



**MOBILITYAMOCI:  
DALLA VISIONE ALLE PROPOSTE**  
CICLO DI INCONTRI  
SULLA MOBILITA' SCOLASTICA  
SOSTENIBILE E SICURA  
DURANTE E POST COVID 19

La mobilità scolastica ha sempre svolto un ruolo importante nel quadro della mobilità urbana per il suo impatto ambientale, a partire dall'inquinamento dell'aria, ma soprattutto per il valore educativo che svolge, ed oggi, anche a seguito dell'emergenza sanitaria, ha assunto una particolare centralità in un'urgente strategia di più ampio ridisegno e riorganizzazione delle nostre città a misura delle persone. Questo ciclo di incontri si integra alla recente pubblicazione delle "Proposte di mobilità scolastica sostenibile post COVID19" elaborate dalla Rete dei Centri di Educazione alla Sostenibilità coordinata dal CTR Educazione alla Sostenibilità di ARPAE. Gli incontri si rivolgono quindi agli Amministratori e Tecnici dei Comuni dell'Emilia-Romagna e ai referenti dei Centri di Educazione alla Sostenibilità ma, per alcuni appuntamenti specifici, potranno essere aperti anche alla partecipazione di operatori della scuola, associazioni e altri soggetti interessati.

**2\* incontro | 4 marzo 2021 ore 14.30 - 16**  
**DALLA FLÂNERIE ALLA CAMMINABILITÀ URBANA**



prof. GIAMPAOLO  
NUVOLATI  
Università Bicocca  
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prof. ARNALDO  
"BIBO" CECCHINI  
ex Direttore  
Dip. Architettura e Design  
Università di Sassari



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TALU  
Università di Sassari

**PROGRAMMA COMPLETO**

<http://bit.ly/mobilityamoci-programma>

**ISCRIZIONI:**

<http://bit.ly/incontrimobilityamoci>

Organizzazione

**ANTARTIDE**  
Centro Studi e Comunicazione Architetto

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**arpae**  
emilia-romagna

**res**  
rete di educazione  
alla sostenibilità  
dell'Emilia-Romagna



## La strada e i suoi abitanti

Una strada cittadina attrezzata per gestire gli estranei, e per fare della presenza degli estranei una risorsa di sicurezza, come fanno sempre le strade dei quartieri cittadini di successo, deve avere tre qualità principali: primo, ci deve essere una chiara demarcazione tra ciò che è spazio pubblico e ciò che è spazio privato. Gli spazi pubblici e privati non possono confondersi l'uno con l'altro, come avviene tipicamente nei contesti suburbani o nelle case popolari. Secondo, ci devono essere occhi sulla strada, occhi appartenenti a coloro che potremmo chiamare i proprietari naturali della strada. Gli edifici su una strada attrezzata per gestire gli estranei e per assicurare la sicurezza sia dei residenti che degli estranei, devono essere orientati verso la strada. In terzo luogo, il marciapiede deve avere utenti su di esso abbastanza continuamente, sia per aggiungere al numero di occhi effettivi sulla strada che per indurre le persone negli edifici lungo la strada a guardare i marciapiedi in numero sufficiente. A nessuno piace sedersi su un gradino o guardare fuori dalla finestra una strada vuota. Quasi nessuno fa una cosa del genere. Un gran numero di persone si intrattiene, di tanto in tanto, guardando l'attività della strada.



*I ragazzi hanno bisogno anche di una generica «base» all'aperto, situata nei pressi di casa, alla quale far capo per i loro giochi e ozi e che li aiuti a formarsi una nozione di mondo. A questa generica funzione di gioco provvedono, a volte magnificamente, gli animati marciapiedi cittadini.*



# La Guía para Caminar en el vecindario de

## Neighborhood Walking Guide

Walking is an easy way to get exercise every day!

Instructions: Use this guide to plan a walk on most days of the week. Most walkers can get from to any of the places on this map in less than 30 minutes. Try to walk to places that you would normally drive or take the bus to. Sometimes it is faster to walk — and it is more fun!

Caminar es una manera fácil de hacer ejercicio todos los días!

Instrucciones: Usa esta guía para planificar una caminata la mayoría de los días de la semana. Una persona que camina habitualmente, puede ir de a cualquiera de los lugares en el mapa en menos de 30 minutos. Trata de caminar a lugares a los que te manejarías o tomarías el autobús para llegar. A veces es más rápido caminar y además es divertido!

### KEY / CLAVE

- T Stations Estaciones de tren
- Parks/Fields Campos/terceros verdes
- Walking/biking trail Vía para caminar/caminar bicicleta
- Destinations Destinos



### Regular exercise...

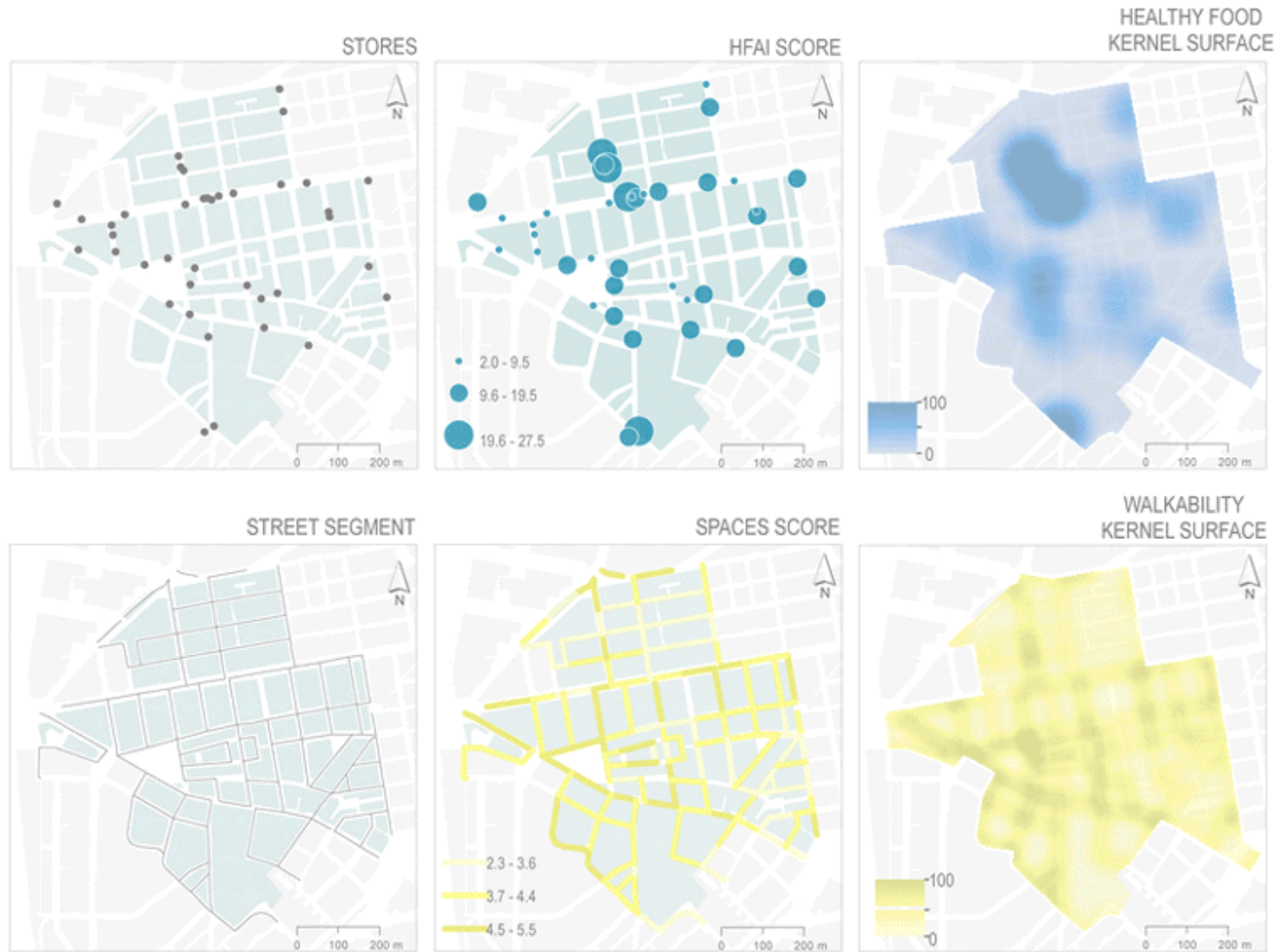
...lowers your risks for heart disease, diabetes, stroke, and cancer. And remember - to stay healthy, you should exercise for at least 30 minutes on at least 5 days of the week. Start slow and aim for this goal. Eventually you should try to exercise hard enough to make you sweat. If you have a pedometer, challenge yourself! Use it to count your steps and do more walking.

### Hacer ejercicio...

...disminuye el riesgo de contraer enfermedades cardíacas, diabetes, derrames cerebrales, y cáncer. Recuerda, que para mantenerte en buen estado de salud debes hacer un mínimo de 30 minutos de ejercicio por día, 5 días a la semana. Comienza con moderación y aumenta gradualmente para alcanzar esta meta. Con el tiempo intenta llegar a una intensidad que te haga sudar. Si tienes un pedómetro, úsalo para aumentar tus pasos y alargar tus caminatas!



WALKING MAP FROM: MCNEILL, L. H. (2012). [Gis Walking Maps to Promote Physical Activity in Low-income Public Housing Communities: A Qualitative Examination.](#)



**DERIVING HEALTHY FOOD AND WALKABILITY SURFACE MAPS. FROM: ALBE ET ALS. (2016)**

**[“Characterizing Physical Activity and Food Urban Environments: A GIS-Based Multicomponent Proposal.”](#)**

## Camminabilità!

“If the twentieth-century city was about inviting people to drive everywhere for everything, then the city of the twenty-first is about inviting them to walk.” (...)

**“Get walkability right and so much of the rest will follow.” (...)**

Economic, public health, and environmental gains are correlated to neighborhoods designed to support walking—the kinds of places we’ve only recently resumed building after taking a 60-year hiatus. (...), the supply of walkable neighborhoods in America is low, and the demand is becoming increasingly high; (...)

**Walkability is really just shorthand for everything that creates a neighborhood’s desirable character: the quality of architecture, density, humane streets featuring pedestrian-oriented design, mixture of uses, and proximity to parks and usable public space.”**

Speck 2013

## Cos'è la camminabilità ?

**La camminabilità si basa su accessibilità e qualità del percorso.**

The walkable neighborhood is a physical phenomenon—a bounded place in a given spatial location with selected material properties. (...) **A walkable neighborhood perhaps involving neighborhood ability to generate community relevant attitudes and behaviour.** (Talen et al, 2013)

[...]“walkable neighborhood” is a pre-19<sup>th</sup> century idea (Kashef 2011)

[...]it is a safe, well-serviced neighborhood, imbued with qualities that make walking a positive experience. A “positive” walking experience means that streets, sidewalks and paths (pedestrian routes) are comfortable and interesting (Speck 2012).

[...]walkability conveys how conducive the built environment is to walking (Lwin et al, 2011)

## **A pivotal project: the walkability**

One strategy for every part of the city

**Cos' è un quartiere camminabile (Talen et al, 2013):**

- it has an urban form that **encourages pedestrian activity and minimizes environmental degradation**;
- it is associated with **social, economic and land use diversity** as opposed to homogeneity;
- it connects **uses and functions**;
- it has a quality public realm that provides **opportunities for interaction and exchange**;
- it offers **equitable access** to goods, services, and facilities and it protects environmental and human health

**Un quartiere camminabile può essere associato ad alcuni parametri:**

- there are street trees and wide sidewalks,
- blocks are faced with parking lots, blank walls, or glass-fronted shopfronts,
- there is sufficient street connectivity and low traffic volume
- In areas of high density and high ground coverage, neighborhoods relieved by frequent streets, created by small block size, are believed to be more walkable



## Come si misura la camminabilità?

Walk score

Walk your place

Walkonomics

Pers

Trulia

Ratemystreet

Walkshed

State of Place Index

Charm Index...

"The Walk Score algorithm awards points based on the distance to the closest amenity in each category. If the closest amenity in a category is within .25 miles (or .4 km), we assign the maximum number of points. The number of points declines as the distance approaches 1 mile (or 1.6 km)—no points are awarded for amenities farther than 1 mile. Each category is weighted equally and the points are summed and normalized to yield a score from 0–100. The number of nearby amenities is the leading predictor of whether people walk. Relevant amenities include businesses, parks, theaters, schools and other common destinations.

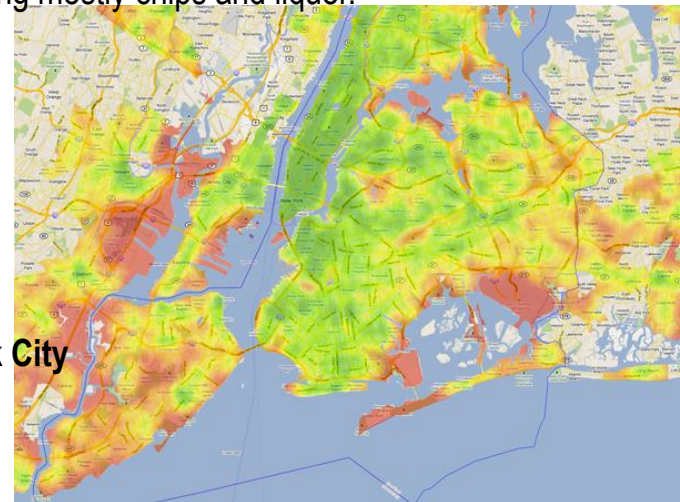
Walk Score has received some criticism in the media, particularly from urban planning professionals, for the limits of its accuracy and relevancy in methodology and results.

Specifically, Walk Score doesn't calculate whether there are sidewalks, how many lanes of traffic one must cross, how much crime occurs in the area, or what the weather is typically like. It also doesn't differentiate between types of amenities, for example a supermarket grocery store versus a small food mart selling mostly chips and liquor.

**Related Story:** [What's Your Walk Score?](#)

**No. 1 Most Walkable City in the U.S.: New York City**

**Walk Score: 85.3**



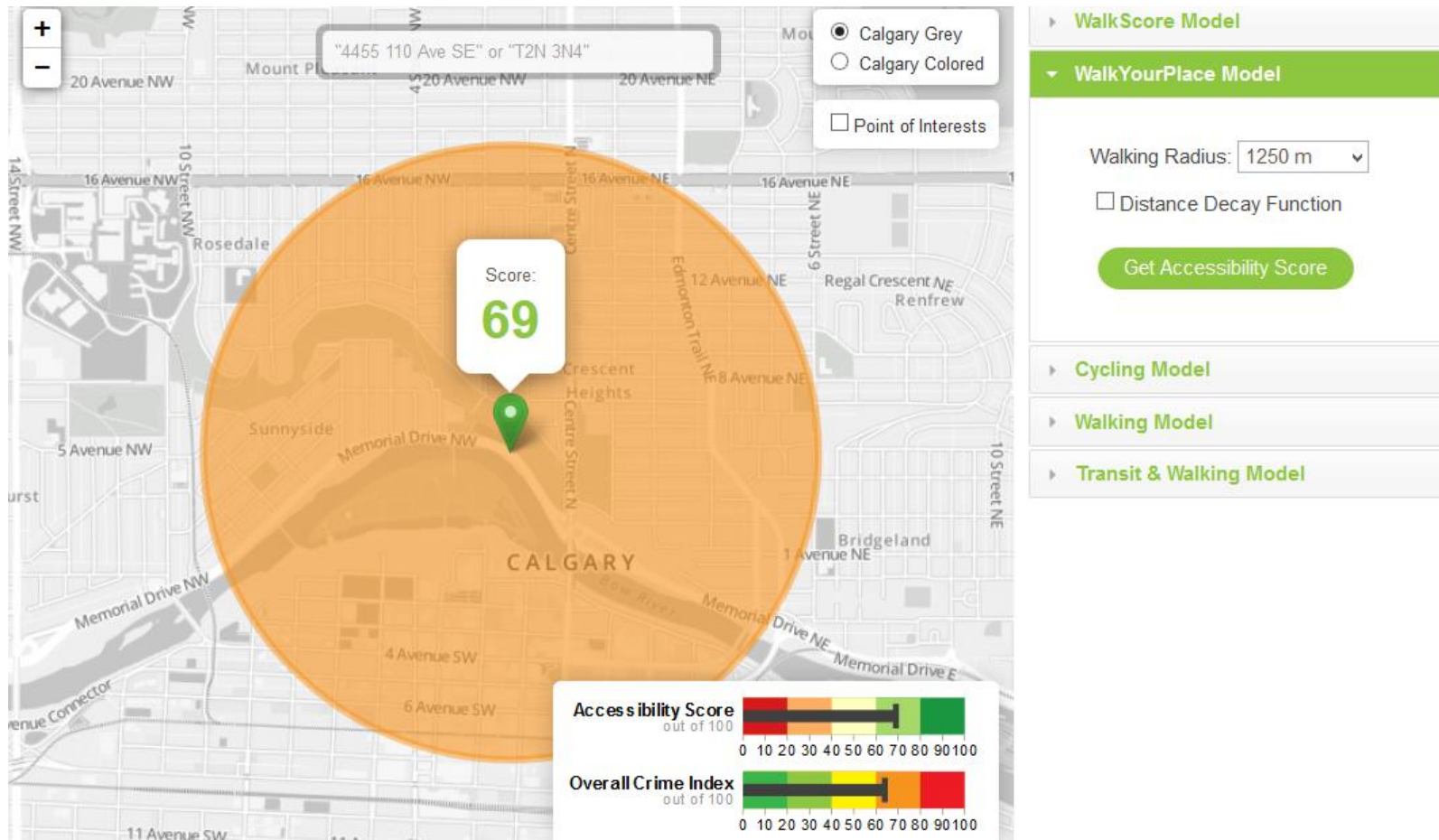
[Walk Score](#) measures the walkability of locations throughout the world. The more amenities (restaurants, movie theaters, schools) you have around you, and the closer they are, the higher your grade. Walk Score ranked the walkability of the 50 largest cities in the United States. Here we've gathered the five best- and worst-ranked cities on that list, along with the most walkable neighborhoods in those cities. What you see here is a Walk Score-produced heat map of the top-ranking city, New York. The most walkable areas are highlighted in green and the least walkable areas are highlighted in red.

<https://www.walkscore.com/>

# A pivotal project: the walkability

One strategy for every part of the city

WalkYour Place – <http://planyourplace.ca/elgg/pypWalkYourPlace>



# A pivotal project: the walkability

One strategy for every part of the city

## Walkonomics

Street or postcode:  5 miles

367 results - showing 1 - 40

- 1 2 3 4 5 6 7 8 9 10

### Park Row, New York



Walk  
Written by WalkoBot Novem

Distance 0.09 Km  
Street Park Row  
Town/City New York  
Country United States

### Park Row, New York



Walk  
Written by WalkoBot Novem

Distance 0.11 Km  
Street Park Row

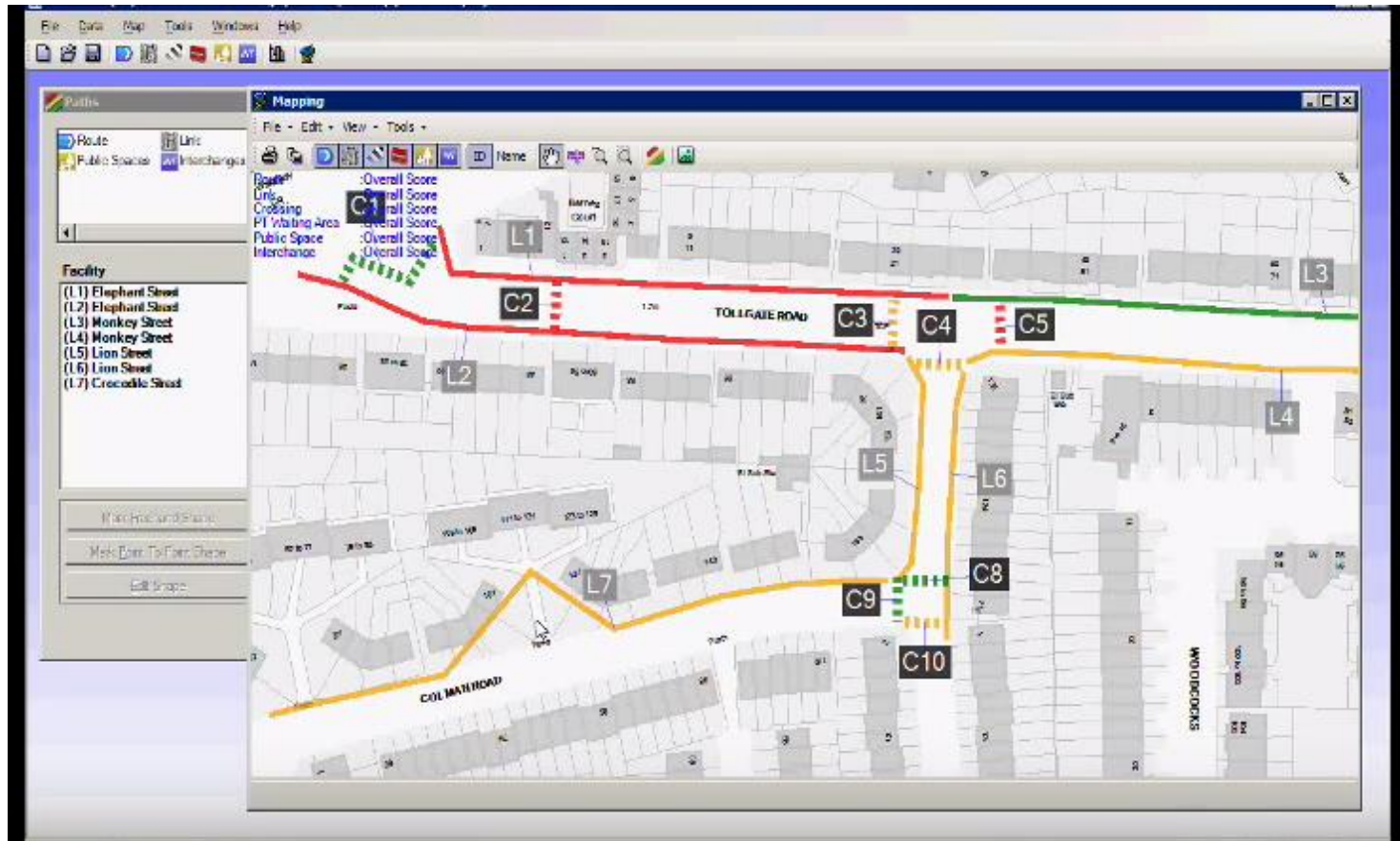


[www.walkonomics.com](http://www.walkonomics.com)



# A pivotal project: the walkability

One strategy for every part of the city



## A pivotal project: the walkability

One strategy for every part of the city

Cities must urge urban planners and architects to reinforce pedestrianism as an integrated city policy to develop lively, safe, sustainable and healthy cities.

It is equally urgent to strengthen the social function of city space as a meeting place that contributes toward the aims of social sustainability and an open and democratic society.



<http://www.trulia.com/local-info/>

## A pivotal project: the walkability

One strategy for every part of the city

### Rate my Street

# RATE MY STREET



how people friendly is **your** street?

Find a street:

Go

**Rue Delacroix, Les Ulis**

OVERALL RATING: ★★☆☆☆

Crossing the street: ★☆☆☆☆

Pavement width: ★☆☆☆☆

Trip hazards: ★☆☆☆☆

Finding your way: ★★☆☆☆

Safety from crime: ★★★★★

Safety from traffic: ★☆☆☆☆

Clean/attractive: ★★★★★

Disabled access: ★☆☆☆☆

[More details](#) [Rate this street](#)

It's

The screenshot displays the Walkshed.org interface. On the left, a map shows a heatmap overlay on a street map of Cheltenham, NJ. The heatmap uses a color scale from green (low walkability) to red (high walkability). Labels on the map include 'Twp', 'Elkins Park', 'Cheltenham', 'Delaware River', and 'RT-90'. A 'Map Layers' dropdown menu is visible at the top center of the map area.

On the right side, there is a control panel with two tabs: 'Adjust Priorities' (selected) and 'Explore Amenities'. Below the tabs is a 'CALCULATE WALKSHED' button. The 'Adjust Priorities' section contains a list of amenities, each with a slider and a numerical value:

- Grocery Stores: +3
- Farmers' Markets: 0
- Restaurants: +3
- Coffee Shops: 0
- Bars: 0
- Rail Stops: +3
- Bus Stops: 0
- PhillyCarShare Pods: 0

At the bottom center, there is a 'Walkability' legend with a color scale from 0 (green) to 100 (red).



# A pivotal project: the walkability

## State of Place Index

Built Environment Features	Description/Example Items
Density	Measure of enclosure based on building concentrations and height
Proximity	Presence of non-residential land uses
Connectivity	Measure of disconnectivity; Potential Barriers (e.g., six-lane roads)
Form	Measure of streetscape discontinuity (e.g. drive-thrus)
Parks and Public Space	Parks, Playgrounds, Plazas, Playing Fields
Pedestrian Infrastructure/Amenities	Curbcuts, Sidewalks, Street Furniture, Bike Racks
Personal Safety	Graffiti, Litter, Windows with Bars
Traffic Measures	Traffic Signals, Speed Limit, Traffic Calming
Aesthetics (Pleasurability & Maintenance)	Attractiveness, Open Views, Outdoor Dining, Maintenance
Recreational Facilities	Gym/Fitness Facilities, Other Recreational Uses



## A pivotal project: the walkability

One strategy for every part of the city

### What is the Charm Index?

We created the Charm Index with the belief that local businesses are what define a neighborhood's charm. They offer the flavor of the area. We wanted to show this to everyone, so that whether you are moving from a different state, different city, or even just across town and finally out of your parents' home, you can find the neighborhood that would provide access to the inspiration of

local culture. It's a bias like any other, but we like to think that local charm is more likely dictated by local boutiques and restaurants and not by redeveloped fast-food and retailer franchises. We also believe the presence of some business like Pay Day Loan stores, Strip Clubs, and pawn shops have a hard time competing in charm with neighborhood cafes and bookstores.

That's our opinion, call us crazy.

### What creates a charming neighborhood?

We pulled in a tremendous amount of data about local business and crime and created a map that accurately answers the underlying elements that define charming neighborhoods.

How local are the businesses?

How well are they liked by residents?

What kind of local institutions and amenities are nearby? Universities? Parks? Restaurants? Museums?

Is it inexpensive or expensive to live within the neighborhood?

What is the crime rate of the area?

What kind of emphasis does the neighborhood put on health and environmentally friendly modes of transportation?

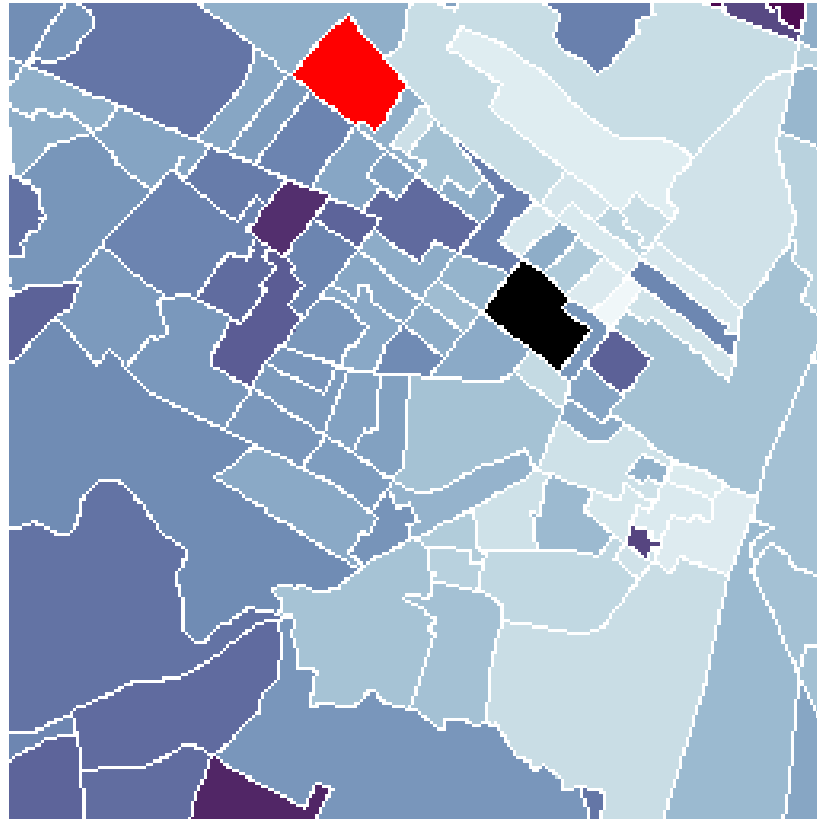
The charm index is the first of its kind and we welcome your feedback and input so we can make this even more helpful to you as you decide where you should live.



<http://www.rentlingo.com/where-should-i-live>

## **A pivotal project: the walkability**

One strategy for every part of the city



**Misurare, ma anche ... modificare, segnalare, osservare, ...**

Google Sidewalk Labs

Street seen

Hello lamp post

Walk your city

Projects for Public Spaces

Living streets

**<http://www.city-data.com/>**



## Google Sidewalk Lab

Google has created Sidewalk Labs to solve urban challenges with technology

Sidewalk Labs is an urban innovation company devoted to improving city life for residents, businesses and city governments, in particular by developing and incubating civic technologies

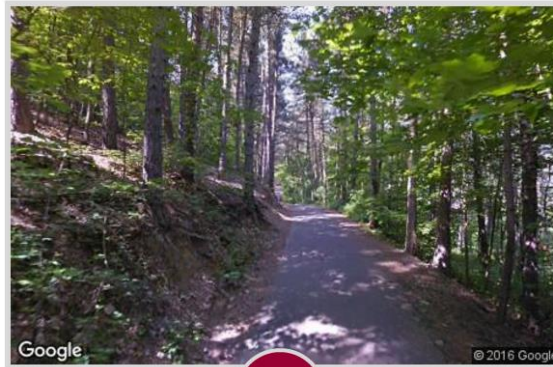


<http://www.sidewalkinc.com/>

Which street would you prefer to walk along? // Kterou ulicí byste raději šli?



1



2

1 / 10

Can't decide, let's skip this one.

Responses are PUBLIC



HELLO LAMP POST

CONVERSATION ABOUT NEWS HOW TO PLAY ACTIVITY

Tweet

Recommend 1K



<http://streetseen.osu.edu/home>

## IT'S NOT TOO FAR.

Plan, design and install quick, light and affordable street signs for people.

Take the first step!

[Follow @WalkYourCity](#) [Like](#) 2.2K



Atlantic Beach, NC

[walkyourcity.org](http://walkyourcity.org)



## Our approach

Walkscore, walkshed, audit methods and others

conventional approaches analyse

distribution

population density

distances

... of opportunities.

But distance is not all.  
“The journey is the reward.”

# A pivotal project: the walkability

One strategy for every part of the city



## Walkability Explorer

An Evaluation and Design Support System for Urban Walkability

### 1. Capability framework:

- **Effective freedom** of individuals to choose between different things to do (or to be)
- Two preconditions: **Ability** and **Opportunity**
- The physical urban space influences capabilities primarily through the channel of the **opportunity component** of capabilities

### 2. Multicriteria :

- the **availability** of attractive destinations,
- their **effective distances** along a detailed representation of the street network
- the **qualities relevant to walkability** of the potential paths leading to these destinations
- These elements are put together into an indicator – "**walkability score**" – we assign to each point in space.

Evaluates not how a place is in itself walkable,  
*but* what is the walkability it is **endowed with**.

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An Evaluation and Design Support System for Urban Walkability



How it works?

Step1\_definire gli attributi dei grafi (*the journey is the reward*) :

Step2\_definire le opportunità urbane (*destinazioni*)

Step3\_caricare i dati in Walkability Explorer

Step4\_mappare il punteggio di camminabilità



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An Evaluation and Design Support System for Urban Walkability



How it works?

**Step1\_ definire gli attributi dei grafi (the journey is the reward):**

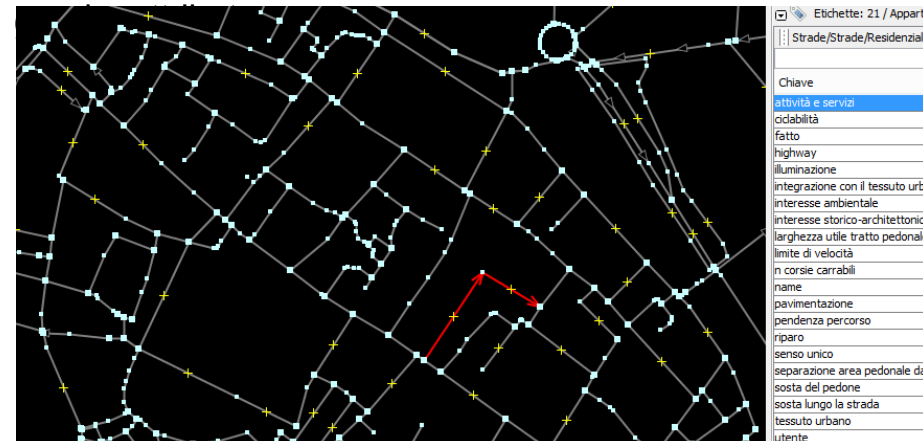
1\_ Scaricare I grafi delle strade da *openstreetmap*



2\_ Personalizzare I grafi con *josm* [josm.openstreetmap.de/](http://josm.openstreetmap.de/)



3\_ assegnare gli attributi



# Walkability Explorer

## An Evaluation and Design Support System for Urban Walkability

Attributes	$\gamma$	Scale (value of $a$ )
Lighting	1/16	Excellent (0.8); good (0.6); inadequate (0.3); lacking (0.1)
Shelter and shade (from the rain, wind or sun)	1/16	Strong (0.8); weak (0.5); lacking (0.1)
Opportunity to seat	1/16	Extended (0.8); thin (0.5); lacking (0.1)
Frequency of services and activities	1/16	Continuous (0.8); on the average (0.6); thin (0.3); lacking (0.1)
Attractiveness from an architectural and urban viewpoint	1/16	preponderance of pleasant elements (0.8); presence of a few pleasant elements (0.6); lack of pleasant or disturbance elements (0.4); presence of a few disturbance elements (0.2); preponderance of disturbance elements (0.1)
Attractiveness from an environmental point of view	1/16	preponderance of pleasant elements (0.8); presence of a few pleasant elements (0.6); lack of pleasant or disturbance elements (0.4); presence of a few disturbance elements (0.2); preponderance of disturbance elements (0.1)
Transparency and permeability of the public-private space	1/16	Permeable (0.8); filtered (0.5); separated (0.1)
Urban texture	1/16	Dense (0.8); park or green space (0.6); low density (0.4); undeveloped land (0.1)



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## Step2- definire le opportunità urbane (*destinazioni*)

- Elencare le Opportunità Urbane:
  - Attività commerciali (supermercati, panetterie, fruttivendoli, ...),
  - Servizi (servizi sanitari, servizi educativi, servizi culturali, ...)
  - Tempo libero e aree verdi urbane
- Scaricare gli indirizzi addresses da base di dati *opensource* (pagine gialle, bing maps, ...)
- Definire i punti GPS per ogni destinazione ([www.gpsvisualizer.com](http://www.gpsvisualizer.com))



# Walkability Explorer

An Evaluation and Design Support System for Urban Walkability



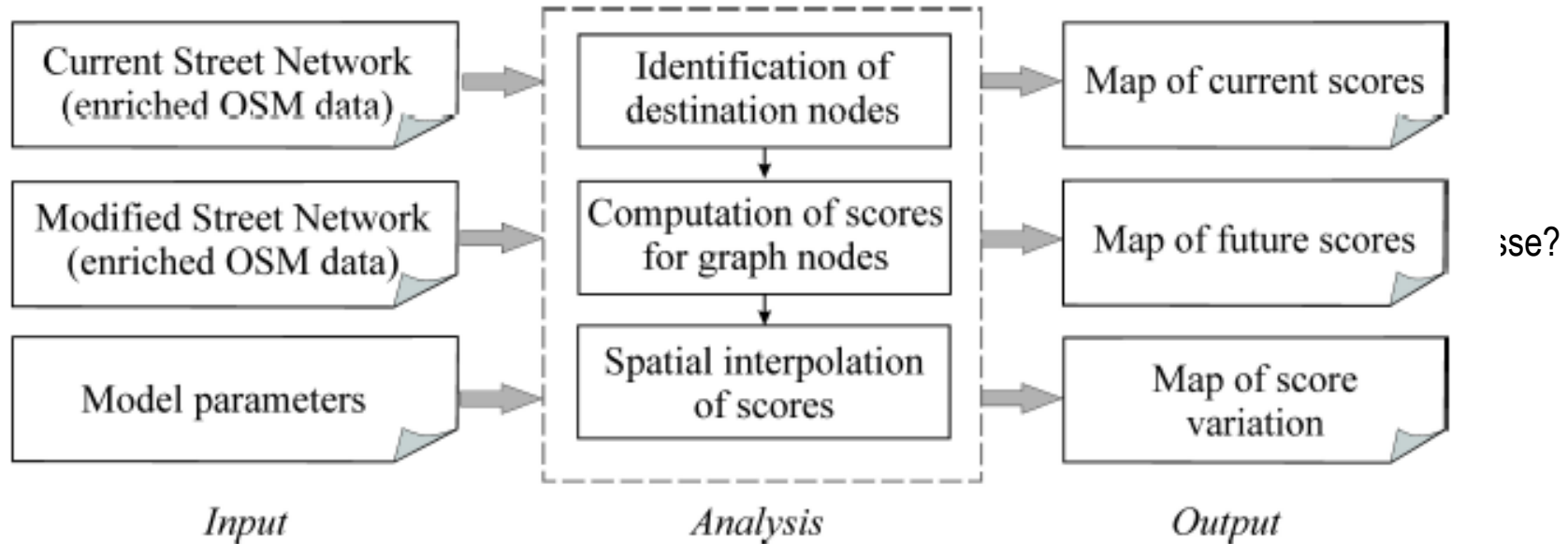
## Step3- caricare i dati in Walkability Explorer

- Destinazioni, divise in **categorie** (ad esempio servizi, aree commerciali, aree verdi)
- Rappresentazione dettagliata del grafo della rete stradale



# Walkability Explorer

An Evaluation and Design Support System for Urban Walkability





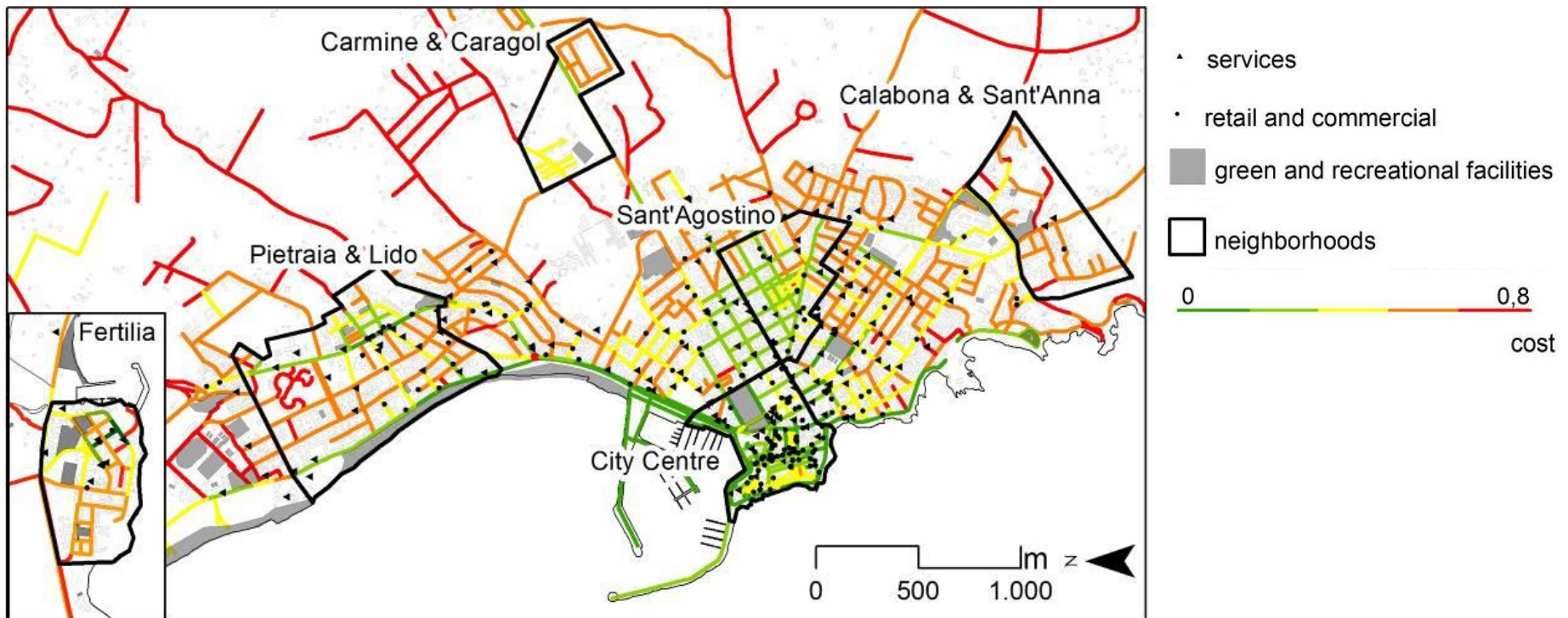






## Caso studio di Alghero

### Costo dei percorsi e delle destinazioni

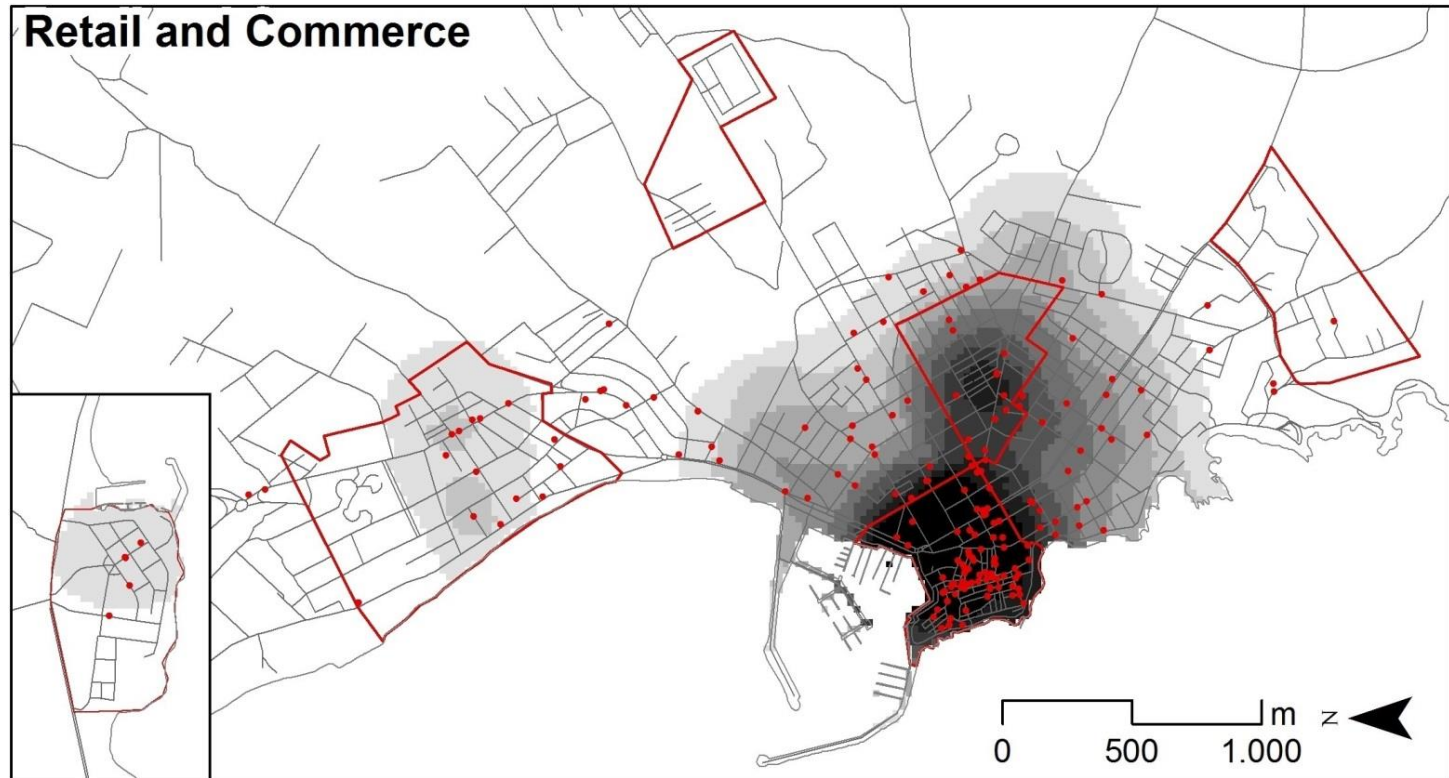
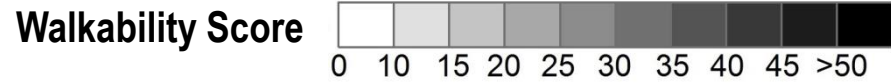


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## Caso studio di Alghero



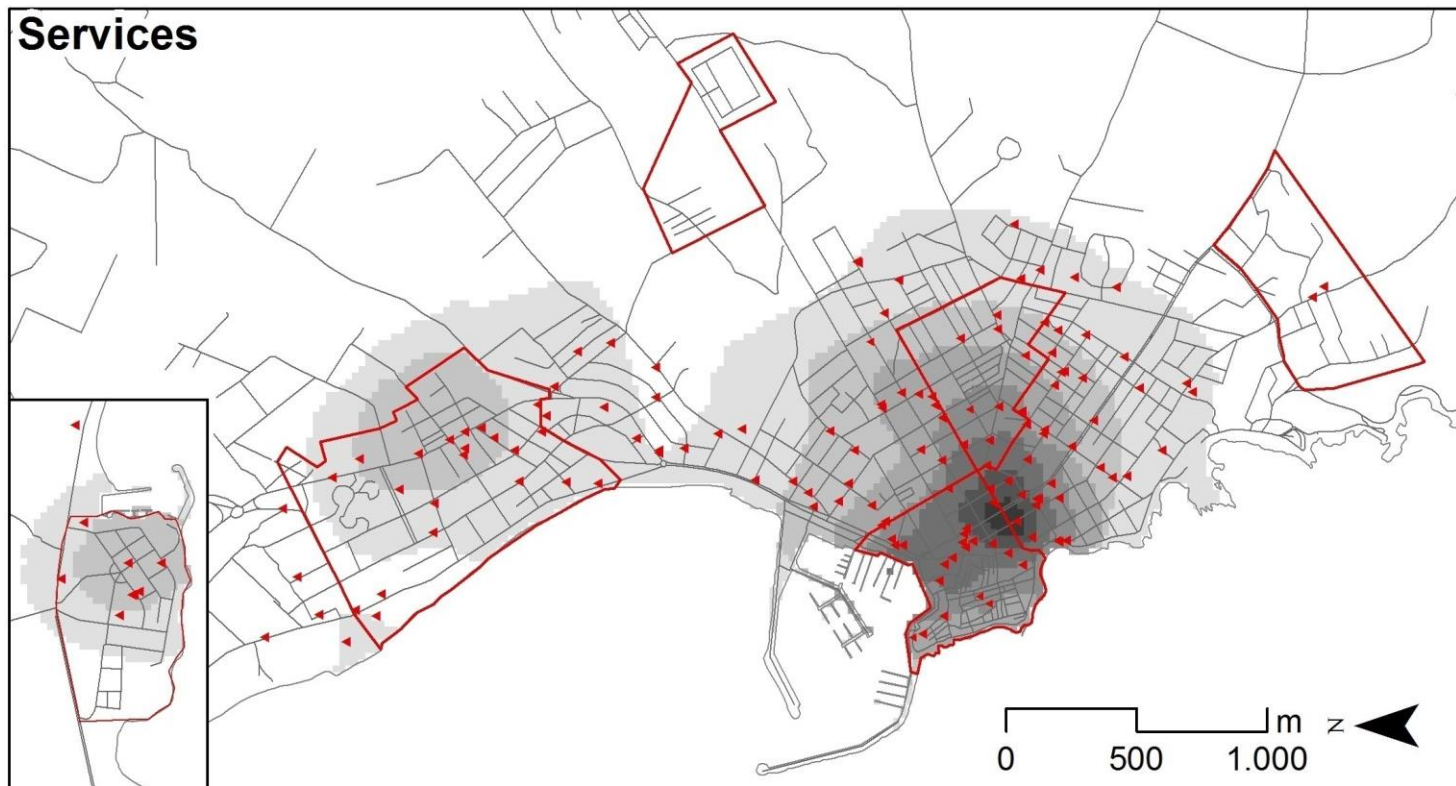
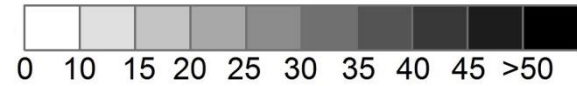
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An Evaluation and Design Support System for Urban Walkability



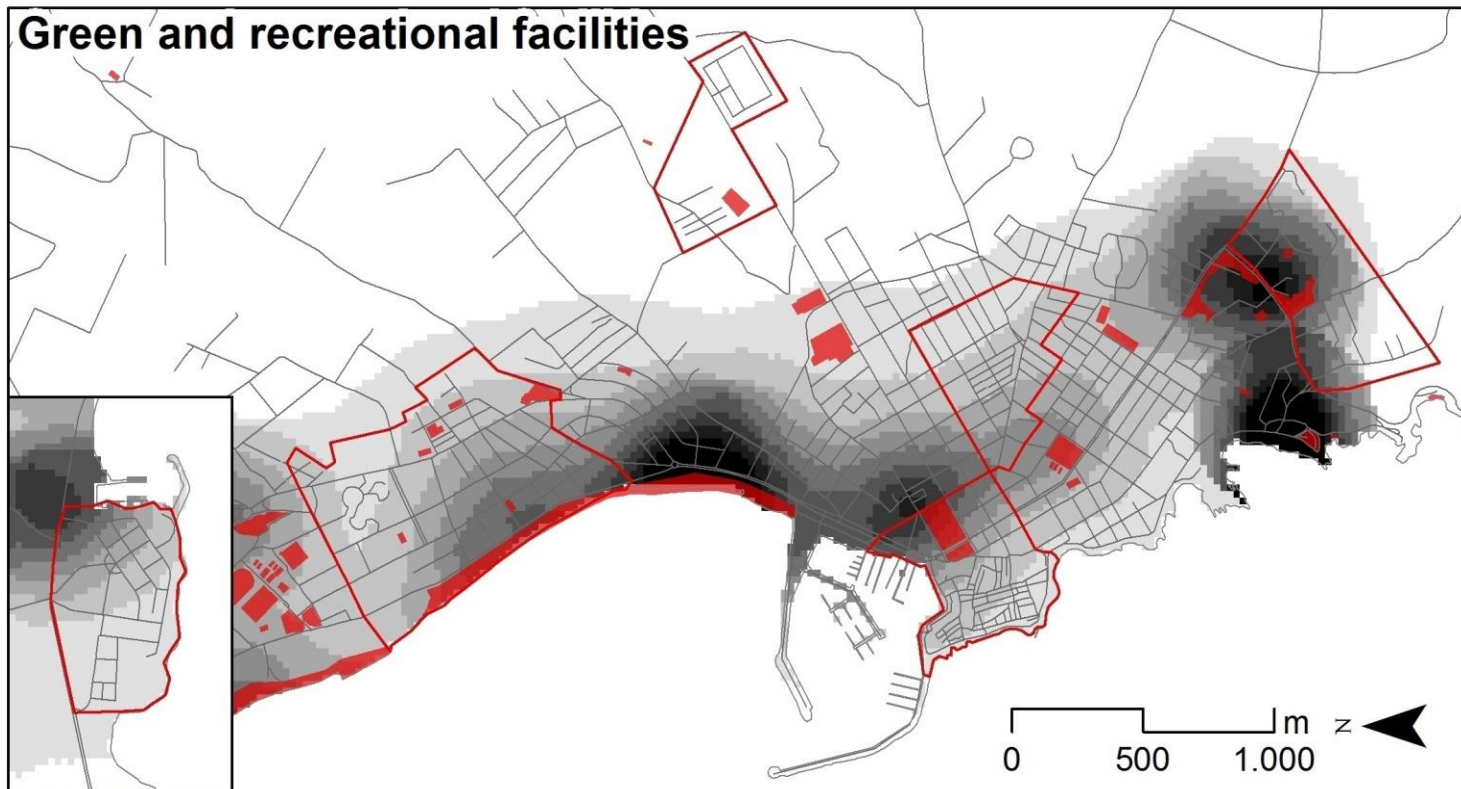
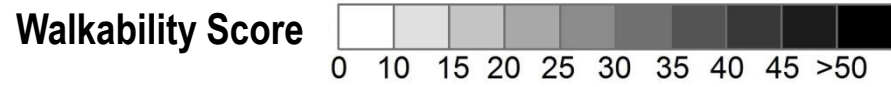
## Caso studio di Alghero

Walkability Score





## Caso studio di Alghero



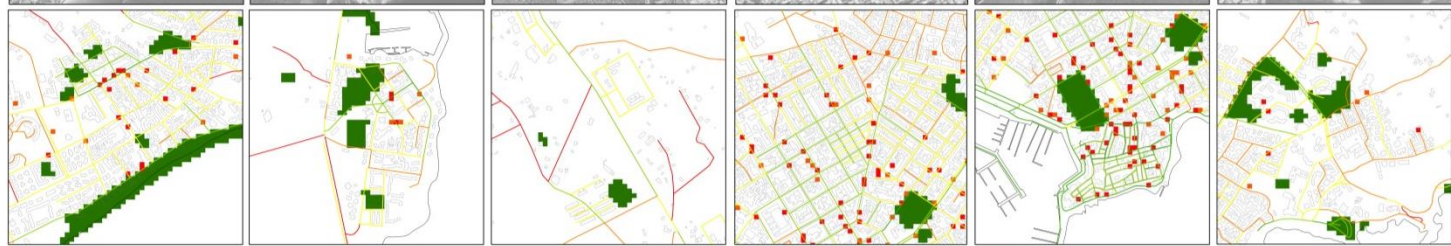


Pietraia      Fertia      Carmine      S. Agostino      C. Storico      Calabona e S. Anna

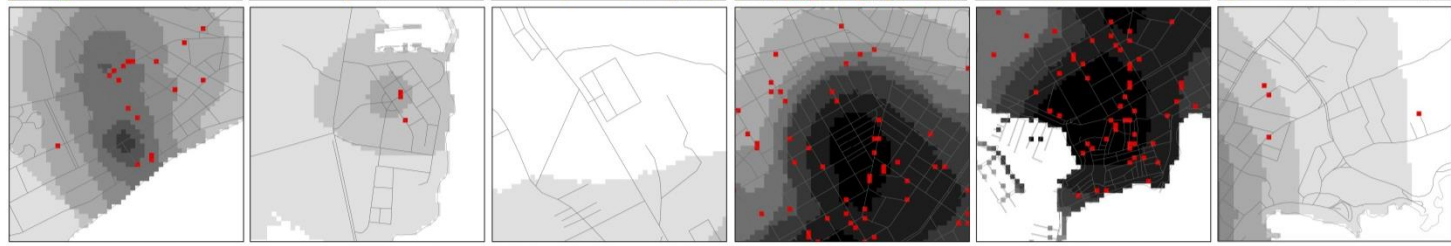
Orthophoto



Cost



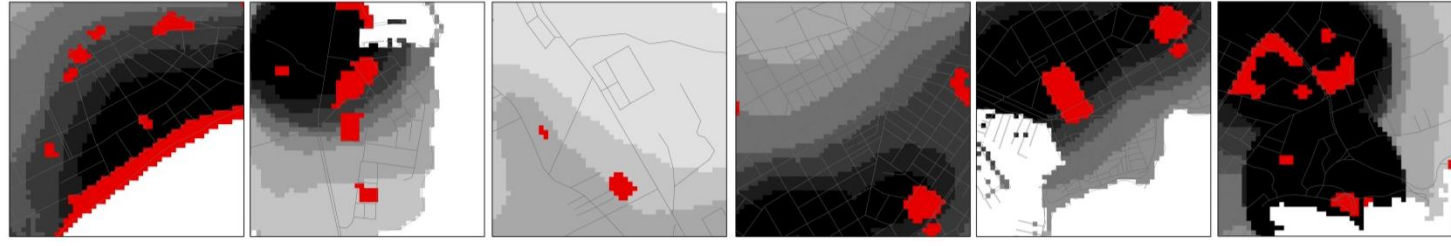
Commerce



Services



Leisure



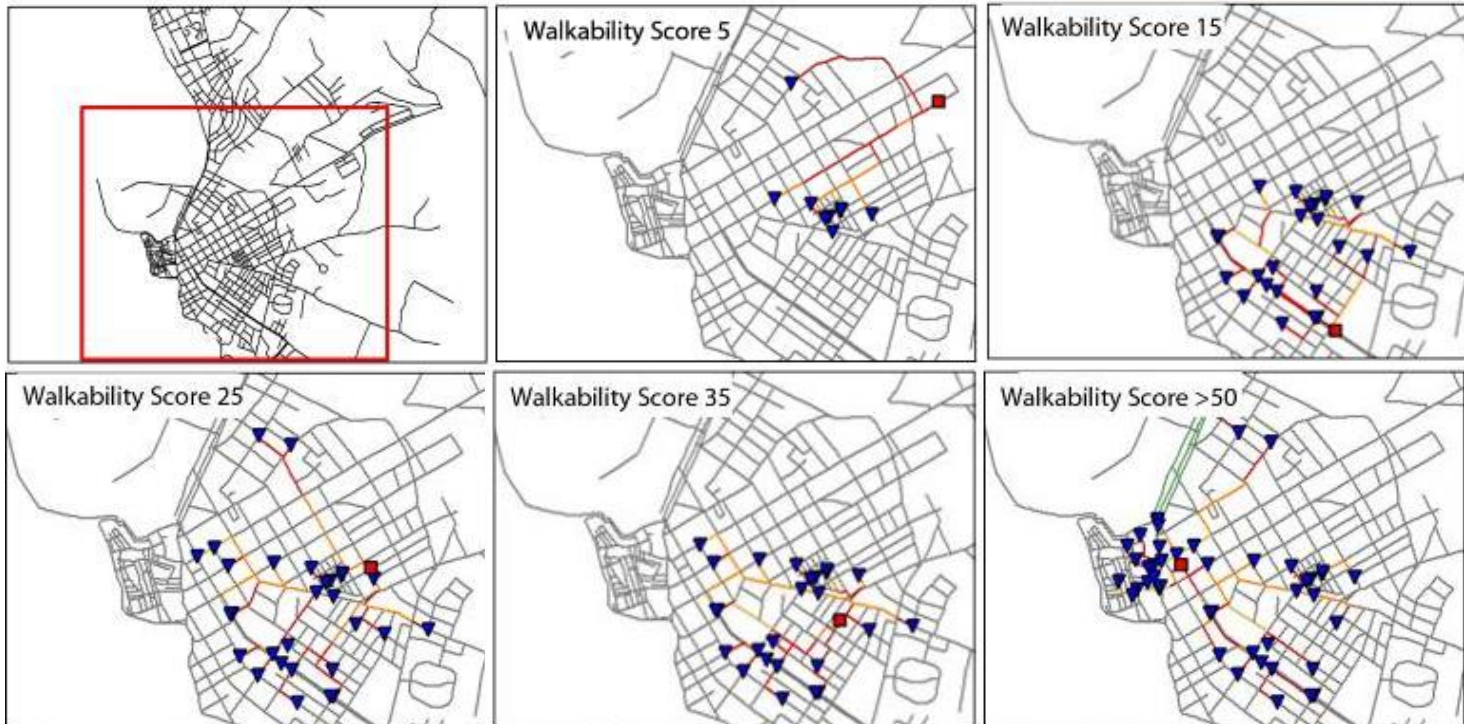
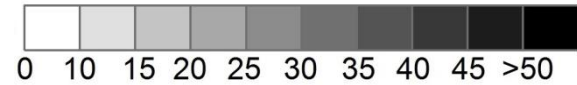
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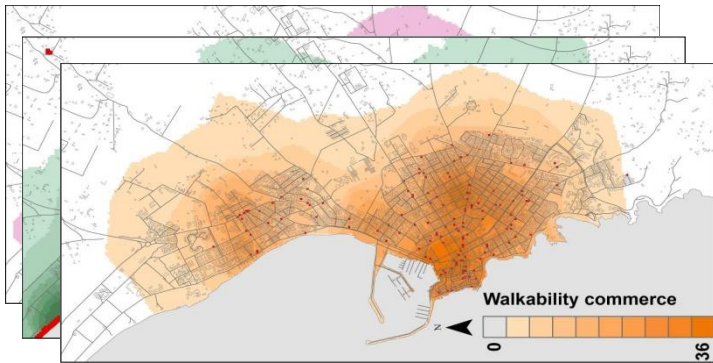
## Alghero case study

Walkability Score



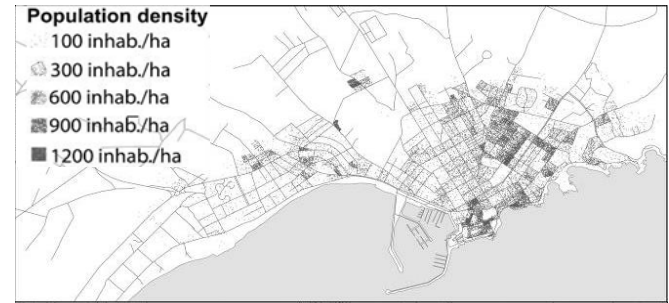
# Walkability Explorer

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Maps of walkability scores

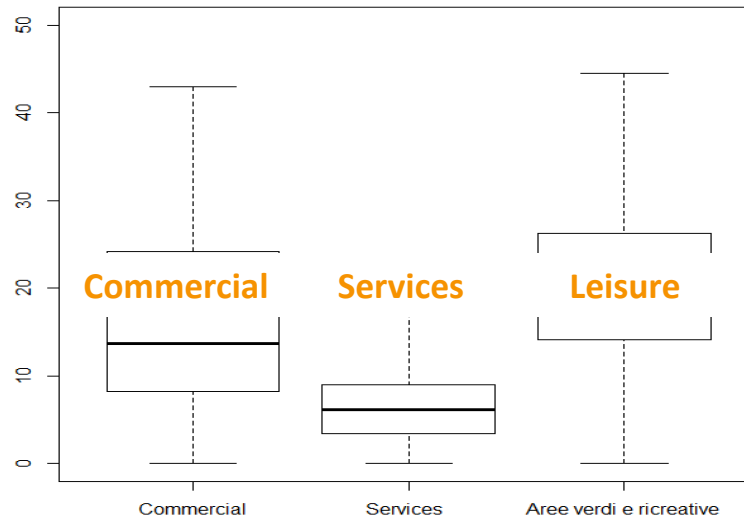
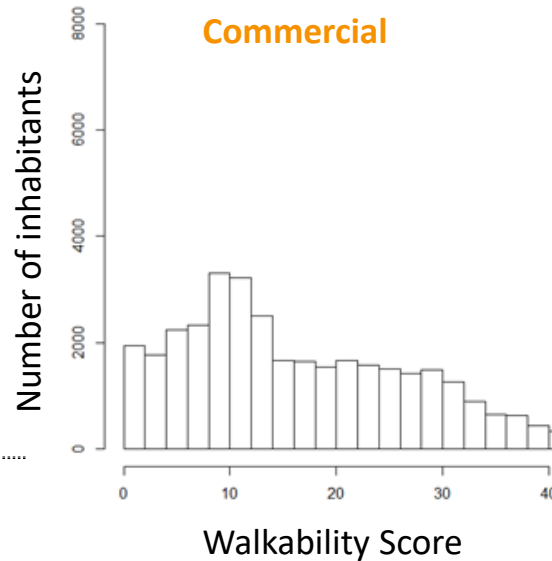
+



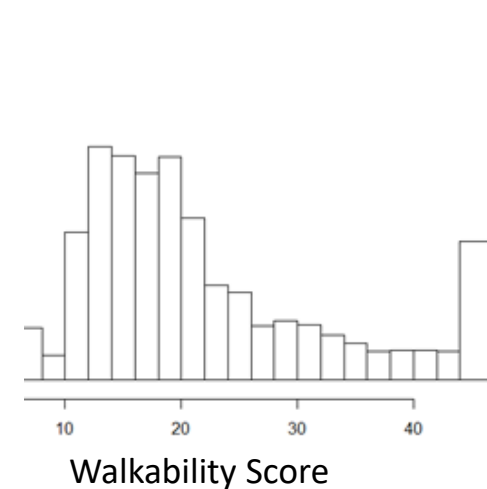
Map of population density



Comparison among distributions



Open and recreational areas



# Walkability Explorer

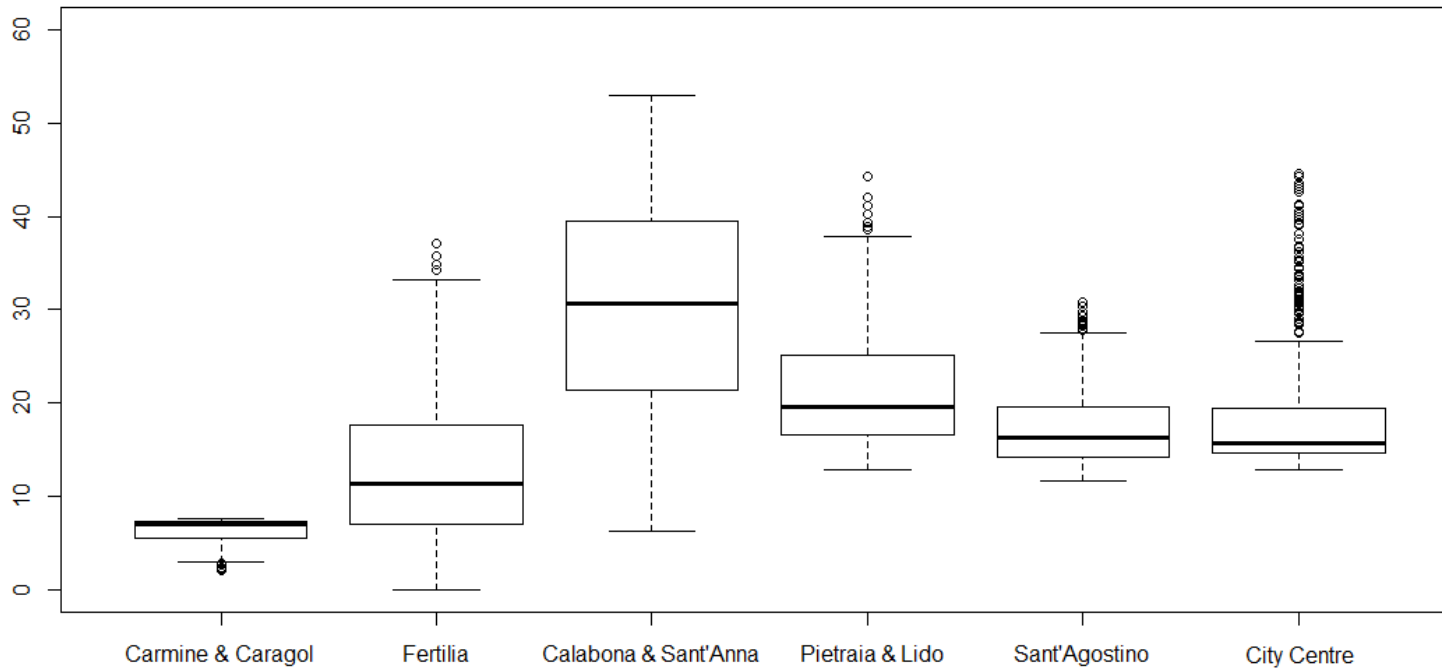
An Evaluation and Design Support System for Urban Walkability



## Caso studio di Alghero

### Walkability Score

Green areas and recreational facilities





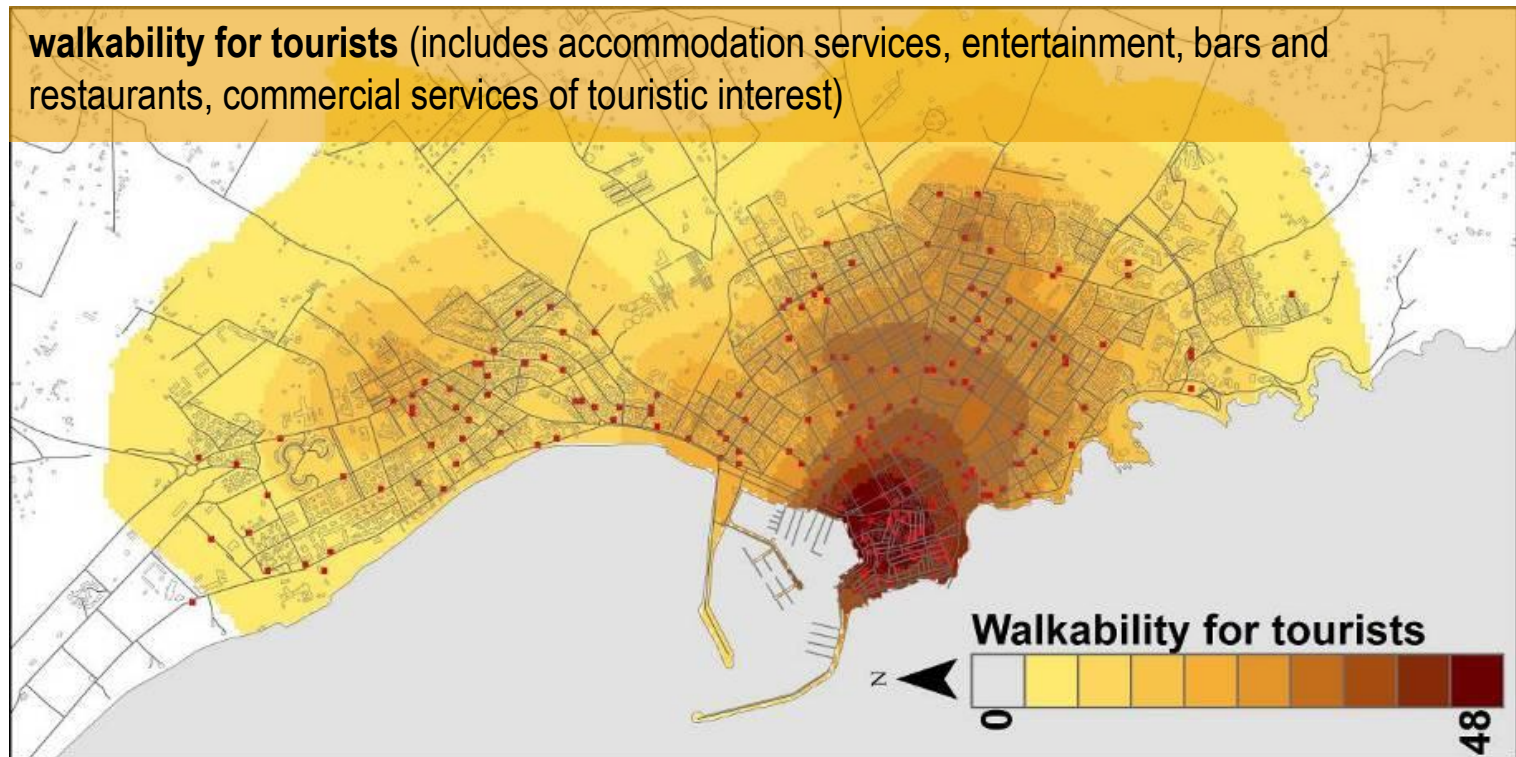
# Walkability Explorer

An Evaluation and Design Support System for Urban Walkability



Caso studio di Alghero

Walkability Explorer come strumento di aiuto alla Pianificazione | Profiling



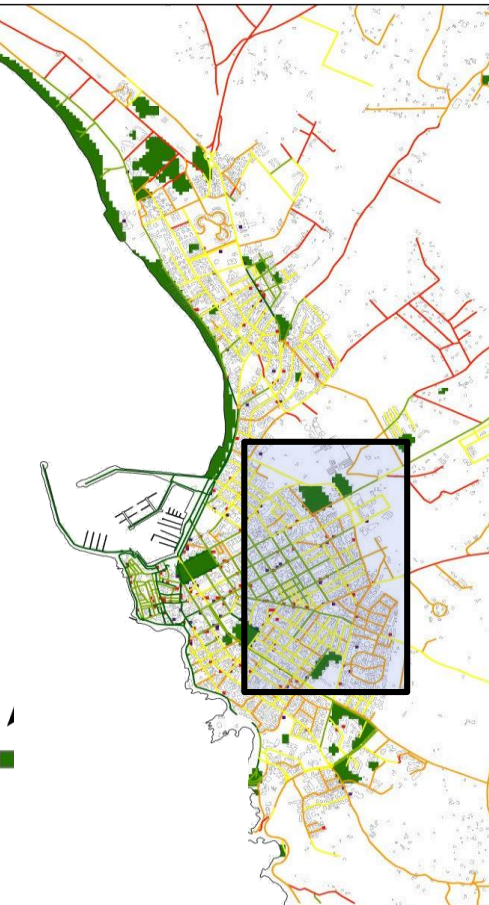
# Walkability Explorer

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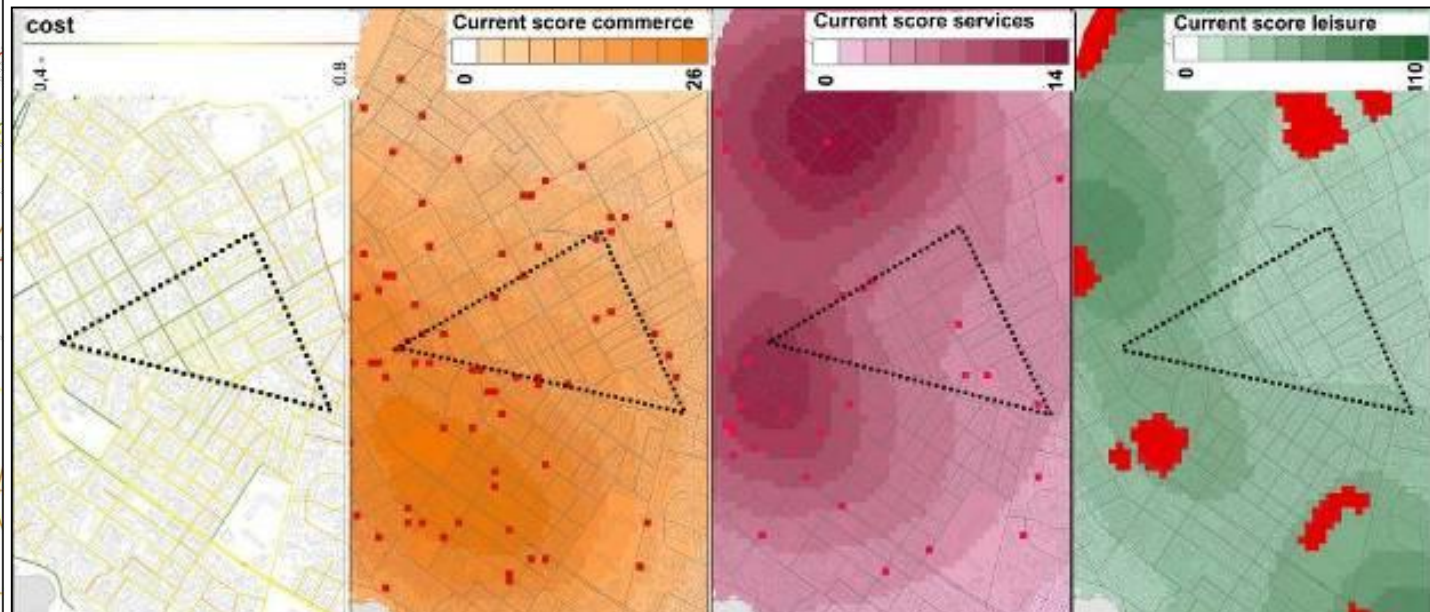


## Caso studio di Alghero

### Walkability Explorer come strumento di aiuto alla Pianificazione



- Costi di camminabilità relativamente bassi ma anche bassi punteggi; ciò è dovuto alla mancanza di servizi e opportunità di svago in questa area urbana; Possiamo riconoscere una maggiore importanza di questa condizione se consideriamo l'alta densità di popolazione di questa parte della città



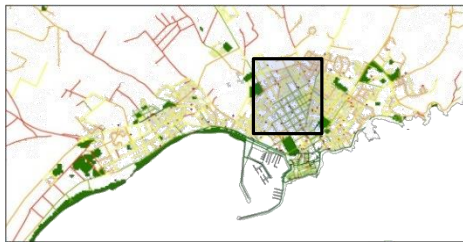
# Walkability Explorer

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Caso studio di Alghero

Walkability Explorer come strumento di aiuto alla Pianificazione

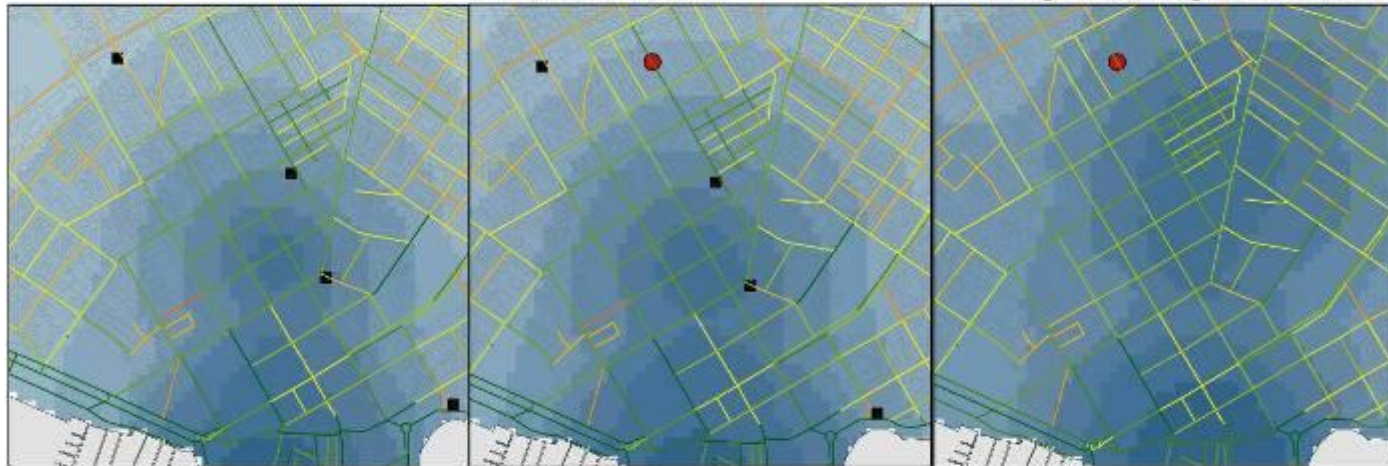


Today

Progetto di riqualificazione del Cotonificio destinandolo a servizi culturali con interventi sulla rete stradale

Future: requalification of the Ex Cotton Mill in a cultural service

Future: requalification of the Ex Cotton Mill and design of Sant'agostino streets



● "Ex Cotton Mill" ■ cultural services

Walk score



cost

