Alcohol Outlet Density and Alcohol-Related Consequences

by City and Community in Los Angeles County, 2013

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Introduction

Excessive alcohol consumption is the second-leading cause of premature death and disability in Los Angeles County (LAC), and is a serious public health concern with major health, economic, and social consequences.[1] Annually, more than 2,800 people die from alcohol-attributable causes that result in approximately 80,000 years of potential life lost (YPLL)[2*], and an estimated $10.3 billion in healthcare and lost productivity costs.[3] A review of scientific literature found that alcohol outlet density is positively associated with alcohol consumption[4] and related consequences including violent crimes,[5] vehicle crashes,[6] emergency department (ED) visits,[7] hospital admissions (hospitalizations),[8] and deaths[9] among other adverse outcomes.

In this report, on- and off-premises alcohol outlet densities and the rates of the five consequences noted above were examined for 78 cities, 27 unincorporated areas or communities, 8 Service Planning Areas (SPAs), and 5 Supervisorial Districts (SDs) in LAC.

Study Methods

Defining Cities and Communities in Los Angeles County

A total of 88 cities and 59 unincorporated communities in LAC were identified using the Census 2010 Incorporated Places and Census Designated Places.[10] Ten cities and 32 communities with less than 10,000 residents produced unstable estimates, and were excluded from this report. Data for the City of Los Angeles was further divided into its 15 city council districts to provide more local information.[11]

Determining Alcohol Outlet Density

Information on alcohol outlets within LAC in 2013 was obtained from the California Department of Alcoholic Beverage Control (ABC).[12] ABC categorizes alcohol outlets as follows:

- On-premises – outlets where alcohol is served to be consumed on site (e.g. bars and restaurants).
- Off-premises – outlets where alcohol is sold in original, sealed containers to be consumed off site (e.g. liquor stores and grocery stores).

The 2013 population estimates for each city and community were used to determine alcohol outlet densities.[13] The density (number of outlets per 10,000 residents) of on-premises and off-premises alcohol outlets for each city/community was categorized into three equal groups: “low,” “medium,” or “high” density.

[*] Years of potential life lost (YPLL) is an estimate of the average time a person would have lived had he or she not died prematurely. This measure is used to help quantify social and economic loss owing to premature death, and it has been promoted to emphasize specific causes of death affecting younger age groups. YPLL inherently incorporates age at death, and weights the total deaths by applying values to death at each age. Retrieved from http://www.jstor.org/stable/25759821.

Measuring Alcohol-related Consequences

Five consequences related to alcohol outlet densities (violent crimes,[14] vehicle crashes,[15] ED visits,[16] hospitalizations,[16] and deaths[17]) were examined using 2013 data. Violent crimes include homicide/murder, sexual assault (rape and attempted rape), all other assaults (including domestic violence), and robbery. Alcohol-involved vehicle crashes include any motor vehicle crashes in which a driver, pedestrian, or bicyclist had been drinking. Alcohol-related ED visits and hospitalizations include records that listed an alcohol-related primary or secondary diagnosis, or external cause of injury. Alcohol-involved deaths include any mention of alcohol in toxicology data provided by Los Angeles County Department of Medical Examiner - Coroner. Death data reflects the location where a death occurred, not the place of residence.

Rates per 10,000 residents for each of the five alcohol-related consequences were calculated using the 2013 population estimates for each city/community, SPA, and SD, and were categorized into three equal groups: "low," "medium," or "high" rate.

Determining the Relationship between Alcohol Outlet Density and Alcohol-Related Consequences

Logistic regression modeling was performed to examine the associations between on- and off-premises alcohol outlet densities (high - values above the county median; low - values below the county median) and alcohol-related consequences (high - values above the county median; low -values below the county median). All models were adjusted for the Economic Hardship Index (EHI) [18] to account for neighborhood socioeconomic conditions that include crowded housing, poverty level, unemployment, educational achievement, family dependency, and per capita income. Statistical significance was determined using $p < 0.1$.

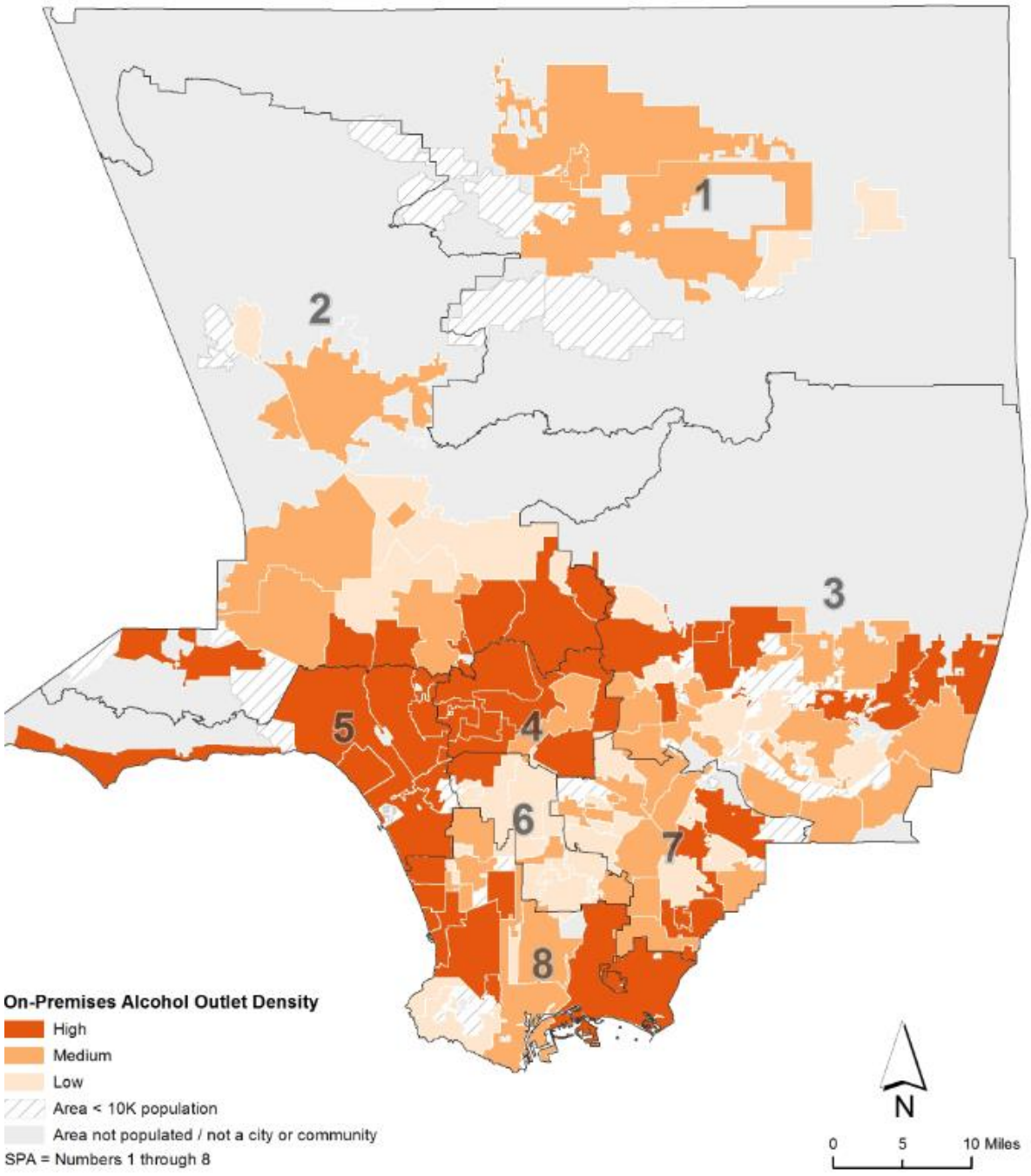
Findings

Alcohol Outlets

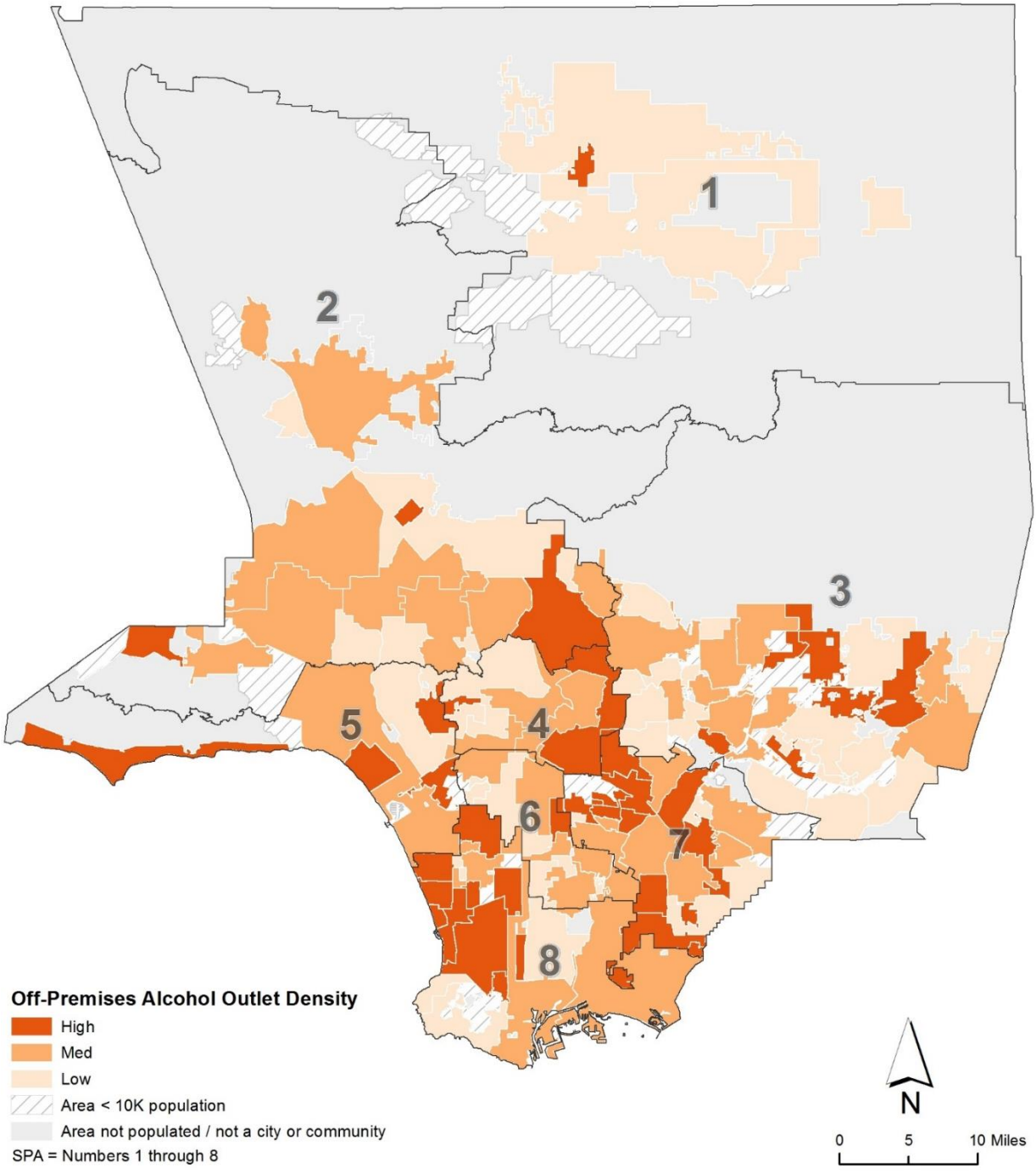
A total of 15,253 alcohol outlets were identified in LAC, of which 9,025 (59.2%) were on-premises, and 6,228 (40.8%) were off-premises. In 2013, the average density of on-and off-premises alcohol outlets was 8.9 and 6.2 outlets per 10,000 population, respectively. On-premises outlet density varied widely among cities and communities across the County, ranging from 0.0 (West Puente Valley and Westmont) to 51.1 (West Hollywood), with 40 (33.6%) cities/communities above the countywide average rate of 8.9. Off-premises outlet density ranged from 0.8 (San Marino) to 15.9 (Santa Fe Springs), with 56 (47.1%) cities/communities above the countywide average rate of 6.2. Tables 1A, 1B, and 1C present the densities of on-premises and off-premises alcohol outlets by cities and communities, SPAs, and SDs, respectively.

The geographical distribution of on- and off-premises outlets varied across LAC (Maps 1 and 2). A higher density of on-premises outlets was significantly associated with lower EHI, or more affluent communities such as West Hollywood, Beverly Hills, El Segundo, Hermosa Beach, and Santa Monica (Map 1, $p < 0.01$). On the other hand, a higher density of off-premises outlets was associated with higher EHI or less affluent communities (Map 2, $p = 0.08$) such as the City of Commerce and Santa Fe Springs.

Map 1. On-Premises Alcohol Outlet Density (per 10,000 population) Among Cities, Communities, and Service Planning Areas (SPAs), Los Angeles County, 2013



Map 2. Off-Premises Alcohol Outlet Density (per 10,000 population) Among Cities, Communities, and Service Planning Areas (SPAs), Los Angeles County, 2013



Association Between Alcohol-related Consequences and Alcohol Outlet Density

The rates of alcohol-related consequences (violent crimes, vehicle crashes, ED visits, hospitalizations, and death) are presented by each city and community (Table 2A, Maps 3 to 7), SPA (Table 2B), and SD (Table 2C).

Violent Crimes

The violent crime rate within Los Angeles County cities/communities ranged from 0.0 (Santa Fe Springs) to 159.5 (Westmont), with 36 (30.3%) cities/communities above the County average of 40.3 per 10,000 population (Table 2A, Map 3).

Cities and communities with a high density of off-premises alcohol outlets were 3.7 times more likely to have high violent crime rates than cities and communities with a low density of off-premises alcohol outlets, even after accounting for Economic Hardship Index ($p < 0.01$).

The association between on-premises outlets and violent crimes was not statistically significant.

Alcohol-involved Vehicle Crashes

The alcohol-involved vehicle crash rate within Los Angeles County cities/communities ranged from 0.0 (Lomita and Temple City) to 22.3 (Santa Fe Springs), with 42 (35.3%) cities/communities above the County average of 4.4 per 10,000 population (Table 2A, Map 3).

The association between alcohol outlet density and alcohol-involved vehicle crashes was not statistically significant.

Alcohol-related ED Visits

The alcohol-related ED visit rate within Los Angeles County cities/communities ranged from 12.4 (San Marino) to 134.1 (Willowbrook), with 33 (37.8%) cities/communities above the County average of 58.1, per 10,000 population (Table 2A, Map 4).

Cities and communities with a high density of off-premises alcohol outlets were 2.2 times more likely to have high alcohol-related ED visit rates than cities and communities with a low density of off-premises alcohol-outlets, even after accounting for Economic Hardship Index ($p < 0.05$).

The association between on-premises outlets and alcohol-related ED visits was not statistically significant.

Alcohol-related Hospitalizations

The alcohol-related hospitalization rate within Los Angeles County cities/communities ranged from 10.6 (West Puente Valley) to 115.6 (Willowbrook), with 45 (37.8%) cities/communities above the County average of 45.1 per 10,000 population (Table 2A, Map 6).

Cities and communities with a high density of on-premises alcohol outlets were 2.1 times more likely to have high alcohol-related hospitalization rates than cities and communities with a low density of on-premises outlets, even after accounting for Economic Hardship Index ($p = 0.07$).

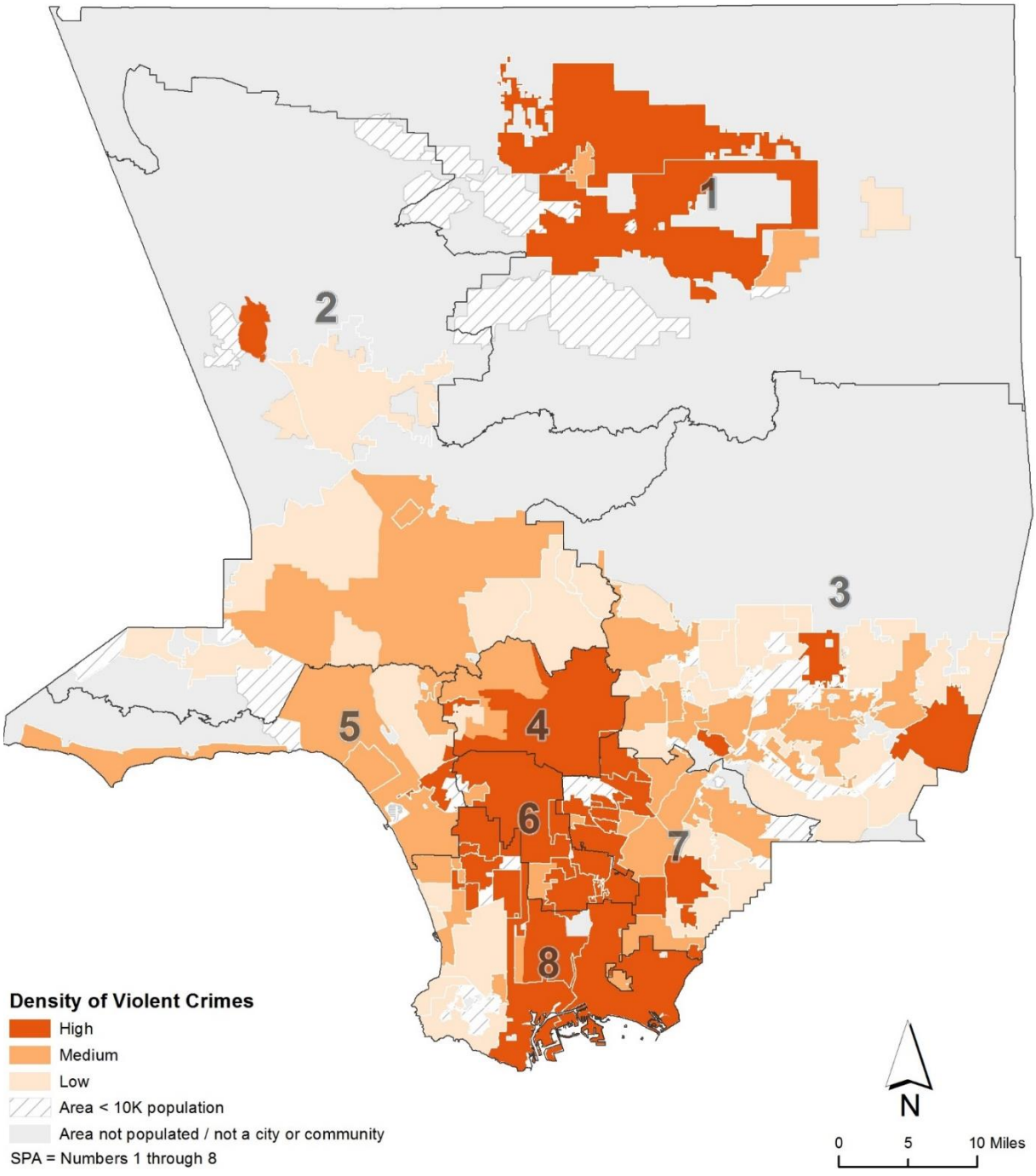
Cities and communities with a high density of off-premises alcohol were 2.0 times more likely to have high alcohol-related hospitalization rates than cities and communities with a low density of off-premises outlets, even after accounting for Economic Hardship Index ($p = 0.08$).

Alcohol-related Deaths

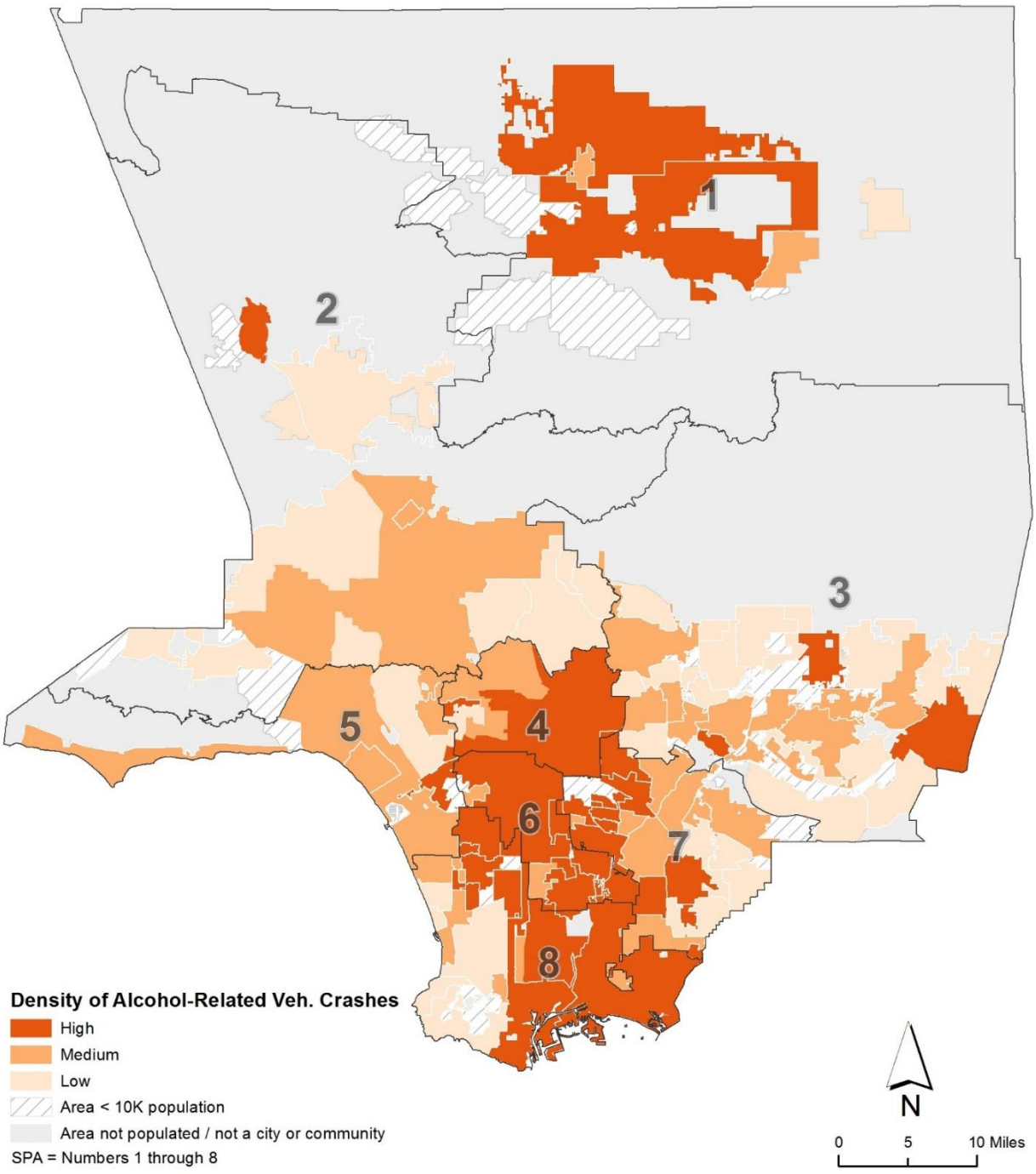
The alcohol-related death rate within Los Angeles County cities/communities ranged from 0.0 (Artesia, San Marino, South Pasadena, El Segundo, Temple City) to 2.7 (Willowbrook), with 35 (29.4%) above the County average of 45.1 per 10,000 population (Table 2A, Map 7).

The association between alcohol outlet density and alcohol-involved deaths was not statistically significant.

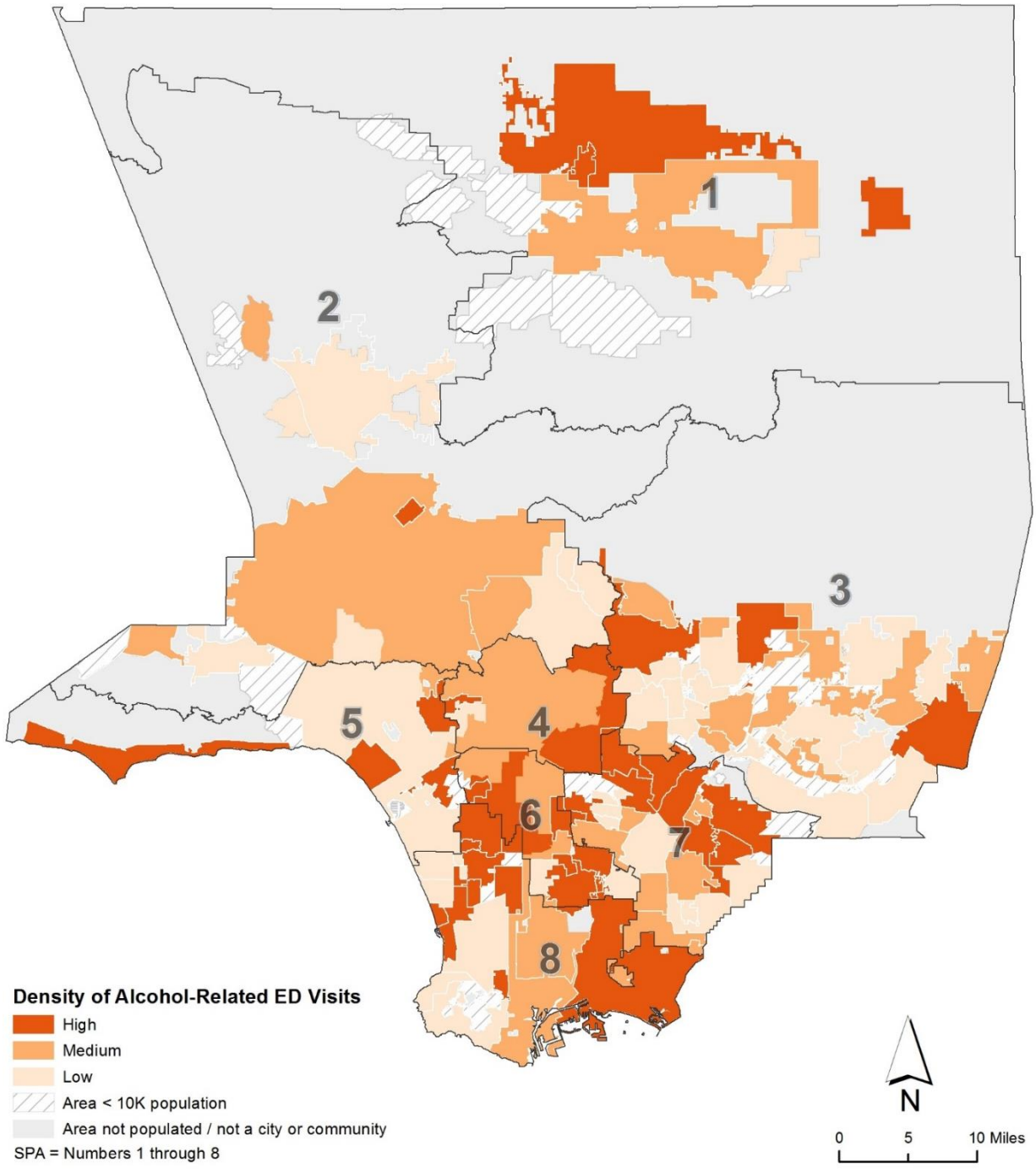
Map 3. Density (per 10,000 population) of Violent Crimes Among Cities, Communities, and Service Planning Areas (SPAs), Los Angeles County, 2013



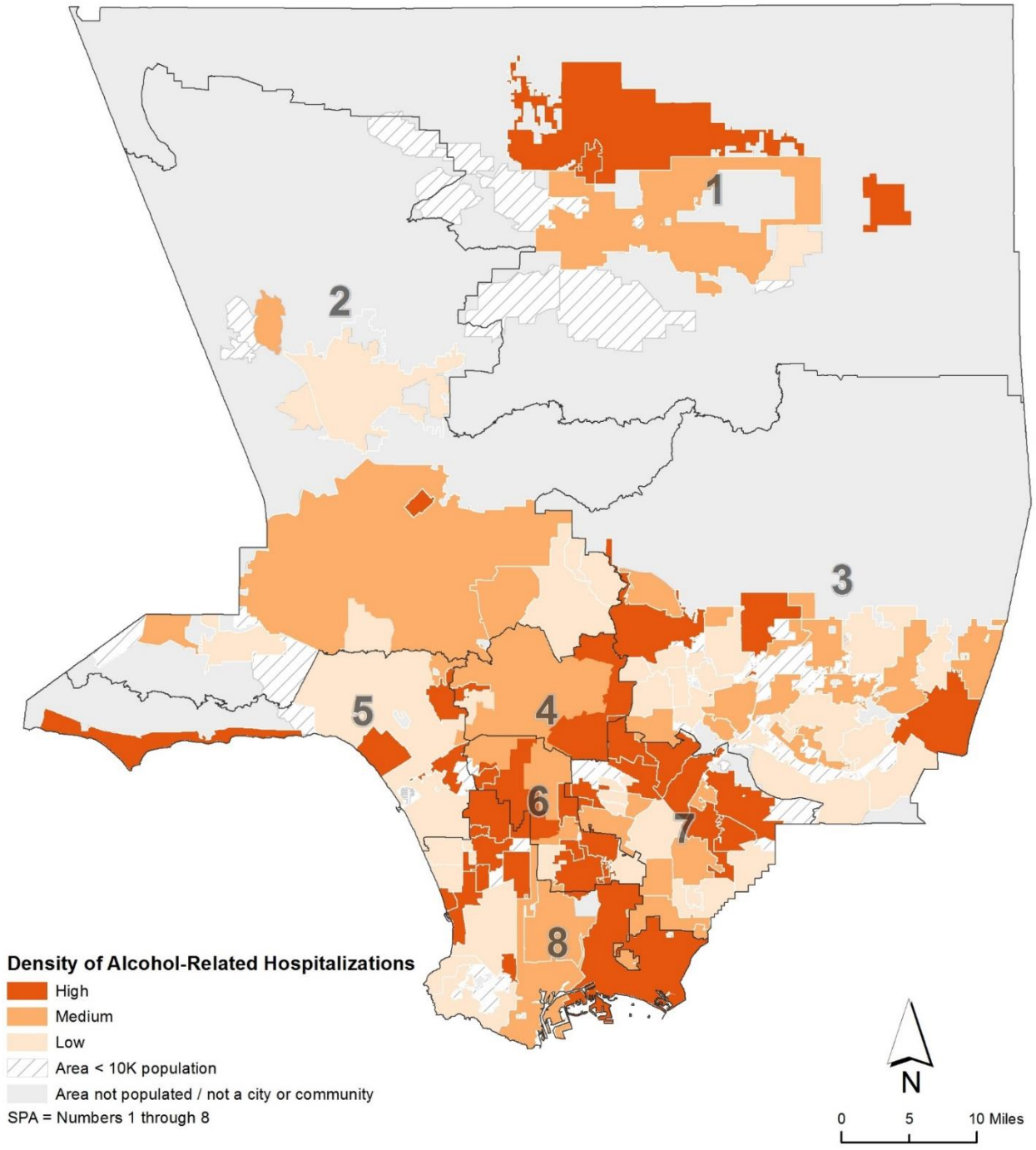
Map 4. Density (per 10,000 population) of Alcohol-Related Vehicle Crashes Among Cities, Communities, and Service Planning Areas (SPAs), Los Angeles County, 2013



Map 5. Density (per 10,000 population) of Alcohol-related Emergency Department Visits Among Cities, Communities, and Service Planning Areas (SPAs), Los Angeles County, 2013



Map 6. Density (per 10,000 population) of Alcohol-related Hospitalizations Among Cities, Communities, and Service Planning Areas (SPAs), Los Angeles County, 2013



Map 7. Density (per 10,000 population) of Alcohol-related Deaths Among Cities, Communities, and Service Planning Areas (SPAs), Los Angeles County, 2013

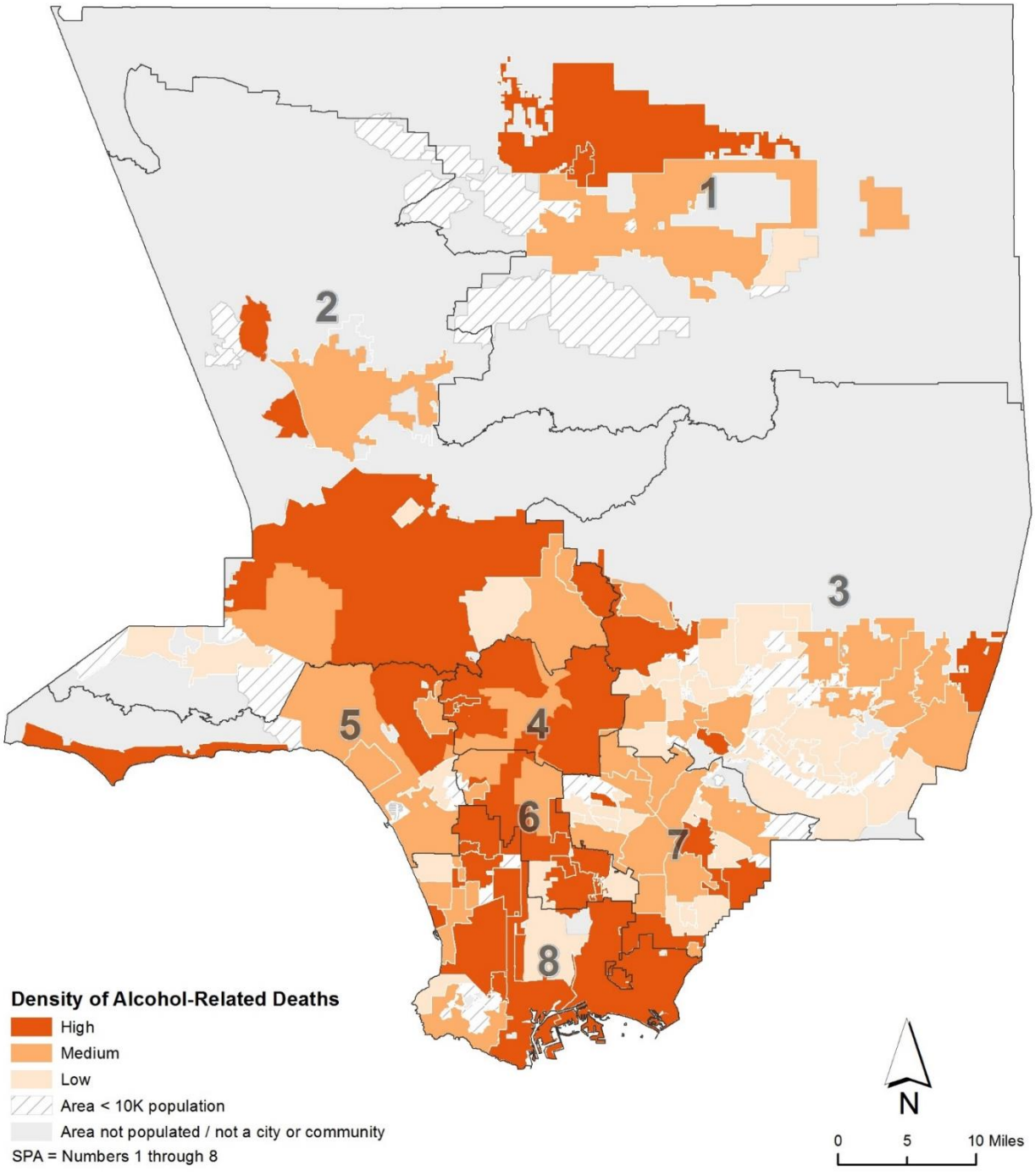


Table 1A. On-Premises and Off-Premises Alcohol Outlet Density (per 10,000 population) by City and Community, Los Angeles County, 2013*

City/Community Name	On-premises AOD		Off-premises AOD	
Los Angeles County	**8.9**	-	**6.2**	-
Agoura Hills	16.5		7.8	
Alhambra	7.8		4.5	
Altadena	1.9		4.0	
Arcadia	12.9		6.3	
Artesia	20.9		10.1	
Azusa	6.4		7.9	
Baldwin Park	3.8		6.0	
Bassett-Avocado Heights	3.9		6.5	
Bell	5.8		7.2	
Bell Gardens	4.5		9.4	
Bellflower	4.8		7.1	
Beverly Hills	38.1		7.5	
Burbank	15.3		6.7	
Calabasas	12.5		6.3	
Carson	5.0		5.3	
Castaic	4.1		5.6	
Cerritos	12.3		4.0	
Claremont	13.9		3.6	
Commerce	7.7		13.1	
Compton	1.5		6.1	
Covina	10.3		8.4	
Cudahy	2.1		6.6	
Culver City	26.6		11.7	
Del Aire	4.0		5.0	
Diamond Bar	7.1		4.4	
Downey	8.2		5.5	
Duarte	8.8		8.8	
East Los Angeles	3.9		8.2	
East Rancho Dominguez	0.6		3.8	
East San Gabriel	1.9		3.2	
El Monte	4.1		6.3	
El Segundo	39.7		10.7	
Florence-Graham	3.2		9.6	
Gardena	16.9		8.8	
Glendale	9.9		7.1	
Glendora	8.8		4.1	
Hacienda Heights	4.5		4.2	
Hawaiian Gardens	11.1		9.0	
Hawthorne	5.0		5.7	
Hermosa Beach	36.0		11.7	
Huntington Park	7.1		9.3	
Inglewood	4.6		8.1	
La Canada Flintridge	10.7		6.8	
La Crescenta-Montrose	1.5		3.5	
La Mirada	6.3		5.1	
La Puente	6.4		7.7	
La Verne	12.0		5.6	
Lake Los Angeles	0.8		3.9	
Lakewood	7.4		8.0	
Lancaster	6.0		4.6	
Lawndale	5.4		8.1	
Lennox	1.7		5.6	
Lomita	16.0		8.7	
Long Beach	10.7		6.8	
City of Los Angeles†	**8.9**	-	**6.0**	-
Council District 01	5.6		6.7	
Council District 02	7.3		6.2	
Council District 03	8.6		5.5	
Council District 04	14.2		4.8	
Council District 05	16.7		5.1	
Council District 06	4.0		5.5	
Council District 07	2.8		5.1	
Council District 08	1.1		5.1	
Council District 09	2.5		6.0	
Council District 10	11.8		5.9	
Council District 11	16.0		5.7	
Council District 12	6.4		5.7	
Council District 13	14.5		7.0	
Council District 14	16.1		9.0	
Council District 15	5.9		6.4	

Low (0-33%) **Medium (34-66%)** **High (67-100%)**

*** Cities/communities with a population of less than 10,000 are excluded.**

† For the city of Los Angeles, on-premises Alcohol Outlet Density was high and off-premises alcohol density was medium (66th and 46th percentile, respectively).

Table 1A. On-Premises and Off-Premises Alcohol Outlet Density (per 10,000 population) by City and Community, Los Angeles County, 2013* (*continued*)

City/Community	On-premises AOD		Off-premises AOD	
Lynwood	3.4		6.2	
Malibu	27.3		11.7	
Manhattan Beach	25.3		7.3	
Maywood	4.3		11.2	
Monrovia	15.1		6.7	
Montebello	7.4		6.3	
Monterey Park	9.4		4.7	
Norwalk	4.4		5.9	
Palmdale	5.0		3.5	
Palos Verdes Estates	4.4		3.7	
Paramount	6.4		6.0	
Pasadena	18.1		5.6	
Pico Rivera	7.2		8.5	
Pomona	6.5		5.5	
Quartz Hill	5.4		7.2	
Rancho Palos Verdes	4.0		2.6	
Redondo Beach	17.4		8.1	
Rosemead	8.4		5.3	
Rowland Heights	8.9		3.0	
San Dimas	9.4		7.4	
San Fernando	7.0		9.1	
San Gabriel	18.1		6.2	
San Marino	3.8		0.8	
Santa Clarita	8.7		5.8	
Santa Fe Springs	14.7		15.9	

City/Community	On-premises AOD		Off-premises AOD	
Santa Monica	27.6		7.4	
Sierra Madre	10.8		2.7	
Signal Hill	11.5		8.9	
South El Monte	7.8		11.8	
South Gate	4.1		6.4	
South Pasadena	8.9		4.2	
South San Jose Hills	0.5		1.4	
South Whittier	2.4		6.2	
Stevenson Ranch	8.9		4.4	
Sun Village	0.9		5.3	
Temple City	5.3		6.1	
Torrance	13.1		7.0	
Valinda	1.3		3.9	
View Park-Windsor Hills	2.9		4.8	
Walnut	3.6		1.7	
Walnut Park	3.7		4.4	
West Carson	3.7		8.8	
West Covina	6.6		4.6	
West Hollywood	51.1		10.0	
West Puente Valley	0.0		1.7	
West Rancho Dominguez	2.3		5.1	
West Whittier-Los Nietos	3.5		5.4	
Westmont	0.0		6.5	
Whittier	9.7		6.6	
Willowbrook	0.5		4.6	

Low (0-33%) **Medium (34-66%)** **High (67-100%)**

*** Cities/communities with a population of less than 10,000 are excluded.**

Table 1B. On-Premises and Off-Premises Alcohol Outlet Density (per 10,000 population) by Service Planning Area (SPA), Los Angeles County, 2013

SPA	On-premises AOD		Off-premises AOD	
Los Angeles County	**8.9**	-	**6.2**	-
Antelope Valley (SPA 1)	5.3		4.5	
San Fernando (SPA 2)	7.8		5.8	
San Gabriel (SPA 3)	8.3		5.5	
Metro (SPA 4)	15.7		7.2	
West (SPA 5)	18.3		6.2	
South (SPA 6)	2.0		5.4	
East (SPA 7)	6.4		7.2	
South Bay (SPA 8)	10.4		6.9	

Table 1C. On-Premises and Off-Premises Alcohol Outlet Density (per 10,000 population) by Supervisorial District (SD), Los Angeles County, 2013

SD	On-premises AOD		Off-premises AOD	
Los Angeles County	**8.9**	-	**6.2**	-
District 1	7.6		7.0	
District 2	5.6		6.1	
District 3	12.5		5.9	
District 4	10.5		6.5	
District 5	8.8		5.5	

Low (0-33%) **Medium (34-66%)** **High (67-100%)**

Table 2A. Alcohol-related Consequences (rates per 10,000 population) by City and Community, Los Angeles County, 2013*

City/Community	Violent Crimes		Vehicle Crashes		ED Visits		Hospitalizations		Deaths**	
Los Angeles County	**40.3**	-	**4.4**	-	**58.1**	-	**45.1**	-	**1.0**	-
Agoura Hills	9.2		2.4		41.9		33.5		0.4	
Alhambra	19.2		3.7		36.9		30.3		0.7	
Altadena	13.9		3.8		51.7		55.5		0.8	
Arcadia	13.5		2.4		26.2		30.3		0.4	
Artesia	37.6		4.8		31.6		37.0		0.0	
Azusa	51.0		3.3		44.6		40.0		0.8	
Baldwin Park	28.7		1.6		43.2		39.7		0.5	
Bassett-Avocado Heights	20.7		5.2		39.5		34.7		0.8	
Bell	57.8		6.4		41.3		35.7		0.5	
Bell Gardens	28.1		1.9		41.3		35.8		0.5	
Bellflower	35.9		2.6		51.1		40.7		0.6	
Beverly Hills	22.2		0.3		60.4		32.6		0.6	
Burbank	16.2		3.5		54.2		40.8		0.3	
Calabasas	8.4		2.1		34.4		23.8		0.4	
Carson	43.2		3.2		45.5		34.5		0.3	
Castaic	125.0		1.5		50.4		61.3		1.5	
Cerritos	16.5		4.0		14.9		39.2		0.2	
Claremont	10.3		3.9		44.7		29.6		1.1	
Commerce	63.8		13.8		55.9		53.7		0.7	
Compton	126.7		3.0		66.4		53.2		1.8	
Covina	28.4		0.6		43.8		53.9		0.7	
Cudahy	46.0		1.2		41.2		35.7		0.5	
Culver City	40.9		4.1		72.0		53.7		0.3	
Del Aire	19.9		3.0		26.7		15.5		0.6	
Diamond Bar	11.0		3.7		18.2		17.8		0.2	
Downey	28.8		6.7		39.4		29.5		0.6	
Duarte	18.9		0.5		52.5		50.6		0.4	
East Los Angeles	47.1		5.7		59.6		48.1		0.8	
East Rancho Dominguez	67.4		3.2		57.2		50.6		1.2	
East San Gabriel	11.0		0.6		29.7		31.0		0.5	
El Monte	29.6		3.5		45.1		44.7		0.9	
El Segundo	21.9		1.8		36.7		35.5		0.0	
Florence-Graham	75.8		6.0		78.8		66.3		1.3	
Gardena	40.9		5.8		70.6		40.8		1.1	
Glendale	9.3		2.3		40.9		37.8		0.8	
Glendora	12.8		2.2		35.4		53.4		0.8	

Low (0-33%) Medium (34-66%) High (67-100%)

*Cities/communities with a population of less than 10,000 are excluded.

** Death data reflects location where a death occurred, not place of residence.

Table 2A. Alcohol-related Consequences (rates per 10,000 population) by City and Community, Los Angeles County, 2013* (*continued*)

City/Community	Violent Crimes		Vehicle Crashes		ED Visits		Hospitalizations		Deaths**	
Hacienda Heights	13.8		4.9		23.4		22.5		0.5	
Hawaiian Gardens	38.8		0.7		43.4		44.1		0.7	
Hawthorne	67.5		5.4		72.1		38.5		1.6	
Hermosa Beach	13.7		3.5		59.5		27.7		1.5	
Huntington Park	60.9		2.7		60.3		35.0		0.3	
Inglewood	66.1		1.2		104.1		61.1		1.0	
La Canada Flintridge	5.8		2.4		28.5		28.6		1.0	
La Crescenta-Montrose	8.1		2.0		29.1		38.8		0.6	
La Mirada	14.6		2.4		34.0		31.1		1.2	
La Puente	35.4		4.0		45.2		37.7		0.3	
La Verne	11.4		3.4		34.4		33.5		0.9	
Lake Los Angeles	17.9		2.3		57.6		43.0		0.7	
Lakewood	27.7		1.7		41.4		35.2		1.4	
Lancaster	52.2		4.4		62.7		41.0		1.4	
Lawndale	48.8		2.4		65.0		34.3		0.6	
Lennox	46.0		3.4		55.9		37.3		1.4	
Lomita	32.0		0.0		63.8		49.8		2.3	
Long Beach	49.9		4.6		67.9		58.1		1.4	
City of Los Angeles†	**42.5**	-	**5.1**	-	**50.1**	-	**68.0**	-	**1.2**	-
Council District 1	49.9		5.9		52.4		67.6		1.4	
Council District 2	25.3		5.2		49.8		65.3		1.5	
Council District 3	23.8		5.4		43.0		61.4		0.9	
Council District 4	23.1		5.3		43.6		76.9		1.0	
Council District 5	16.5		4.5		33.5		66.4		1.4	
Council District 6	35.0		5.5		49.8		66.1		1.8	
Council District 7	25.5		4.7		50.0		59.4		1.2	
Council District 8	102.7		5.6		64.1		77.9		1.5	
Council District 9	85.0		5.4		53.8		69.3		0.8	
Council District 10	62.2		5.0		50.0		66.2		1.0	
Council District 11	25.1		3.8		32.5		45.8		0.8	
Council District 12	14.0		5.7		41.5		54.2		1.3	
Council District 13	53.1		5.4		50.6		72.3		1.0	
Council District 14	80.7		6.3		87.6		106.2		1.5	
Council District 15	55.0		4.0		49.9		66.7		1.4	

Low (0-33%) **Medium (34-66%)** **High (67-100%)**

***Cities/communities with a population of less than 10,000 are excluded.**

**** Death data reflects location where a death occurred, not place of residence.**

† For the City of Los Angeles, most alcohol-related consequences measures ranked high (violent crimes, vehicle crashes, deaths, and hospitalizations were at 75th, 79th, 83rd, and 97th percentile, respectively) and ED visits ranked medium (59th percentile).

Table 2A. Alcohol-related Consequences (rates per 10,000 population) by City and Community, Los Angeles County, 2013* (*continued*)

City/Community	Violent Crimes		Vehicle Crashes		ED Visits		Hospitalizations		Deaths**	
Lynwood	61.2		2.5		80.1		58.5		1.1	
Malibu	21.8		10.9		74.6		44.1		1.7	
Manhattan Beach	18.0		3.4		25.7		22.0		0.6	
Maywood	40.4		0.7		38.4		39.1		1.1	
Monrovia	15.3		4.0		63.3		66.2		0.5	
Montebello	28.8		3.9		68.2		45.2		0.9	
Monterey Park	16.8		3.6		45.3		24.9		0.3	
Norwalk	38.2		3.2		46.1		45.1		0.6	
Palmdale	48.9		3.5		48.1		27.9		0.9	
Palos Verdes Estates	4.4		4.4		30.9		31.2		0.4	
Paramount	40.4		3.6		37.1		29.9		0.6	
Pasadena	30.8		3.9		61.0		62.2		1.0	
Pico Rivera	32.4		3.1		64.8		59.9		0.8	
Pomona	53.3		4.5		74.9		42.0		0.7	
Quartz Hill	28.7		2.7		60.8		44.0		1.6	
Rancho Palos Verdes	7.1		0.5		22.9		23.6		0.7	
Redondo Beach	23.6		5.5		59.5		40.9		1.0	
Rosemead	27.2		1.3		30.1		31.5		0.9	
Rowland Heights	14.0		2.6		20.7		22.2		0.4	
San Dimas	19.2		3.5		46.5		46.3		0.6	
San Fernando	35.0		2.1		65.7		52.8		0.5	
San Gabriel	25.5		4.0		28.6		23.4		0.3	
San Marino	15.0		4.5		12.4		22.1		0.0	
Santa Clarita	13.4		1.8		35.6		36.5		0.8	
Santa Fe Springs	0.0		22.3		57.6		51.1		1.2	
Santa Monica	35.3		6.0		105.5		54.4		0.7	
Sierra Madre	11.7		0.9		48.7		59.4		0.9	
Signal Hill	28.3		9.7		41.5		52.8		1.7	
South El Monte	43.1		2.9		43.0		39.8		1.1	
South Gate	51.8		5.1		44.8		35.8		0.8	
South Pasadena	11.2		1.9		31.9		40.8		0.0	
South San Jose Hills	17.8		0.5		45.9		38.4		0.3	
South Whittier	17.5		2.6		55.9		35.9		0.5	
Stevenson Ranch	16.1		5.0		31.2		31.8		1.2	
Sun Village	21.4		4.5		-		-		-	
Temple City	13.3		0.0		28.4		33.5		0.0	
Torrance	12.7		3.3		39.4		34.7		1.1	
Valinda	18.1		2.2		41.6		34.4		0.2	
View Park-Windsor Hills	30.5		8.6		75.1		73.3		0.8	

Low (0-33%) Medium (34-66%) High (67-100%)

*Cities/communities with a population of less than 10,000 are excluded.
** Death data reflects location where a death occurred, not place of residence.

Table 2A. Alcohol-related Consequences (rates per 10,000 population) by City and Community, Los Angeles County, 2013* (*continued*)

City/Community	Violent Crimes		Vehicle Crashes		ED Visits		Hospitalizations		Deaths**	
Walnut	12.3		2.0		17.0		21.6		0.2	
Walnut Park	28.7		7.5		60.8		35.3		0.3	
West Carson	27.2		6.9		46.6		34.8		1.1	
West Covina	21.4		4.3		33.7		36.6		0.5	
West Hollywood	61.7		5.7		80.7		45.9		1.0	
West Puente Valley	13.2		1.7		12.5		10.6		0.1	
West Rancho Dominguez	23.5		9.2		18.2		14.9		0.6	
West Whittier-Los Nietos	25.3		5.4		48.2		43.5		0.3	
Westmont	159.5		5.6		111.1		89.2		2.3	
Whittier	25.8		4.0		62.0		48.7		0.7	
Willowbrook	154.1		10.1		134.1		115.6		2.7	

Table 2B. Alcohol-related Consequences (rates per 10,000 population) by Service Planning Area (SPA), Los Angeles County, 2013

SPA	Violent Crimes		Vehicle Crashes		ED Visits		Hospitalizations		Deaths**	
Antelope Valley (SPA 1)	39.5		5.0		53.4		34.4		1.2	
San Fernando (SPA 2)	21.2		4.8		55.3		43.7		0.9	
San Gabriel (SPA 3)	24.4		3.3		42.6		39.2		0.6	
Metro (SPA 4)	54.6		5.6		80.8		56.2		1.4	
West (SPA 5)	26.4		4.1		59.2		36.8		0.9	
South (SPA 6)	87.2		4.9		72.0		57.9		1.4	
East (SPA 7)	34.1		4.4		49.1		40.9		0.7	
South Bay (SPA 8)	42.5		3.9		62.5		46.5		1.1	

Table 2C. Alcohol-related Consequences (rates per 10,000 population) by Supervisorial District (SD), Los Angeles County, 2013

SD	Violent Crimes		Vehicle Crashes		ED Visits		Hospitalizations		Deaths**	
District 1	42.4		4.5		57.8		46.1		0.9	
District 2	70.5		4.6		70.1		52.1		1.3	
District 3	28.3		5.4		68.0		44.6		1.0	
District 4	29.8		4.1		49.3		41.4		0.9	
District 5	25.0		3.6		45.2		40.9		0.8	

Low (0-33%) Medium (34-66%) High (67-100%)

*Cities/communities with a population of less than 10,000 are excluded.
** Death data reflects location where a death occurred, not place of residence.

Discussion

Excessive alcohol consumption continues to be a serious public health concern with substantial implications for disease, violent crimes, traffic collisions, work loss, and social relationships.[2] During 2013 in Los Angeles County, alcohol was involved in an estimated 4,420 motor vehicle crashes, 6,338 motor vehicle injuries, 246 motor vehicle fatalities, 63,424 ED visits, 56,191 hospitalizations,[3] and more than 2,800 alcohol-attributable deaths.[2]

Drinking among youth and adults is strongly influenced by environmental or structural factors, such as alcohol control policies, retailer marketing strategies[19], as well as alcohol access and availability. The findings of this report are consistent with the research literature on the relationship between alcohol availability, measured by alcohol outlet density, and alcohol-related adverse public health consequences. Communities and cities with higher alcohol outlet density were more likely to have higher rates of violent crimes, alcohol-related ED visits, and alcohol-related hospitalizations, even after accounting for economic hardship. High alcohol outlet density can increase alcohol consumption and its consequences by increasing local availability of alcohol, reducing alcohol prices due to retailer competition, and establishing and reinforcing drinking behavior norms.[20]

Alcohol misuse and abuse is highly preventable and treatable. The findings in this report underscore the need to take targeted preventive actions to reduce alcohol outlet density and adverse alcohol-related consequences among adults and youth, especially among those cities/communities that had particularly high (e.g. in the "high" category or above County average presented in Tables 1A, 2A) alcohol outlet densities and rates of alcohol-related social and health consequences.

Limit Alcohol Outlet Density

Limiting alcohol outlet density has been found to be effective in limiting the availability of alcohol and reducing harms in communities. For example, eliminating one bar per zip code was estimated to lead to 290 fewer serious assaults per year in California.[4]

Although the California Alcoholic Beverage Control (ABC) has sole authority over the issuing and renewal of alcohol retail licenses in California, local jurisdictions, law enforcement, and community advocates can play an important role in the ABC decision-making process, including commenting on or protesting an application, and encouraging revocation of an existing ABC license for continued violations.[21,22] Furthermore, local jurisdictions can use land use powers to influence the process by limiting the number of new alcohol outlets allowed by the city or county general plans, or by imposing operating restrictions on new or existing outlets.[4]

> ***New Alcohol Outlets***: Local jurisdictions can require applicants to obtain a Conditional Use Permit (CUP) or implement zoning ordinances prior to new ABC license approval, which place legal conditions on the operation of alcohol outlets, such as restrictions on locations/density, hours of sale, training of staff, types of beverage sold, alcohol ads on public property, and operations for business (e.g. no drinking allowed outside of the premises).[23]

Existing Alcohol Outlets: Local jurisdictions can implement "deemed approved" ordinances that require off-premises outlets to comply with business performance standards (e.g. properly maintained premises that do not adversely affect the surrounding community), require owner/employees to not permit or facilitate unlawful behavior (e.g. alcohol sales to minors, public consumption on property or surrounding sidewalk, or conducting other illegal activities),[24] and recommend replacement of strong alcohol beverages with products of lower alcohol content and healthy alternative drinks. Community advocates can inform or work with ABC in identifying problem outlets or encouraging revocation of a license for continued violations.

In addition to these interventions, policymakers, schools, businesses, health care providers, and other community stakeholders can collaborate and implement a more comprehensive array of the following strategies to reduce the burden of excessive alcohol consumption in our cities and communities:

1. Enforce Restrictions on Alcohol Availability and Accessibility to Minors
2. Enforce Restrictions on Alcohol Marketing to Minors
3. Expand Available Community and Social-Support Programs for Alcohol Consumers and Their Families
4. Provide Educational Services for Minors Regarding the Risks of Substance Use
5. Increase Screening, Brief Intervention, and Referral to Treatment
6. Increase Access to Substance Use Disorder Treatment Services

1. Enforce Restrictions on Alcohol Availability and Accessibility to Minors

Early initiation and use of alcohol by youth increases the risk of alcohol-related problems in adulthood.[25] Restricting the ability of minors to obtain alcohol at home or in the community can change perceived norms regarding the permissibility of underage drinking, and may delay early initiation of alcohol use.[26] Parents and guardians should closely monitor alcoholic beverages in the home and ensure underage drinking does not occur at family events. Cities can implement and enforce social host ordinances that increase consequences for parents, guardians, or adults who knowingly permit underage drinking in private settings, such as parties. Cities can also influence the availability and accessibility of alcohol to minors by enforcing regulations focused on commercial availability (e.g. restricting alcohol sales at community events), social/public accessibility (e.g. implementing teen party ordinances, highly visible enforcement of youth access sales laws), and possession (e.g. banning false identification).[27] Further, enforcing geographic buffer zones (e.g. 600 feet[28]) between alcohol outlets and schools or other youth facilities may also reduce accessibility of alcohol for minors.[29]

2. Enforce Restrictions on Alcohol Marketing to Minors

A substantial body of scientific research establishes a positive link between youth exposure to marketing and early initiation and consumption.[30] Restrictions on marketing ads in public places

(e.g. billboards, sporting events, street-front stores) or enforcing signage restrictions at liquor and convenience stores (e.g. no more than 33% of square footage of window ads, specific area for alcohol product placement) can help reduce youth exposure to alcohol marketing.[31,32,33] In addition, restrictions for alcohol ads on social media may also be important in limiting alcohol exposure among youth.

3. Expand Available Community and Social-Support Programs for Alcohol Consumers and Their Families

Community-wide efforts have been shown to effectively reduce alcohol consumption and its consequences[34] by developing and expanding community programs and social groups to provide emotional support for alcohol drinkers and their families, and decreasing stigmatization or discrimination against affected groups or individuals who are struggling with addiction. Through these awareness and educational programs, communities can also help to change social norms about drinking, raise awareness and recognition of alcohol-related harms, and promote alcohol use disorder treatment programs.

Workplaces can play an important role in reducing alcohol-related harms among employees through prevention and intervention programs, such as implementing policies restricting alcohol use in workplaces, creating health and wellness programs, and providing support for screening and brief interventions.[35] These programs may benefit workers and reduce productivity loss.

4. Provide Educational Services for Minors Regarding the Risks of Substance Use

Educating the public on recognizing substance misuse and abuse, skills in dealing with alcohol issues and concerns, along with educating on the short-term effects and long-term dangers of alcohol, is a key tool to reduce alcohol use and alcohol-related harms. Schools can provide education-based curricula (e.g., Building Skills, Creating Lasting Family Connections) to help youth develop personal and social skills, to help students identify internal stressors (e.g. fears, anxiety) and external pressures (e.g. peer pressure, advertising) to use alcohol, and to give students the skills to resist these pressures while maintaining relationships.[36] School-based educational programs that have parental or community involvement (e.g., Communities Mobilizing for Change on Alcohol) can play an important role in reducing alcohol use among youth.[37,38]

5. Increase Screening, Brief Intervention, and Referral to Treatment

Early screening and intervention is a cost-effective way to help individuals with or at risk of developing alcohol use disorders recognize and avoid problem alcohol use. A substantial body of evidence supports that universal Screening, Brief Intervention, and Referral to Treatment (SBIRT) reduces alcohol consumption and heavy drinking, particularly in the primary care setting. SBIRT for alcohol is recommended by the U.S. Preventive Services Task Force,[39,40] and ranks among the best in return on investment of preventive services. Although SBIRT can easily be incorporated into clinical workflows, it is currently not commonly practiced in primary care.[41] Health care providers who are unable to directly provide alcohol use disorder treatment

should refer patients that screen positive to further assessment and treatment services, and follow-up with patients to ensure that necessary services were received.

6. Increase Access to Substance Use Disorder Treatment Services

Alcohol use disorder treatment can be provided in a variety of health settings including substance use disorder treatment clinics, primary care, or mental health clinics. As such, it is important for health care providers and the community to be aware of where they can receive treatment services for alcohol and other drugs. Importantly, alcohol use disorder treatment is effective and can reduce alcohol-related hospitalizations[42], ED visits, homelessness[43], and motor vehicle accidents[44], and improve productivity and quality of life.[45] Ensuring access to necessary substance use disorder treatment can help to prevent alcohol-related individual and societal impacts.

In LAC, individuals with alcohol problems, including persons eligible for Medi-Cal or without insurance, can call the Community Assessment Services Centers at (888) 742-7900 to find the nearest appropriate treatment centers.

In summary, alcohol outlet densities were significantly associated with a variety of alcohol-related consequences. However, by working together, policymakers, health care providers, schools, and community stakeholders can reduce the burden of these human, economic, and societal repercussions by focusing on strategies to limit alcohol outlet densities, reducing access/availability/marketing to minors, ensuring access to educational services and community/social support programs, and increasing access to necessary substance abuse screening and treatment.

Notes

This is an ongoing report of alcohol density, alcohol-related consequences, and their association in Los Angeles County. Some results from this report may not be comparable to the results from previous reports due to the use of different data sources or measurement methods. This report is subject to limitations due to data availability (e.g. aggregated city level of data based on zip codes, use of de-identified data precludes data verification, potential unknown or unmeasured confounders not controlled for), and thus results should be interpreted with caution.

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http://www.abc.ca.gov/datport/DataExport.html. Records of active licensed retail businesses authorized by the State of California to sell alcoholic beverages for either on- or off-premise retail consumption in Los Angeles County (LAC) were included in this report. Please note the ABC license dataset represented all active ABC licensed businesses in LAC as of May 30th, 2013.

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14. 2013 Violent Crime data for Los Angeles County were retrieved from three different sources - (1) Los Angeles Police Department (LAPD) Data for City of Los Angeles where the LAPD is the law enforcement agency; (2) Los Angeles County Sheriff's Department (LASD) data for unincorporated areas and 42 cities where the LASD is the law enforcement agency; and (3) Data on all other cities with independent police departments (*n* = 45) were obtained from the California Department of Justice in aggregate count format at the city-level. Violent crimes include homicide/murder, sexual assault (rape and attempted rape), all other assaults (including domestic violence), and robbery.

15. 2013 Statewide Integrated Traffic Records System (SWITRS) by University of California Berkeley Transportation and Injury Mapping System were retrieved from http://tims.berkeley.edu/. SWITRS records about persons involved in alcohol-related vehicle crashes for 2013 from Los Angeles County include time and date of accident, whether alcohol was involved, number of injuries and fatalities, and the latitude (Y) and longitude (X) points for each reported vehicle accident.

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