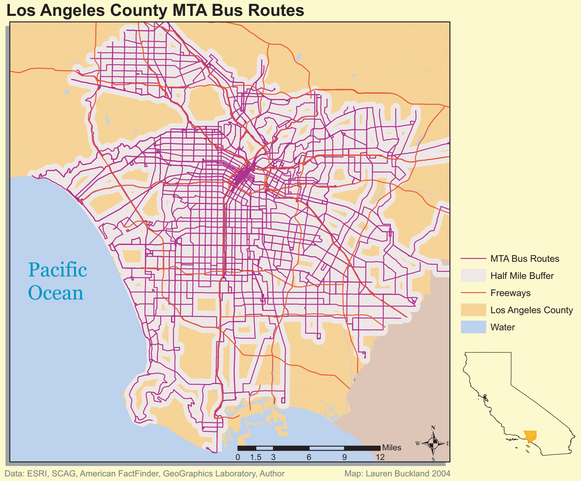
# Identifying Walkable Neighborhoods in Los Angeles

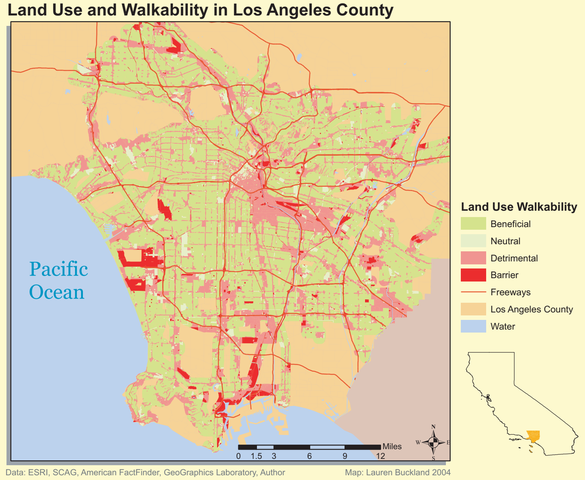
Which areas in Los Angeles City are "walkable" and do the walkable areas coincide with residents who don't own cars or walk or ride the bus to work?

### Los Angeles County MTA Bus Routes



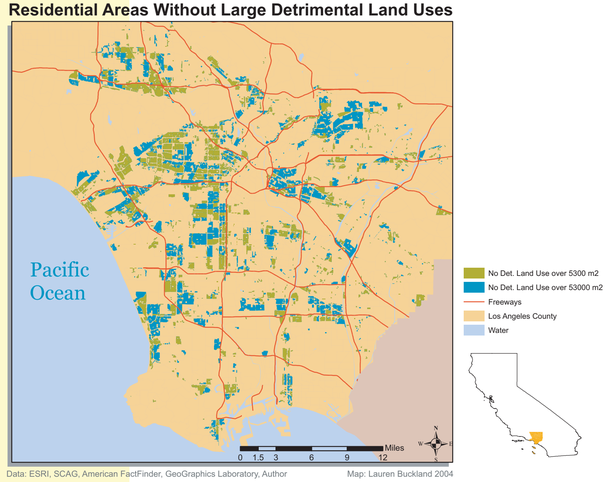

Data: ESRI, SCAG, American FactFinder, GeoGraphics Laboratory, Author  Map: Lauren Buckland 2004

### Land Use and Walkability in Los Angeles County



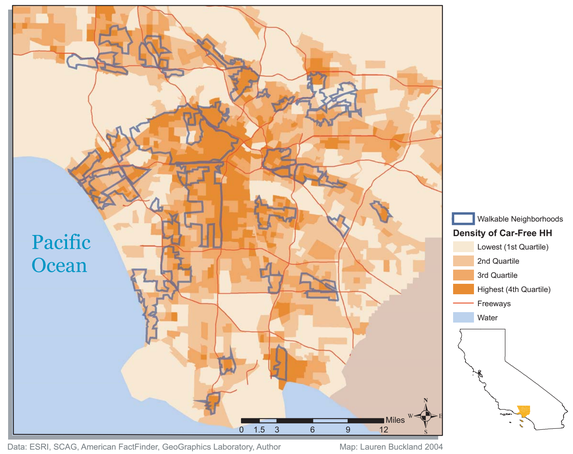

Data: ESRI, SCAG, American FactFinder, GeoGraphics Laboratory, Author  Map: Lauren Buckland 2004

### Residential Areas Without Large Detrimental Land Uses




Data: ESRI, SCAG, American FactFinder, GeoGraphics Laboratory, Author  Map: Lauren Buckland 2004

### Households with No Vehicles and Walkable Neighborhoods




Data: ESRI, SCAG, American FactFinder, GeoGraphics Laboratory, Author  Map: Lauren Buckland 2004

## Introduction

Much of Los Angeles is built for the convenience of drivers, yet there are many older neighborhoods which are still "walkable." These neighborhoods tend to have small shops located along an easily crossed commercial street and many nearby residential areas. This study uses three physical characteristics of Los Angeles to determine potentially walkable areas: transit access, residential density and land use.

## Methodology

To quantify the relatively subjective quality of walkability, this study relies on physical characteristics of a neighborhood that are a necessary, but not necessarily sufficient component of walkable neighborhoods. Namely:

1. Access to transit
2. Concentrations of high density residential
3. Access to local retail
4. Type of land use

The primary data used were a linear shapefile of Metropolitan Transportation Authority bus routes (1999), a polygon shapefile of LA County land uses from Southern California Association of Governments (2000). Using these maps, walkable areas were defined as:

a. within ½ mile of an MTA bus line
b. high density residential within ¼ mile of commercial or retail
c. not adjacent to detrimental uses over ten football fields in area

The order in which data was clipped and buffers were set reflects assumptions about the importance each characteristic has on "walkability".

The study starts with the assumption that walkable areas must be within ½ a mile of an MTA bus line. These areas are shown in Map 1.

The next important aspect for walkable neighborhoods is residents. People make most of their trips either to or from their home. Walking trips are no exception. Therefore, a walkable neighborhood must have residents. Given this requirement, the next step in the process was to take the results from Map 1 and identify high density residential areas within walking distance (¼ mile) of commercial centers. (Map 2)

The third step involved categorizing land uses and removing areas that were adjacent to land uses detrimental to walking. Detrimental land uses were determined by categorizing SCAG land use data into four categories: beneficial to walking, neutral to walking, detrimental to walking, and a barrier to walking. Map 3 shows that there is a large concentration of detrimental land uses in downtown Los Angeles and just to the southeast, corresponding to industrial areas.

The map of walkable areas was then refined by removing all areas adjacent to land uses detrimental to walking (vacant lots, parking lots, movie studios, etc…) Using two alternate thresholds, detrimental areas 5300 square meters in area and detrimental areas 53,000 square meters in area. (Map 3)

Using a street file provided by ESRI, the Thomas Guide, and the map of barrier land uses, walkable neighborhoods were identified. (Map 4) Several areas identified in the analysis coincide with neighborhoods considered walkable: Atwater Village, Boyle Heights, and West Hollywood.

Census 2000 data was used to map the density of zero-car households and compare these locations to the walkable neighborhoods. (Map 5) Most "walkable" neighborhoods have higher than average zero-car households, but not all neighborhoods with higher than average zero-car households are located within walkable neighborhoods. The area south of the 10 freeway and east of the 710 freeway has a high rate of zero-vehicle households, yet is not considered a walkable neighborhood.

## Limitations

This project could be strengthened in several ways. First, the MTA service area should be measured from bus stops rather than bus lines. Second, information about traffic volumes and street and sidewalk design could be incorporated. Third, additional transit agency routes could be included.

## Conclusions

The project provides a starting point for a more thorough analysis and identification of walkable neighborhoods. If the walkability of a neighborhood can be defined at a gross level using GIS, it becomes possible to compare walkability to the geographic distribution of automobile ownership, transit use, or poverty, and to then prioritize pedestrian improvement projects to ensure environmental justice.

## Walkable Neighborhoods in Los Angeles County



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