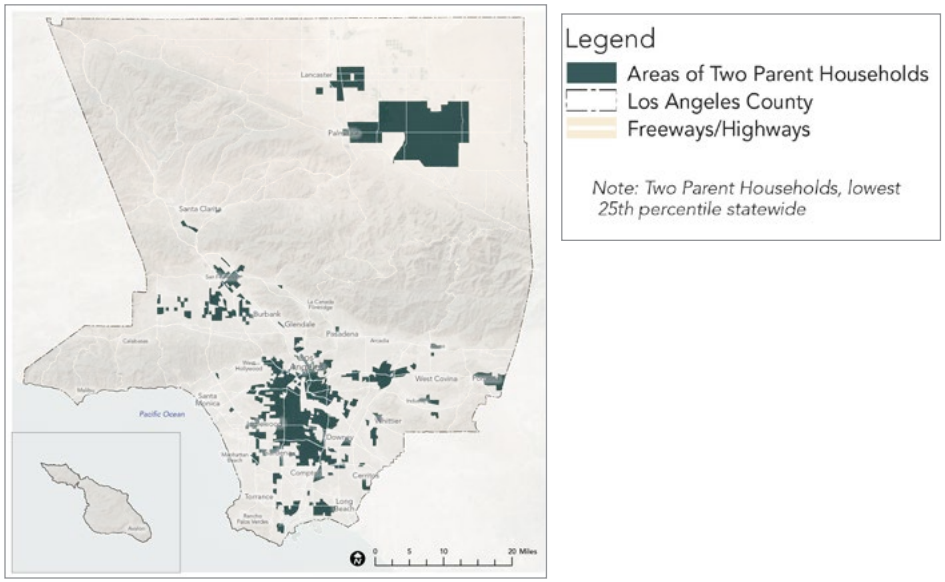


Figure C-14: Young Children

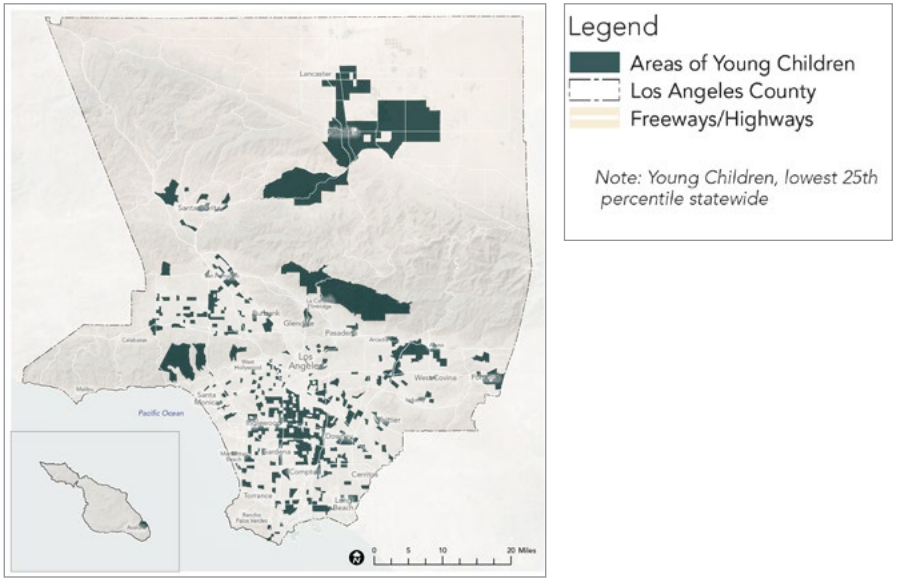


Figure C-15: Elderly

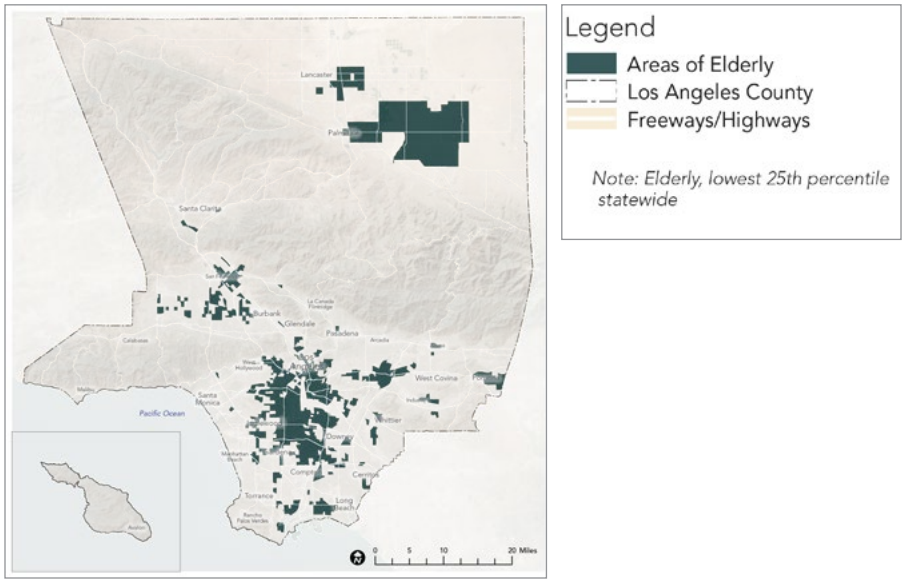


Figure C-16: Non-English Speaking

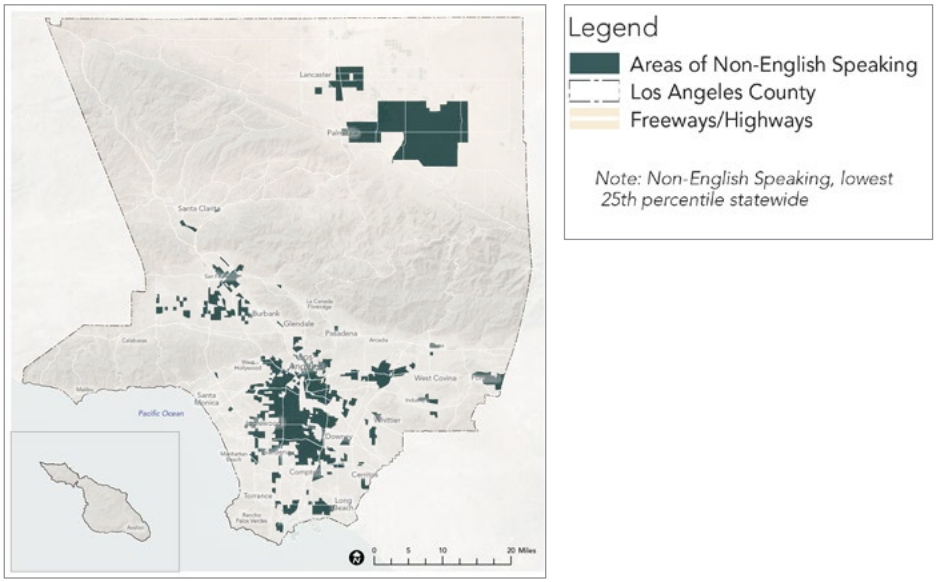
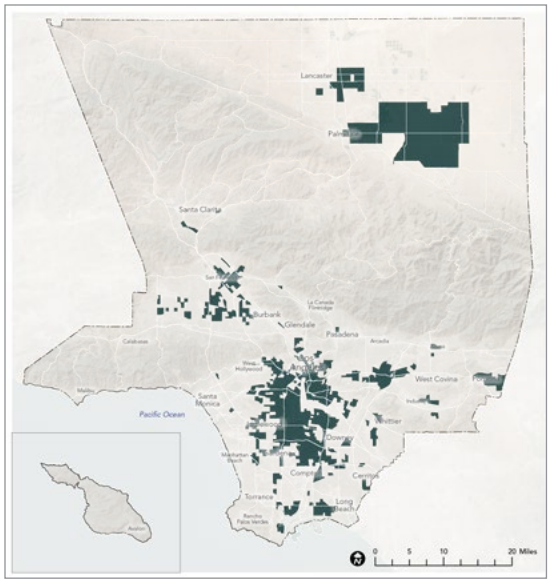


Figure C-17: Majority Minority Population



DIMENSION 2: Indicators of Transportation Barriers to Accessing Outdoor Recreation Opportunities

- Limited Active Commuting - Percentage of workers, 16 years and older, who commute to work by transit, walking, or cycling, lowest 25th percentile statewide
- Limited Automobile Access - Percentage of households with access to an automobile, lowest 25th percentile statewide
- Limited Public Transit Access - Percent of population residing within ½ mile of a major transit stop, lowest 25th percentile statewide
- Traffic Density - Sum of traffic volumes adjusted by road segment length divided by total road length within 150 meters of the census tract boundary, lowest 25th percentile statewide
- Pedestrian Injuries - 5-year (2006-2010) annual average rate of severe and fatal pedestrian injuries per 100,000 population, lowest 25th percentile statewide

DIMENSION 3: Indicators of Health

Figure C-18: Limited Active Commuting

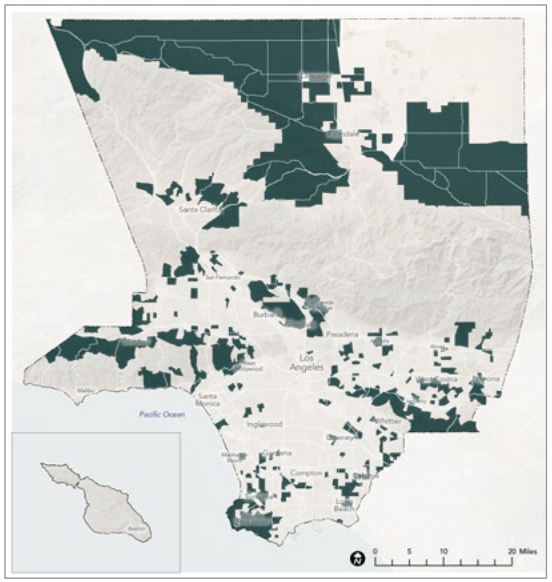


Figure C-19: Limited Automobile Access

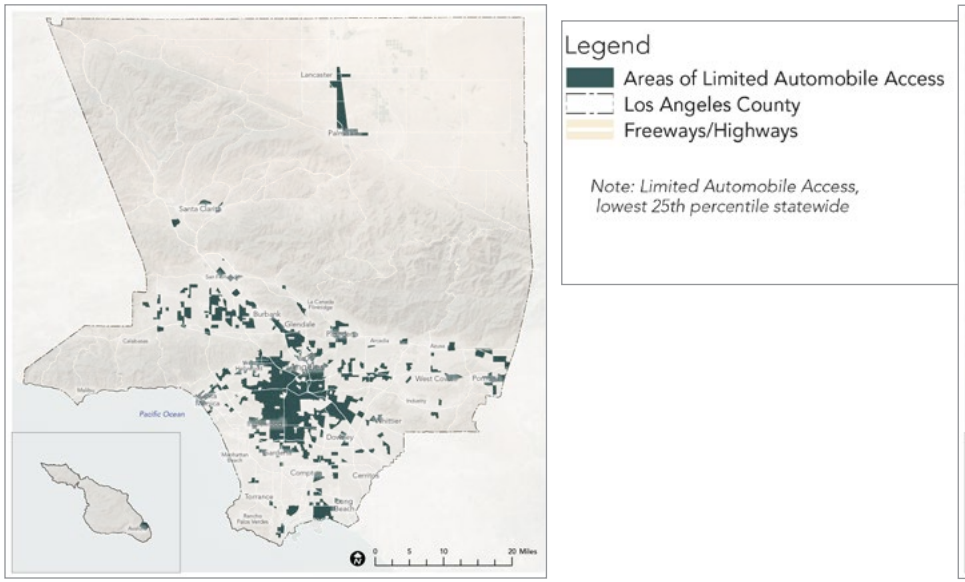


Figure C-20: Limited Public Transit Access

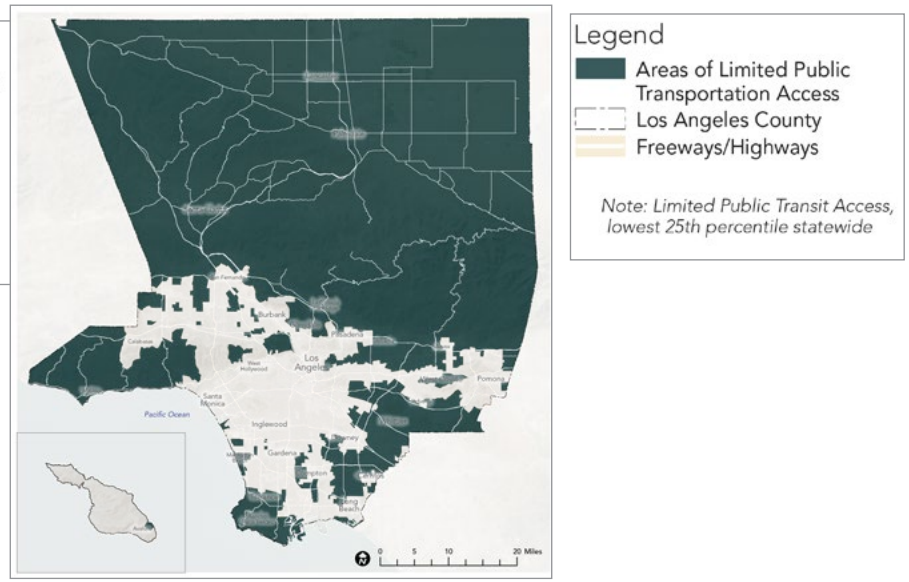


Figure C-21: Traffic Density

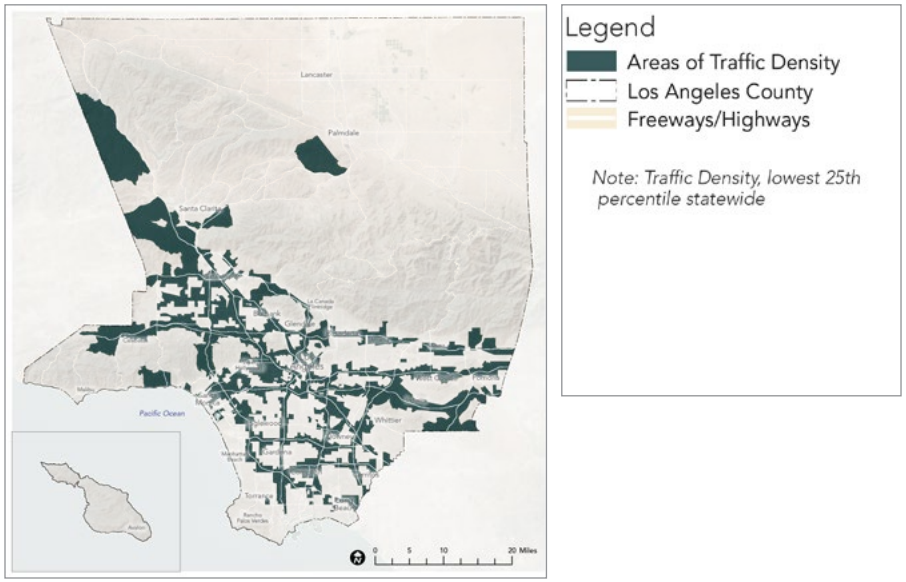
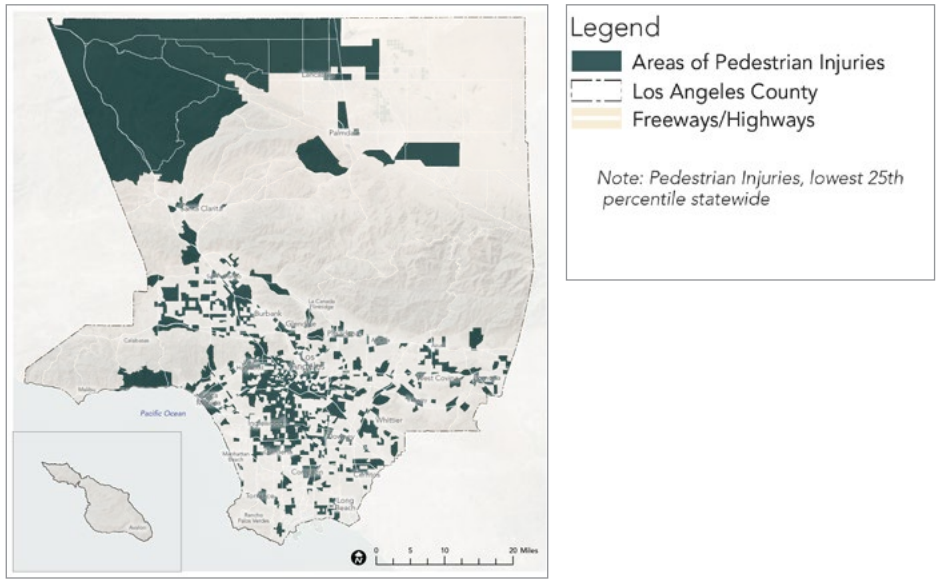


Figure C-22: Pedestrian Injuries



Vulnerability

- Life Expectancy at Birth - Life expectancy at birth in 2010, lowest 25th percentile statewide
- Pollution - Clean Environment domain score (average of Z-scores of Diesel PM, Ozone, PM 2.5, Safe Drinking Water), lowest 25th percentile statewide

DIMENSION 4: Indicators of Environmental Vulnerability

Figure C-23: Life Expectancy at Birth

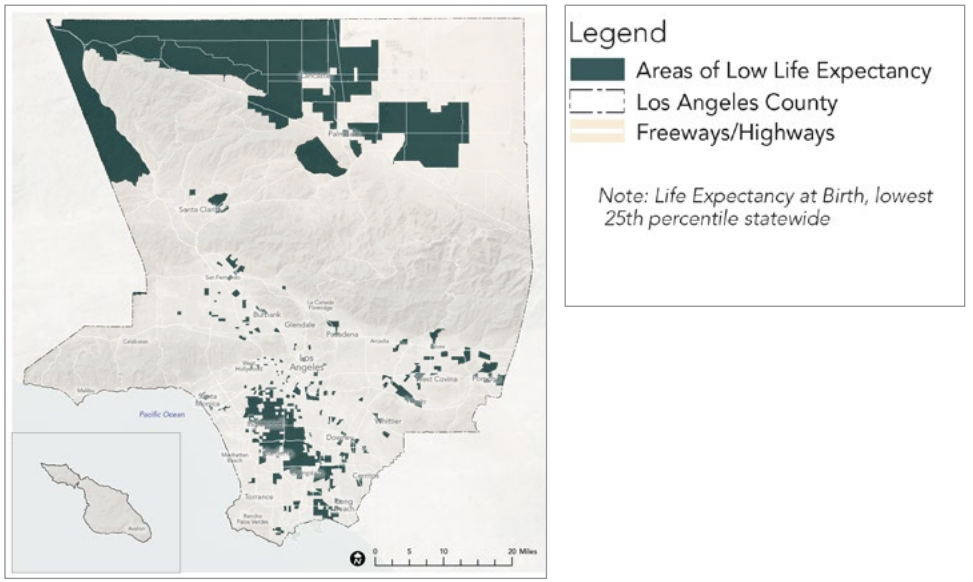
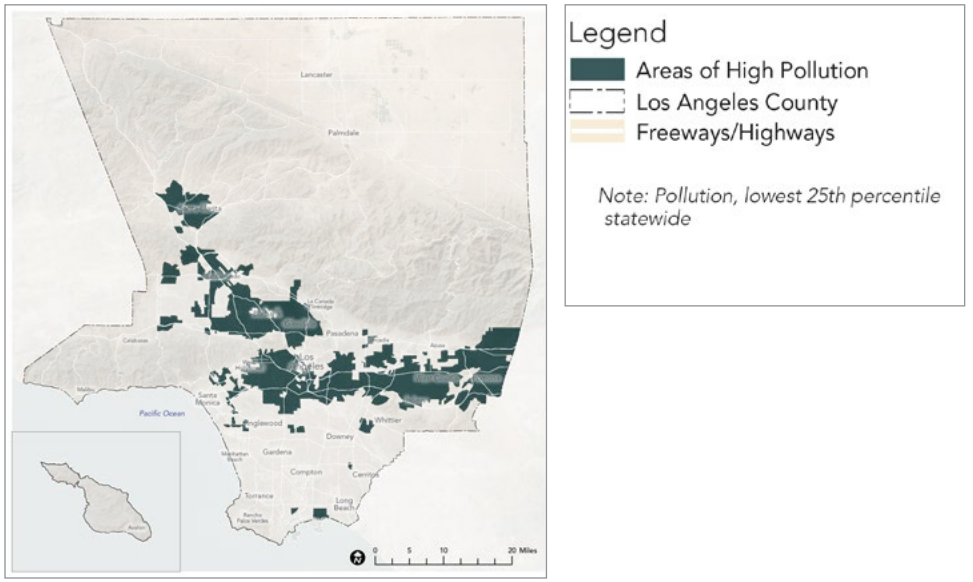


Figure C-24: Pollution



- Limited Park Access - Percentage of the population living within a half-mile of a park, beach, or open space greater than 1-acre, lowest 25th percentile statewide
- Limited Tree Canopy - Population-weighted percentage of the census tract area with tree canopy, lowest 25th percentile statewide
- Impervious Surface - Percent impervious surface cover, lowest 25th percentile statewide
- Excessive Heat Days - Projected annual number of extreme heat days in 2070, highest of four quantiles (not a percentile)
- Urban Heat Island Index - Sum of 182-day temperature differences (degree-hr.) between urban and rural reference, lowest 25th percentile statewide

PROCESS OF ANALYSIS

DIMENSION 1: Indicators of Social Barriers to

Figure C-25: Limited Park Access

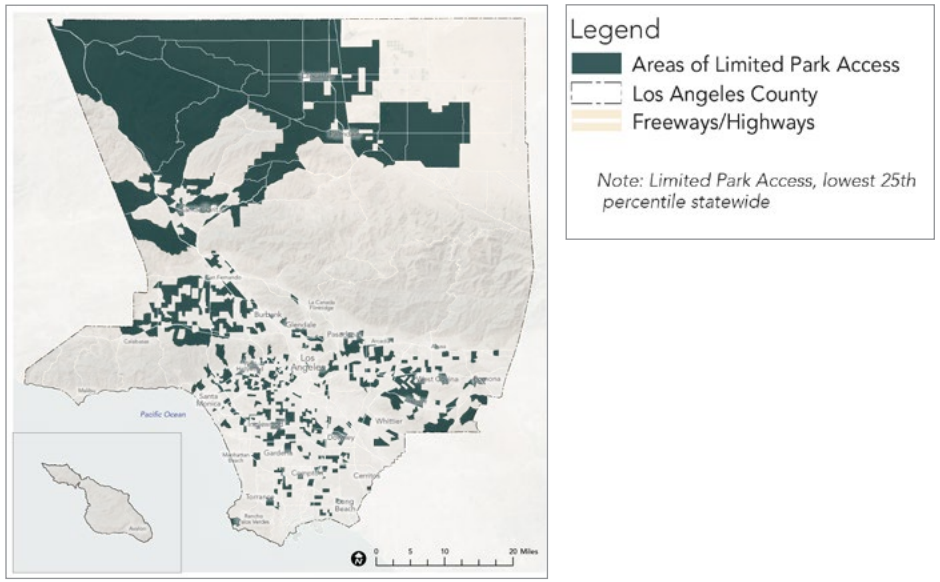


Figure C-26: Limited Tree Canopy

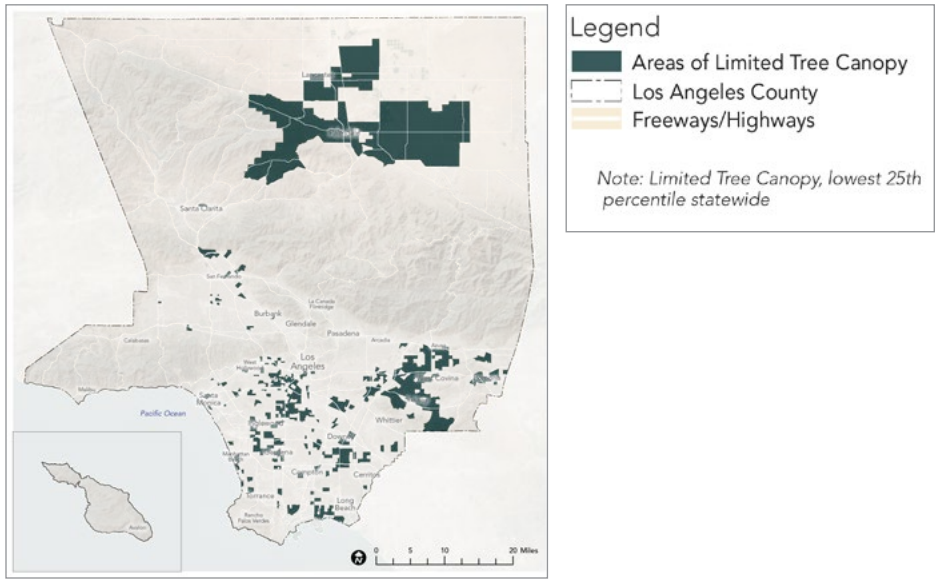


Figure C-27: Impervious Surface

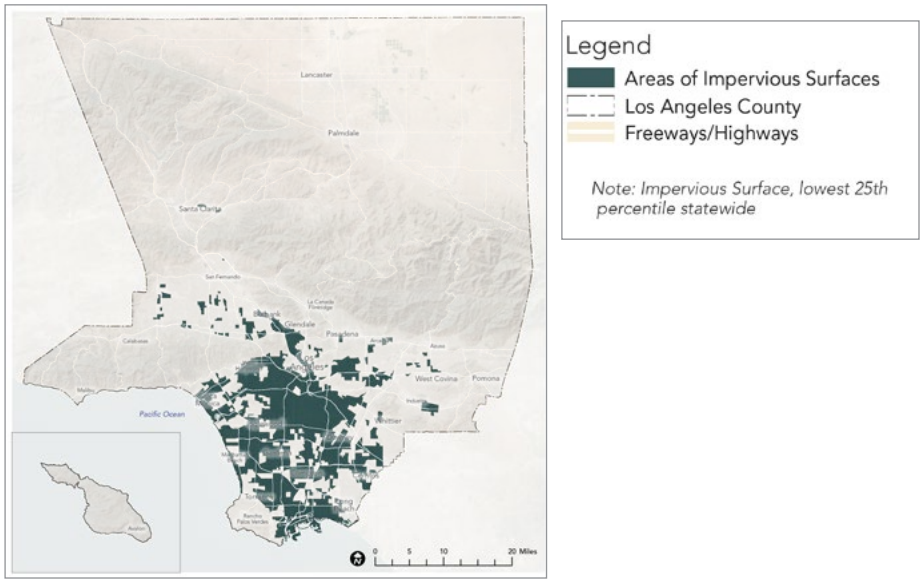


Figure C-28: Excessive Heat Days

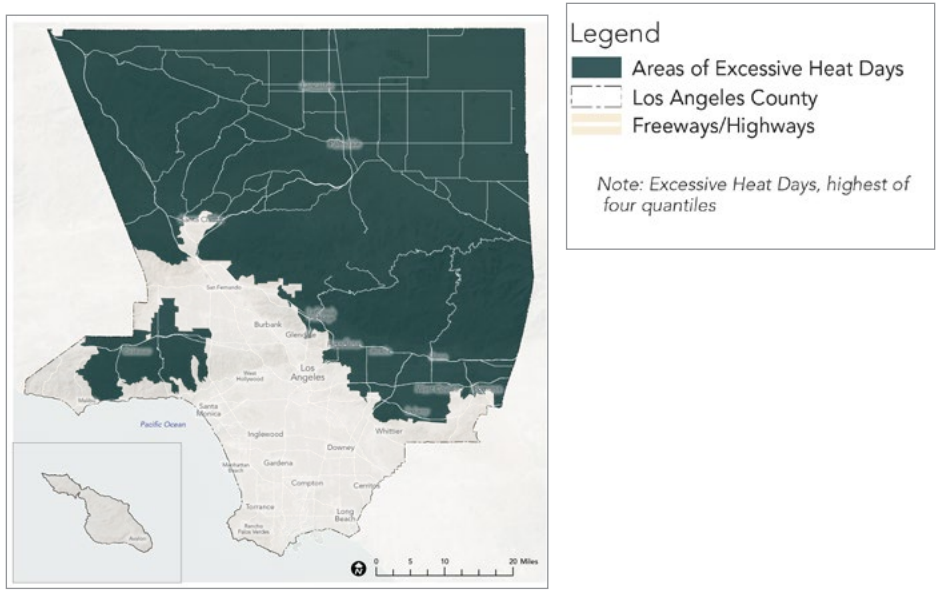
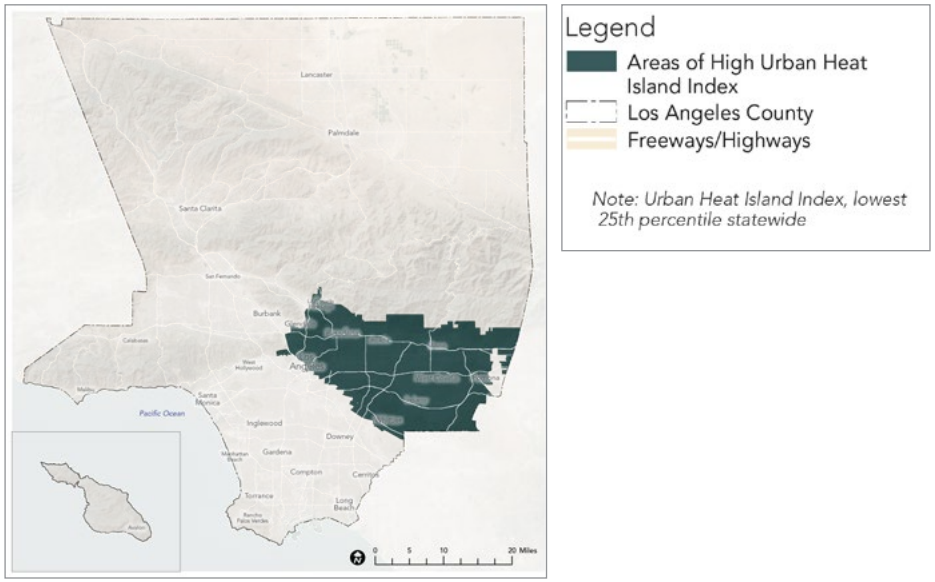


Figure C-29: Urban Heat Island Index



Accessing Outdoor Recreation Opportunities

Seven data layers were examined to determine a score for Dimension 1: Population with High Level of Social Barriers to Accessing Outdoor Opportunities. These layers include Census Tracts within the lowest 25th percentile statewide for Poverty, Unemployment, Two Parent Households, Young Children, Elderly, Non-English Speaking, and Majority Minority Population. All data layers were taken from the California Healthy Places Index (HPI), which provides percentile ranks for each layer. Raw scores were classified by summing the number of indicators that were ranked in the lowest 25th percentile per Census Tract. The final metric value ranged from 0 to 7 with a metric value of 0 representing no data or no social barriers to access indicators, a metric value of 1 representing low social barriers to access, and a metric value of 7 representing high social barriers to access.

DIMENSION 2: Indicators of Transportation Barriers to Accessing Outdoor Recreation Opportunities

Five data layers were examined to determine a score for Dimension 2: Population with High Level of Transportation Barriers to Accessing Outdoor Opportunities. These layers include Census Tracts within the lowest 25th percentile statewide for Limited Active Commuting, Limited Automobile Access, Limited Public Transit Access, Traffic Density, and Pedestrian Injuries. All data layers were taken from the California Healthy Places Index (HPI), which provides percentile ranks for each layer. In ArcGIS, raw scores were classified by summing the number of indicators that were ranked in the lowest 25th percentile per Census Tract. The final metric value ranged from 0 to 5 with a metric value of 0 representing no data or no transportation barriers to access indicators, a metric value of 1 representing low transportation barriers to access, and a metric value of 5 representing high transportation barriers to access.

DIMENSION 3: Indicators of Health Vulnerability

Two data layers were examined to determine a score for Dimension 3: Population with High Level of Health Vulnerability. These layers include Census Tracts within the lowest 25th percentile statewide for Life Expectancy at Birth and Pollution. All data layers were taken from the California Healthy Places Index (HPI), which provides percentile ranks for each layer. In ArcGIS, raw scores were classified by summing the number of indicators that were ranked in the lowest 25th percentile per Census Tract. The final metric value ranged from 0 to 2 with a metric value of 0 representing no data or no health vulnerability indicators, a metric value of 1 representing moderate health vulnerability, and a metric value of 2 representing high health vulnerability.

DIMENSION 4: Indicators of Environmental Vulnerability

Five data layers were examined to determine a score for Dimension 4: Population with High Level of Environmental Vulnerability. These layers include Census Tracts within the lowest 25th percentile statewide for Limited Park Access, Limited Tree Canopy, Impervious Surface, Excessive Heat Days, and Urban Heat Island Index. All data layers were taken from the California Healthy Places Index (HPI), which provides percentile ranks for each layer. In ArcGIS, raw scores were classified by summing the number of indicators that were ranked in the lowest 25th percentile per Census Tract. The final metric value ranged from 0 to 5 with a metric value of 0 representing no data or no environmental vulnerability indicators, a metric value of 1 representing low environmental vulnerability, and a metric value of 5 representing high environmental vulnerability.

COMPOSITE: Population Vulnerability

Four data layers were examined to determine a composite score for Population Vulnerability. These layers include the raw scores for Dimension 1: Social Barriers to Accessing Outdoor Opportunities, Dimension 2: Transportation Barriers to Accessing Outdoor Opportunities, Dimension 3: Health Vulnerability, and Dimension 4: Environmental Vulnerability. All data layers are raw scores from each dimension, derived from the California Healthy Places Index (HPI). In ArcGIS, raw scores were classified by determining if each dimension has multiple individual indicators defined as; two or more indicators for Dimension 1, Dimension 2, and Dimension 4; one or more indicators for Dimension 3. If a dimension had multiple indicators, it received raw score of 1, and if a dimension did not have multiple indicators,

it received raw score of 0. Next, raw scores for each dimension classified as having multiple indicators were summed per Census Tract. The final metric value ranged from 0 to 4 with a metric value of 0 representing no data or no dimensions with multiple individual indicators, a metric value of 1 representing 1 dimension with multiple individual indicators, a metric value of 2 representing 2 dimensions with multiple individual indicators, a metric value of 3 representing 3 dimensions with multiple individual indicators, and a metric value of 4 representing 4 dimensions with multiple individual indicators.

SOURCE: Healthy Places Index (HPI 2.0), February 20, 2018 (Revised 4/22/2021), http://healthyplacesindex.org

REGIONAL RECREATION NEEDS ANALYSIS

REGIONAL STUDY AREAS

DEFINITION

Los Angeles County General Plan Planning Areas were used to represent regional study areas. Relative to the other types of regional planning area boundaries considered for this analysis, the General Plan Planning Areas most closely align with the existing PNA Study Area boundaries and are divided into a number of regions that allow for a robust assessment of park needs across LA County. Further, the General Plan Planning Areas are used to identify deficits in local and regional parkland in the Parks and Recreation Element of the General Plan, which aligns with the goals of this assessment. The following regions were evaluated in the regional analysis.

- Antelope Valley
- Santa Clarita Valley
- San Fernando Valley
- Santa Monica Mountains
- Westside
- Metro
- West San Gabriel Valley
- East San Gabriel Valley
- South Bay
- Gateway
- Santa Catalina Island

POPULATION DATA

At the time that this analysis was conducted, results from the 2020 Census were not yet available. In order to maintain consistency with the 2016 PNA, demographic data was referenced from the 2014 U.S. Census Bureau American Community Survey.

Total Population: The source for the total population of each Regional Study Area is the Planning Areas Framework of the Los Angeles County General Plan, Adopted October 6, 2015. (https://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch5.pdf)

Demographics: Demographic data was derived from the following U.S. Census Bureau American Community Survey 2014 5-year Estimate Subject Tables (Accessed here: https://data.census.gov/cedsci/table?y=2014):

- Age and Sex
- Educational Attainment
- Demographic and Housing Estimates
- Income in the past 12 months (in 2014 inflation-adjusted dollars)

REGIONAL SITE INVENTORY

FACILITIES

Sources

The Regional Site Inventory consists of the 2016 PNA Site Inventory, supplemented and updated with the following sources:

- State Parks. California Department of Parks and Recreation: February 2021.
- Military Installations. US Census Bureau. TIGER/Line Shapefile. 2017.
- Sites. Mountains Recreation and Conservation Authority. 2021
- Public Facilities. Los Angeles County Department of Regional Planning. September 17, 2020.
- Open Space. Southern California Association of Governments. 2021. https://gisdata-scag.opendata.arcgis.com/
- Land Use. Southern California Association of Governments. 2016. https://gisdata-scag.opendata.arcgis.com/
  - 1270: Military Installations
  - 1271: Vacant Area
  - 1800: Open Space and Recreation
  - 1810 Golf Courses
  - 1840 Cemeteries
  - 1870 Beach Parks
  - 1880 Other Open Space and Recreation
  - 8888 Undevelopable or Protected Land

Definitions

CONSERVATION AREA

- Primary Purpose: Habitat, Wildlife and Resource Conservation
- Lands that are protected from development for the purpose of conserving sensitive habitat, wildlife and/or natural/cultural resources. Recreational access to these natural areas is limited or prohibited.

NATURE-BASED RECREATION AREA

- Primary Purpose: Nature-Based Recreation and Education
- Formal and informal parks and open spaces of any size that primarily provide opportunities for nature-based recreation and education. Amenities may include visitor centers, trails, picnic areas, campsites, access to natural water bodies, wildlife viewing areas, interpretive elements and others.

REGIONAL RECREATION PARK

- Primary Purpose: Formal Outdoor Recreation: Multi-Use
- Parks that are over 100 acres and contain at least three recreation amenities such as athletic courts and fields, playgrounds, and swimming pools.

REGIONAL SPECIALIZED RECREATION AREA

- Primary Purpose: Formal Outdoor Recreation: Single-Use
- Parks that contain a specialized recreation or cultural facility as the primary use. Examples include golf courses, historic sites, equestrian centers, and amphitheaters that are stand-alone (not contained within a larger park).

OTHER PUBLIC AND SEMI-PUBLIC OPEN SPACE

- Primary Purpose: Institutional or Infrastructural Use
- Lands that are held in public or institutional ownership and are typically used for infrastructure or institutional purposes. This includes undeveloped park land, utility corridors, cemeteries and other open spaces that are not designated for recreation or conservation.

Regional Site Acreage

An inventory layer including all conservation areas, nature-based recreation areas, regional specialized recreation areas, other public and semi public open space, and regional recreation parks in Los Angeles County was joined in ArcGIS with a layer of Los Angeles County regions. This caused features in the inventory layer to be split along regional boundaries such that each portion of a site would be designated with the correct region. Using SQL, inventory was separated by individual regions, and area was calculated using the 'calculate geometry" tool.

Percentage of Total Land Area

The regional site acreage (see above) was divided by the total area of each region.

Acreage per 1,000 Residents

The regional site acreage (see above) was divided by the population of each region and multiplied by 1,000.

ACCESS POINTS

Regional Site Access Points were developed from a spatial analysis where public roads, trails, and bikeways intersected the known boundary of a regional site.

Please note the Regional Site Access Points should be used for analysis purposes only. Individual access points have not been field-verified and legal entry should not be assumed without further confirmation from the relevant managing agencies.

REGIONAL TRAIL INVENTORY

Sources (Trails, Trailheads and Access Points)

Developed by DPR, the Trails LA County database was the baseline source of regional trail system data, as the data incorporated has been verified by the contributing land management agencies and meets County quality control standards. As of May 2021, there were approximately 500 miles of trails included in this database, contributed by the following partners:

- CA State Parks
- Catalina Island Conservancy
- Los Angeles County
- Mountains Recreation and Conservation Authority/ Santa Monica Mountains Conservancy
- Mountains Restoration Trust
- National Park Service
- City of Palmdale

Additional trail segments were collected, as part of the RRE effort, by contacting regional and local land management agencies directly to request available GIS data. Secondary sources of trail data, such as OpenStreetMap, AllTrails and Natural Atlas, were used to obtain trail information (both spatial and qualitative) where data was not readily available from authoritative sources in areas and jurisdictions identified as a priority. Priority areas and jurisdictions included parts of Los Angeles County with known trail gaps, areas with regional sites, and top-ranking jurisdictions and agencies identified as part of the 2019 LA County Trail Assessment Project, prepared by Placeworks.

The regional trail inventory included the following information:

- Trail Name
- Data Source
- Managing Agency
- Trail Mileage
- RRE ID (unique identifier)

Once initial data collection was complete, the regional trail inventory was shared with trail managers via an online data portal (Smartsheet®) to verify existing information and collect additional trail characteristics. The final regional system dataset was further refined to exclude proposed trails, trail segments outside of Los Angeles County, and any overlapping segments.

Please note the information included in the regional trail system dataset should be used for analysis purposes only.

Definitions

The regional trail inventory includes:

- Regional Trail: Typically, a natural surface trail (2-8 feet wide) that extends over large expanses of land, providing a continuous route through diverse communities, landscapes and natural features. Regional trails often cross jurisdictional boundaries. Refer to Natural Trail 2 and/or Natural Trail 3 guidelines per the County of Los Angeles Trails Manual for additional detail.
- Recreation Pathway/ Urban Pedestrian Path: Typically, either a natural surface (8-10 feet wide) or paved (10-11 feet wide) trail located in highly populated areas within local/urban parks or adjacent to a visitor center. Designed for higher frequency of use and accessibility, intended to provide the public with access to nature and exercise. Refer to Recreational Pathway and Urban Pedestrian Path guidelines per the County of Los Angeles Trails Manual for additional detail.
- Multi-Use Trail: Typically, a natural surface trail that accommodates equestrians, hikers, and mountain bikers. Motor vehicles are not allowed. Refer to Natural Trail 2 and/or Natural Trail 3 guidelines per the County of Los Angeles Trails Manual for additional detail.
- Trailhead or Access Point: Designated access or entry point to a trail. May include amenities such as parking facilities, restrooms, picnic areas, etc.

Mileage

The regional trail system dataset includes 3,306 miles of publicly accessible trails managed by 60 different managing agencies. Trail mileage calculations included:

- Total trail miles per Regional and Rural Study Areas
- Total trail miles per 1,000 residents per Regional/ Rural Study Areas

REGIONAL TRAIL SYSTEM CHARACTERISTICS

SOURCES

The primary source of regional trail system characteristics data came directly from trail managing agencies throughout Los Angeles County, either from spatial GIS data, paper maps, and/or the Smartsheet® data verification process.

Please note the information included in the regional trail system dataset should be used for analysis purposes only.

ALLOWED USERS

While it is ideal to accommodate a wide range of trail users, oftentimes trail managers restrict certain users due to the unique characteristics of a trail or trail system. The data inventory included a question for trail managers about the allowed uses on their trails. Three user types were considered: hikers, mountain bikers, and equestrians.

ACTIVITY TAGS

The diverse landscape of Los Angeles County provides for a variety of trail experiences and activities. The data inventory included a question for trail managers about popular activities on their trails. Six activity tags were considered: bird watching, cross country skiing, kid-friendly, rock climbing, snowshoe, and wildlife watching

PARKING AND ACCESS

A range of parking options and other types of public access is vital to an equitable trail network. The data inventory included a question for trail managers about the availability of different types of parking on their trails. Three parking types were considered: bicycle, motor vehicle, and motor vehicle trailer.

TRAIL DIFFICULTY

Trail Difficulty was utilized to capture the range of trail experiences on a regional trail within Los Angeles County. The measure was derived from a single factor of average slope using a 10-meter digital elevation model (USGS), where easy is 0% to 5% average slope, moderate is 5% to 10 % average slope, and difficult is 10%+ average slope. While many factors may contribute to the overall difficulty of a trail, the objective unit of the average slope was widely applied to all of the inventoried trails.

TRAIL CONNECTIVITY

The Connectivity Analysis of Regional Trails was created to highlight the regional trail connectivity and gaps between recreational anchors throughout Los Angeles County. It was created using service area analysis based on a customized network dataset of identified recreational trails. The recreational anchors selected serve as representative regional outdoor activity hubs, including the Angeles National Forest.

TRAIL DENSITY

The Density Analysis of Regional Trails was created to highlight the relative spatial distribution of trail facilities throughout Los Angeles County. It was created by subdividing the County into one-square-mile units and summarizing the total number of trail miles within each unit. The measure of trail density allowed for an equivalent comparison of communities with a higher or lower number of trail miles nearby.

REGIONAL RECREATION PROXIMITY

PROCESS OF ANALYSIS

Walking

The Percentage of Population that lives within a 0.5-mile walking distance of Regional Recreation Park (RRP) Entries was calculated using service area analysis combined with residential population data from the 2016 PNA, in which 2010 United States Census data was divided into a 1-acre hexagonal grid across Los Angeles County. Assessment Access points or entries were identified for every RRP. A 0.5-mile walking service area around each RRP was generated from those access points using the ArcGIS StreetMap Premium Network Dataset. The service area was then joined with census data to calculate the percentage of the population within a 0.5-mile walking distance of the RRP.

Cycling

The Percentage of Population that lives within a 2.5-mile cycling distance of Regional Recreation Park (RRP) Entries was calculated using service area analysis combined with residential population data from the 2016 PNA, in which 2010 United States Census data was divided into a

1-acre hexagonal grid across Los Angeles County. Access points or entries were identified for every RRP. A 2.5-mile cycling service area around each RRP was generated from those access points using the ArcGIS StreetMap Premium Network Dataset. The service area was then joined with census data to calculate the percentage of the population within a 2.5-mile cycling distance of the RRP.

Driving

The Percentage of Population that lives within a 5-mile driving distance of Regional Recreation Park (RRP) Entries was calculated using service area analysis combined with residential population data from the 2016 PNA, in which 2010 United States Census data was divided into a 1-acre hexagonal grid across Los Angeles County. Access points or entries were identified for every RRP. A 5-mile driving service area around each RRP was generated from those access points using the ArcGIS StreetMap Premium Network Dataset. The service area was then joined with census data to calculate the percentage of the population within a 5-mile driving distance of the RRP.

Public Transit

Public Transit Accessible Regional Recreation Parks are identified as Regional Recreation Parks with an Entrance located within a 1/2 mile walk of a Public Transit Stop. The number of regional recreation parks that are accessible by public transit was calculated by locating all the park access points that were within 0.5 walking distance from a transit stop. Barriers such as highways were taken into consideration as pedestrians typically don't have the infrastructure to walk safely along them. The results of the analysis were presented in two forms: 1) as a percentage for each of the study areas and county-wide; and 2) as a map showing which parks and access points were public transit accessible.

REGIONAL RECREATION AMENITIES

SOURCES

The project team compiled information about the presence of the following common regional recreation amenities using a Smartsheet® database. Information was gathered from publicly available sources including agency websites, reports and publications. Staff members from each agency were invited to review and edit the amenity information for each site that they manage through an interactive data dashboard.

REGIONAL RECREATION AMENTIES

- Entertainment Venue: A gathering space with minimum capacity of 500 people. Field value represents the capacity of the venue(s).
- Large Picnic Shelter: Open air shade structure with more than four (4) picnic tables. Field value represents quantity of large picnic shelters.
- Small Picnic Shelter: Open air shade structure with four (4) or fewer picnic tables. Field value represents quantity of small picnic shelters.
- Event Space, Indoor, Reservable: Maximum capacity 500 people. Field value represents quantity of indoor event spaces.
- Event Space Outdoor, Reservable: Maximum capacity of 500 people. Field value represents quantity of indoor event spaces.
- Sports Complex / Tournament Facility: Field value represents the presence of a sports complex/facility, and type of facility.
- Golf Course: Field value represents number of holes.
- Shooting Range: Field value represents user capacity.
- Archery Range: Field value represents user capacity.
- Equestrian Facility: Field value indicates whether equestrian activities are permitted.
- Snow Sport Area (skiing, sledding, snowboarding, etc.): Field value represents the presence of a designated snow sport area.
- Trailhead: Field value represents the presence of an established trailhead. May include signage/maps, parking, or other trail-related amenities.
- Multi-Use Trail (Designate Users): A paved or soft-surface trail with a minimum 8' width. Field value represents the presence of a multi-use trail within the limits of the facility.
- Hiking Trail: An established trail, soft surface or unpaved, under 8' wide and not located along a roadway. Field value represents the presence of a hiking trail within the limits of the facility.
- Mountain Biking Trail: An established trail, soft surface or unpaved, that allows mountain bike access. Field value indicates that mountain bike access is permitted on at least one trail within the limits of the facility.
- Equestrian Trail: An established trail that allows

equestrian access. Field value indicates that equestrian access is permitted on at least one trail within the limits of the facility.

- Walking Path: A paved or soft surface trail under 8' wide. Field value represents the presence of a walking path within the limits of the facility.
- Rock Climbing Area (Developed): Constructed or natural climbing wall(s) with signage or surfacing indicating an established climbing area. Field value represents the presence of a rock-climbing area.
- Off-Road Vehicle Area: Unpaved trails that are open and accessible to motorized vehicles. Field value represents the presence of at least one off-road vehicle area.
- Boating (Motorized): Field value indicates whether motorized boats are allowed on at least one body of water within the limits of the facility.
- Boating (Non-Motorized): Field value indicates whether non-motorized boats are allowed on at least one body of water within the limits of the facility.
- Water Trail: A water body or corridor that permits non-motorized boating as part of a greater "water trail" system. Field value indicates the presence of a water trail within the facility limits.
- Swimming (Natural Water Body): A body of water, such as a lake or oceanfront, where swimming is permitted or there is a designated swimming area. Field value represents the presence of a water body where swimming is permitted.
- Swimming (Aquatics Facility): Indoor or outdoor swimming pool facility. Field value indicates the presence of an aquatics facility.
- Water Sport Area (Surfing/Snorkeling/Water Skiing/etc): At least one type of water sport is permitted - including surfing, snorkeling, scuba diving, water skiing, tubing, etc. - on an existing natural body of water within the facility limits. Field value indicates the presence of a water body where at least one type of water sport is permitted.
- Waterfront (Ocean/Lake/River): Publicly accessible area adjacent to a water body. Field value indicates both the presence of a waterfront area and the type of water body the area resides on (Ocean, Lake, or River).
- Fishing Area (Developed): An established fishing area such as a dock or beach on a body of water. Field value indicates that fishing is permitted on the body of water within facility limits, and that a developed fishing area exists on the body of water.
- Fishing Area (Undeveloped): Fishing is permitted on the body of water, but there are no developed fishing areas. Field value indicates that fishing is permitted on the body of water within facility limits.
- Camp Site (Hike-In): A developed campground that is only accessible by hiking. Field value represents the quantity of hike-in camp sites.
- Camp Site (Bike-In): A developed campground that is only accessible by bicycle. Field value represents the quantity of bike-in camp sites.
- Camp Site (Boat-In): A developed campground that is only accessible by boat. Field value represents the quantity of boat-in camp sites.
- Camp Site (Standard): A developed campground that is accessible by car. Field value represents the quantity of standard camp sites.
- Camp Site (Accessible): Designated, developed sites that meet ADA requirements for accessible camping. Field value is the number of designated accessible sites.
- Camp Site (RV Drive-In): A developed campground that has full-service hookups that can accommodate an RV. Field value represents the quantity of RV camp sites.
- Camp Site (Primitive / Undeveloped): A dispersed camp site where camping is permitted, but the site is undeveloped (no amenities such as restrooms or fire pits). Field value represents the quantity of primitive camp sites.
- Multi-Unit Lodging: A building with more than one lodging room or space, such as a lodge or hotel. Field value represents the quantity of units in the lodging facility.
- Individual-Unit Lodging (Cabin/Yurt/Tent Cabin/etc): Field value represents the quantity of individual-unit lodging facilities.
- Group Camp Site: A single campsite reservable for groups with 2 or more tents or vehicles. Field value represents the quantity of group camp sites.

- Wildlife Viewing Area: An established area for wildlife viewing with features such as signage, educational or interpretive elements, seating, or a shelter. Field value indicates the presence of a wildlife viewing area in the facility.
- Interpretive Signage: Outdoor signage that educates visitors about the area's wildlife, history, or environment, typically placed along trails. Field value indicates the presence of any interpretive signage at the facility.
- Visitor Center / Interpretive Center (Indoor): Field value indicates the presence of a visitor center or interpretive center.
- Environmental Learning Facility: An indoor or outdoor group activity center used for environmental learning events. Field value indicates the presence of an environmental learning facility.
- Garden: A community garden or privately operated garden (excludes residences) within the facility limits. Field value indicates the presence of a garden in the facility.
- Designated Historical or Cultural Resource: Field value indicates the presence of a designated historical or cultural resource within the facility limits.
- Parking Area (Motorized): Established parking lot for motor vehicles (paved or unpaved). Field value represents the quantity of vehicular parking spaces. Quantity may be approximate if the parking area is not striped.
- Parking Area (Non-motorized): Designated parking for bicycles, scooters, skateboards, and other non-motorized modes of travel. Field value represents the quantity or approximate quantity of non-motorized parking spaces.
- Permanent Restrooms (Flush Style): Field value represents the quantity of permanent, flush style restroom facilities.
- Permanent Restrooms (Pit Style): Field value represents the quantity of permanent, pit style restroom facilities. Include non-plumbing options such as composting toilets
- Temporary Restrooms (Non-Event): Temporary restrooms facilities, such as portable toilets, that are not solely associated with temporary events. Field value represents the quantity of temporary restroom facilities.
- Concessions: A permanent structure used to accommodate concession sales. Field value indicates the presence of a concession facility.

REGIONAL RECREATION OPPORTUNITY TYPES

For the purposes of analysis, regional recreation amenities were grouped into the following seven Regional Recreation Opportunity Types:

Gathering Spaces

- Individual and Group Picnic Facilities
- Indoor and Outdoor Event Venues

Experiential Learning Opportunities

- Visitor Centers
- Environmental Learning Facilities
- Gardens

Water-Based Recreation

- Boating Areas
- Swimming Areas
- Watersport Facilities
- Waterfront Access Areas
- Fishing Areas

Trails and Pathways

- Rock Climbing Areas
- Trailheads

Sports Facilities

- Shooting Ranges
- Archery Ranges
- Snowsport Facilities

Overnight Accommodations

- Tent Campsites
- RV Campsites\

Support Facilities

- Restrooms
- Parking Spaces
- Restrooms

REGIONAL SITE VISITORSHIP

SAMPLE SITES

Visitorship data was collected for a subset of RRE facilities, with a focus on larger sites equally distributed within each region. All Regional Recreation Parks were included in the analysis, as well as several Nature-Based Recreation Areas. A limited number of Regional Specialized Recreation Facilities and local parks were included in areas where larger facilities were absent. Where appropriate, multiple, proximal facilities were combined into a single site. In total, 41 sites were employed to examine regional site visitorship, as outlined below.

- Antelope Valley California Poppy Reserve
- Apollo Community Regional Park
- Arcadia Community Regional Park
- Aubrey E. Austin Jr. Park and North Jetty
- Avalon City Beach
- Castaic Lake State Recreation Area
- Central Park (Santa Clarita)
- Deane Dana Friendship Natural Area
- Devil's Punchbowl Natural Area
- Eaton Canyon Park and Nature Center
  - Eaton Canyon Open Space
- El Dorado East Regional Park
  - El Dorado Dog Park
  - El Dorado Park West
- Elysian Park
- Ernest E Debs RP
- Frank G. Bonelli Regional Park
- Grand Park
- Griffith Park
- Hahamonga Watershed Park
- Hansen Dam Park
- Heartwell Park
- Hungry Valley State Vehicular Recreation Area
- Ken Malloy Harbor RP
- Kenneth Hahn Park Complex
  - Baldwin Hills Overlook
  - Blair Hills Park
  - Culver City Park
  - Jim Gilliam Recreation Center
  - Kenneth Hahn State Recreation Area
  - La Brea Greenbelt
  - Norman O. Houston Park
  - Rueben Ingold Park
  - Stoneview Nature Center
- Lake Balboa Park
  - Sepulveda Basin Recreation Area
  - Woodley Avenue Park
- Leo Carrillo State Park
- Long Beach Beaches
  - Alamitos Beach
  - Belmont Plaza Beach
  - Belmont Shore Beach
  - Junipero Beach
  - Peninsula Beach
- Los Angeles State Historic Park
- Malibu Creek State Park
- Malibu Lagoon State Beach
- Manhattan County Beach
- Marshall Canyon Regional Park
  - Marshall Canyon Regional Park and Nursery
- Peter F Schabarum Regional County Park
- Placerita Canyon State Park
- Redondo County Beach
  - Torrance County Beach
- Ritter Ranch
- San Dimas Canyon Community Regional Park
- Santa Fe Dam Recreational Area
- South Los Angeles Wetlands Pocket Park
- Vasquez Rocks Natural Area Park

- Venice City Beach
- Whittier Narrows Recreation Area
- Zuma County Beach

SOURCE

Visitorship data was obtained from Unacast (2021) (https://www.unacast.com/), which provides user location and mobility data via tracking of cell phone signals. Data provided includes visitation information related to venue details, traffic trends, traffic patterns, catchment area, visitor origin, demographics (education, race, income, gender, and age), visit length, and return rate. Visitor origin data is provided for both work and home.

PROCESS OF ANALYSIS

Visitor Origin for Individual Sample Sites (Maps)

- Data accounting for the geographic origin (census-designated block group) of each individual over 18 who completed a single visit to a sample site were utilized. The data were broken out by sample site visited, then joined in ArcGIS with a Los Angeles County census-designated block group layer using the block group GeoID as the join key. The resulting dataset included all block groups in Los Angeles which were home to a visitor of a given sample site in 2019 or 2020, along with the number of visits conducted by residents of a given block group for 2019, 2020, and 2019+2020. These block groups were organized into buckets to distinguish block groups that saw high visitorship to a given sample site from those that saw lower visitorship.

Lowest Visits: Population Ratio (Maps)

- Data accounting for the geographic origin (census-designated block group) of each individual over 18 who completed a single visit to a sample site were utilized. The data were not broken down by sample site and thus included the total visits to any sample site that originated from each block group. These data were joined in ArcGIS with a Los Angeles County census-designated block group population layer using the block group GeoID as the join key. The resulting dataset includes all block groups in Los Angeles County and the number of visits to any sample site that were conducted by a resident of that block group. Visitorship to population ratios were calculated for 2019, 2020, and both years combined by creating a new field and using field calculator to divide the number of visits by the population of a given block group. Symbology was then utilized to differentiate block groups that saw high visitorship overall from those that saw lower visitorship overall.

REGIONAL RECREATION NEED

HIGH PRIORITY AREAS

High Priority Areas for Regional Recreation Need were identified by intersecting (or determining where there is overlap of) three indicators where residents:

1. are experiencing high levels of barriers and vulnerability (see Composite Population Vulnerability above),
2. live in low proximity to regional recreation facilities (defined as located beyond 2.5 miles to an access point for any of the following regional recreation site types: Regional Recreation Parks, Nature-Based Recreation Areas and Trailheads – see Regional Recreation Proximity above) and,
3. visit regional recreation facilities infrequently (defined as census block groups with a ratio of total visits to total population of less than 1 indicating that there was less than 1 regional sample site visit observed per resident over the two year period for which data was collected – see Lowest Visits: Population Ratio above).

RURAL RECREATION NEEDS ANALYSIS

RURAL STUDY AREAS

DEFINITION

The Land Use Element of the 2015 Los Angeles County General Plan (General Plan) defines "rural" as a way of life characterized by living in a non-urban or agricultural environment at low densities without typical urban services. In order to meet the goal of protecting rural character, the General Plan identifies six different "Rural Land" (RL) designations and designations for low-intensity "Rural Commercial" (CR) and "Mixed-Use Rural" (MU-R). In screening the PNA's 188 Study Areas, 15 were identified as rural areas based on the DRP Rural Land Use Policies, Rural Preservation Areas, and Rural Outdoor Lighting Areas shapefiles (see attached Figure: Rural PNA Study Areas). Twelve of these 15 PNA Study Areas were used as they were delineated in the 2016 effort though some were renamed to reflect the communities they cover. Three of

the original PNA delineations – Unincorporated Malibu, Unincorporated Santa Monica Mountains/Unincorporated Triunfo Canyon, and Unincorporated Topanga Canyon/ Topanga - were not used in the Rural Recreation. The Department of Regional Planning uses two geographic delineations for planning efforts in the Santa Monica Mountains: Santa Monica Mountains – North Area and Santa Monica Mountains – Coastal Zone. Given the desire for consistency between planning efforts, Regional Planning's delineations were used for the areas within the Santa Monica Mountains, resulting in 14 total Rural Study Areas which are listed below.

- Northwest Antelope Valley
- Northeast Antelope Valley
- Leona Valley/Lake Hughes/Elizabeth Lake
- Unincorporated Lancaster/Unincorporated Palmdale/ Quartz Hill
- Castaic/Val Verde
- Agua Dulce/Canyon Country
- Acton/South Antelope Valley
- Littlerock/Sun Village/Juniper Hills
- Lake Los Angeles/Pearblossom/Liano/Valyermo
- Stevenson Ranch/Newhall Ranch
- Unincorporated Angeles National Forest/ Unincorporated Sylmar
- Santa Monica Mountains North Area
- Santa Monica Mountains Coastal Zone
- Santa Catalina Island

POPULATION DATA

Total Population: The source for the total population of each Rural Study Area is the 2016 Parks Needs Assessment Study Area Profiles.

Demographics: Demographic data was derived from the following U.S. Census Bureau American Community Survey 2014 5-year Estimate Subject Tables (Accessed here: https://data.census.gov/cedsci/table?y=2014):

- Age and Sex
- Educational Attainment
- Demographic and Housing Estimates
- Income in the past 12 months (in 2014 inflation-adjusted dollars)

Geometry: 2014 Census/Tiger Line

RURAL SITE INVENTORY

FACILITIES

Sources

The Rural Site Inventory consists of the Regional Site Inventory described above, supplemented by regional sites and local parks identified in the 2016 Park Needs Assessment. Each facility was assigned to a single rural study area based on the intersection of the facility centroid (central) location.

Rural Area Site Acreage

An inventory layer including all conservation areas, nature-based recreation areas, regional specialized recreation areas, other public and semi-public open space, local parks, and regional recreation parks in Los Angeles County was joined in ArcGIS with a layer of Los Angeles County rural areas. This caused features in the inventory layer to be split along rural area boundaries such that each portion of a site would be designated with the correct rural area. Using SQL, inventory was separated by individual regions, and area was calculated using the 'calculate geometry" tool.

Percentage of Total Land Area

The rural area site acreage (see above) was divided by the total area of each rural area.

Acreage per 1,000 Residents

The rural area site acreage (see above) was divided by the population of each rural area and multiplied by 1,000.

ACCESS POINTS

Sources/Methods for Identifying:

Access points for local parks that were mapped in the 2016 PNA were added to access points developed from a spatial analysis where public roads, trails, and bikeways intersected the known boundary of a rural recreation site to create a new database for Rural Site Access Points.

Please note the Rural Site Access Points should be used for analysis purposes only. Individual access points have not been field-verified and legal entry should not be assumed without further confirmation from the relevant managing agencies.

RURAL RECREATION PROXIMITY

PROCESS OF ANALYSIS

Walking

The Percentage of Population that lives within a 0.5-mile walking distance of Rural Recreation Site (RRS) Entries was calculated using service area analysis combined with residential population data from the 2016 PNA, in which 2010 United States Census data was divided into a 1-acre hexagonal grid across Los Angeles County. Access points or entries were identified for every RRS. A 0.5-mile walking service area around each RRS was generated from those access points using the ArcGIS StreetMap Premium Network Dataset. The service area was then joined with census data to calculate the percentage of the population within a 0.5-mile walking distance of the RRS.

Cycling

The Percentage of Population that lives within a 2.5-mile cycling distance of Rural Recreation Site (RRS) Entries was calculated using service area analysis combined with residential population data from the 2016 PNA, in which 2010 United States Census data was divided into a 1-acre hexagonal grid across Los Angeles County. Access points or entries were identified for every RRS. A 2.5-mile cycling service area around each RRS was generated from those access points using the ArcGIS StreetMap Premium Network Dataset. The service area was then joined with census data to calculate the percentage of the population within a 2.5-mile cycling distance of the RRS.

Driving

The Percentage of Population that lives within a 5-mile driving distance of Rural Recreation Site (RRS) Entries was calculated using service area analysis combined with residential population data from the 2016 PNA, in which 2010 United States Census data was divided into a 1-acre hexagonal grid across Los Angeles County. Access points or entries were identified for every RRS. A 5-mile driving service area around each RRS was generated from those access points using the ArcGIS StreetMap Premium Network Dataset. The service area was then joined with census data to calculate the percentage of the population within a 5-mile driving distance of the RRS.

Public Transit

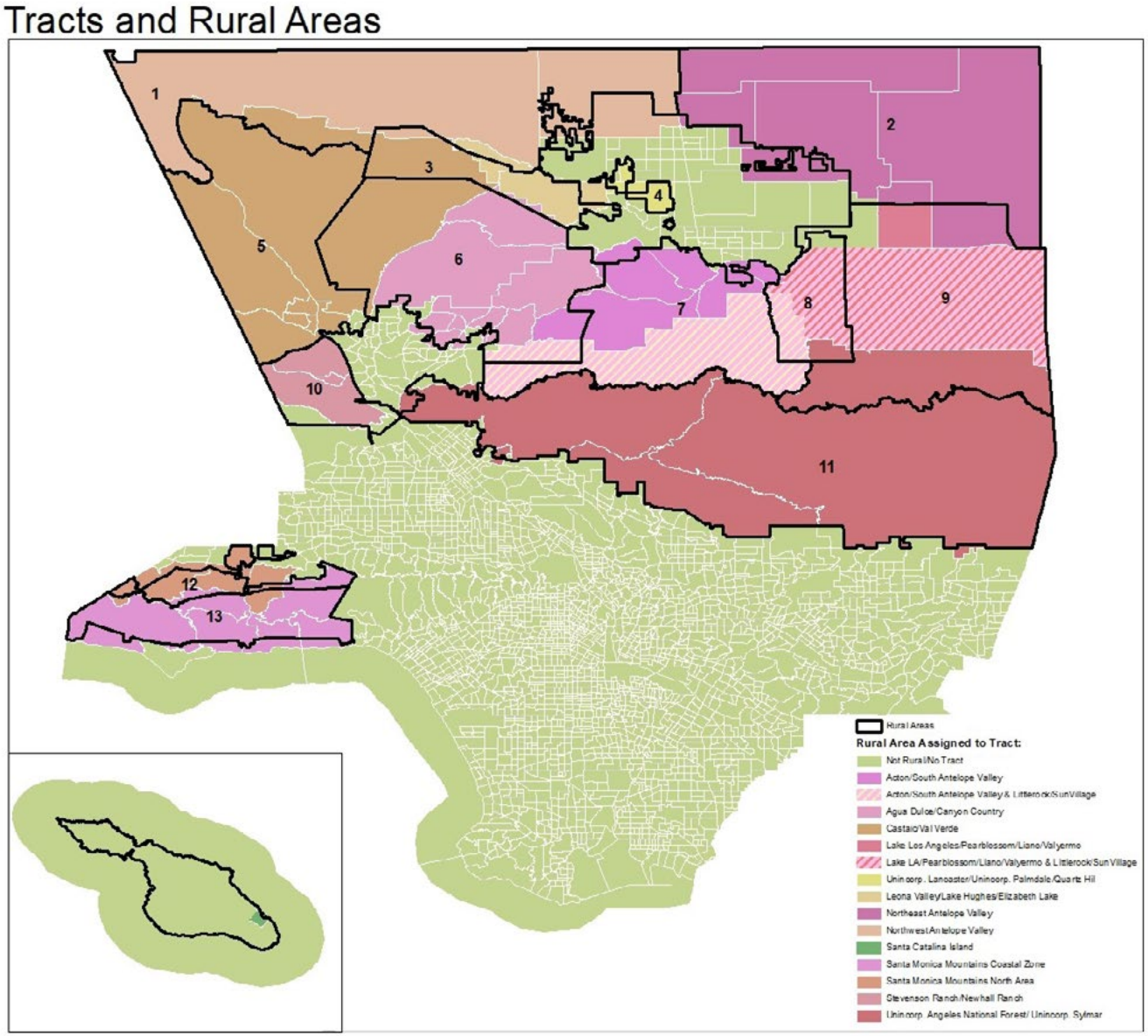
Public Transit Accessible Rural Recreation Sites are identified as Rural Recreation Sites with an Entrance located within a 1/2 mile walk of a Public Transit Stop. The number of rural recreation sites that are accessible by public transit was calculated by locating all rural recreation site access points that were within 0.5 walking distance from a transit stop. Barriers such as highways were taken into consideration as pedestrians typically don't have the infrastructure to walk safely along them. The results of the analysis were presented in two forms: 1) as a percentage for each of the study areas and county-wide; and 2) as a map showing which rural recreation sites and access points were public transit accessible.

RURAL DEMOGRAPHICS

Census tracts were converted to points based on centroid; for the tracts that crossed the border into two rural areas, the centroid was verified to be on the side of the border where the tract had the most area. The tract centroids were intersected with the LA County Rural Areas layer, outputting a layer with each tract having a rural area attribute. The tracts that did not intersect with a rural area were left out. The attribute table was converted to an excel table, where a multipage layout was utilized: a sheet was devoted to each demographic attribute (Age, Gender, ethnicity, race, income, education) as well as the tract/rural area info acquired using the above steps. Using VLOOKUP, the demographic data was joined to the region data using the tract number as the join key. Pivot tables for each demographic attribute allowed different rural areas to be analyzed individually.

NOTE: One rural area, Littlerock/Sun Village/Juniper Hills had no census tract centroids falling in it, as all the tracts making up this rural area had larger areas in adjacent rural areas. To address this, the demographic values from the three tracts that made up most of the area of Littlerock/Sun Village/Juniper Hills (06037911001, 06037910811, 06037910002) were copied and applied to Littlerock/Sun Village/Juniper Hills. Therefore, these three tracts were applied to two regions each. See Figure C-30 for tract to rural area assignation.

Figure C-30


Tracts and Rural Areas
1
2
3
4
5
6
7
8
9
10
11
12
13
Rural Areas
Rural Area Assigned to Tract:
Not Rural/No Tract
Acton/South Antelope Valley
Acton/South Antelope Valley & Littlerock/SunVillage
Agua Dulce/Canyon Country
Castaic/Val Verde
Lake Los Angeles/Pearblossom/Llano/Valyermo
Lake LA/Pearblossom/Llano/Valyermo & Littlerock/SunVillage
Unincorp. Lancaster/Unincorp. Palmdale/Quartz Hil
Leona Valley/Lake Hughes/Elizabeth Lake
Northeast Antelope Valley
Northwest Antelope Valley
Santa Catalina Island
Santa Monica Mountains Coastal Zone
Santa Monica Mountains North Area
Stevenson Ranch/Newhall Ranch
Unincorp. Angeles National Forest/ Unincorp. Sylmar

RURAL RECREATION AMENITIES

SOURCES

Sources for Rural Recreation Amenity information included: 1) local park amenity data that was collected as part of the 2016 PNA and 2) regional recreation amenity data that was collected by the project team as described above in the section entitled "Regional Recreation Amenities".

RURAL RECREATION OPPORTUNITY TYPES

For the purposes of analysis, rural recreation amenities were grouped into the following nine Rural Recreation Opportunity Types:

Gathering Spaces

- Individual and Group Picnic Facilities
- Indoor and Outdoor Event Venues

Experiential Learning Opportunities

- Visitor Centers
- Environmental Learning Facilities
- Gardens

Water-Based Recreation

- Boating Areas
- Swimming Areas (natural and developed)
- Watersport Facilities
- Waterfront Access Areas
- Fishing Areas
- Splashpads

Trails and Pathways

- Rock Climbing Areas
- Trailheads
- Walking Paths
- Off-Road Vehicle Areas

Sports Facilities

- Shooting Ranges
- Archery Ranges
- Snowsport Facilities
- Sports Courts and Fields

Overnight Accommodations

- Tent Campsites
- RV Campsites

Health and Fitness Facilities

- Senior Centers
- Fitness Zones
- Gymnasiums
- Community Centers
- Recreation Centers

General Recreation Facilities

- Multipurpose Fields
- Skateparks
- Dog Parks
- Playgrounds

Support Facilities

- Restrooms
- Parking Spaces
- Restrooms

PROXIMITY ANALYSIS

The Percentage of Population that lives within a 5-mile driving distance of Rural Recreation Amenities (RRA) Entries was calculated using service area analysis combined with residential population data from the 2016 PNA, in which 2010 United States Census data was divided into a 1-acre hexagonal grid across Los Angeles County. Access points or entries were identified for every RRA. A 5-mile driving service area around each RRA was generated from those access points using the ArcGIS StreetMap Premium Network Dataset. The service area was then joined with census data to calculate the percentage of the population within a 5-mile driving distance of the RRA.

RURAL RECREATION NEED

HIGH PRIORITY AREAS

High Priority Areas for Rural Recreation Need were identified by intersecting (or determining where there is overlap of) three indicators:

1. residents are experiencing high levels of barriers and vulnerability (see Composite Population Vulnerability above),
2. residents live in low proximity to Rural Recreation Sites (defined as located beyond 5 miles to an access point for any of the following site types: Local Parks, Regional Recreation Parks, Nature-Based Recreation Areas and Trailheads) ,
3. residents have access to limited types of recreation opportunities (defined as located within 5 miles of three or fewer Rural Recreation Opportunity Types – see above).

OPPORTUNITY ANALYSIS

AREAS EXPERIENCING HIGH LEVELS OF SOCIAL BARRIERS AND LOW RATES OF VISITORSHIP

Areas experiencing high levels of social barriers and low rates of visitorship were identified by intersecting (or determining where there is overlap between) these two indicators. The methodology for developing each of these indicators is described in the sections above.

AREAS EXPERIENCING HIGH LEVELS OF TRANSPORTATION BARRIERS THAT ARE LOCATED IN LOW PROXIMITY TO REGIONAL RECREATION FACILITIES

Areas experiencing high levels of transportation barriers and located in low proximity to regional recreation facilities were identified by intersecting (or determining where there is overlap between) these two indicators. The methodology for developing each of these indicators is described in the sections above.

AREAS EXPERIENCING HIGH LEVELS OF ENVIRONMENTAL VULNERABILITY

Areas experiencing high levels of environmental vulnerability were identified by scoring five data layers from the California Healthy Places Index (HPI). The methodology for developing this indicator is described in the sections above.

AREAS EXPERIENCING HIGH LEVELS OF HEALTH VULNERABILITY THAT ARE LOCATED IN HIGH PROXIMITY TO RECREATIONAL OPPORTUNITIES

Areas experiencing high levels of health vulnerability and located in high proximity to recreation opportunities were identified by intersecting (or determining where there is overlap between) these two indicators. The methodology for developing each of these indicators is described in the sections above.

OPPORTUNITY AREAS FOR ENVIRONMENTAL CONSERVATION

High environmental benefit areas (metric value between 40 and 50) were overlain with Los Angeles County Department of Regional Planning Significant Ecological Areas (SEA) and California Department of Forestry and Fire Protection's (CALFIRE) Fire and Resource Assessment Program (FRAP) Fire Hazard Severity Zones (FHSZ) to identify priority areas for conservation. These areas are expected to provide the greatest ecological uplift if acquired and conserved by the County.

OPPORTUNITY AREAS FOR ENVIRONMENTAL RESTORATION

High environmental burden areas (metric value between 40 and 50) were overlain with Southern California Association of Governments (SCAG) vacant land uses (LU16 attribute values of 1900, 3000, and 3100) and California Department of Conservation, Geologic Energy Management Division (CalGEM) oil and gas fields to identify priority areas for restoration. These areas are expected to provide the greatest ecological uplift if acquired and restored by the County.

Los Angeles County Department of Regional Planning. Significant Ecological Areas (SEA). https://planning.lacounty.gov/site/sea/

California Department of Forestry and Fire Protection's (CALFIRE) Fire and Resource Assessment Program (FRAP) https://www.fire.ca.gov/

Southern California Association of Governments (SCAG) Land Use Information for Los Angeles County, https://scag.ca.gov/

California Department of Conservation, Geologic Energy Management Division (CalGEM). https://www.conservation.ca.gov/calgem