

WALKABILITY CITY TOOL

A TOOL FOR MEASURING STREET WALKABILITY





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Panama City Executive Summary 2015

March 2019

The Walkability City Tool (WCT) methodology was applied in Panama City's financial district in 2015 as part of the Emerging and Sustainable Cities Initiative, run in Panama City by the Inter-American Development Bank (IDB). The bank proposed the project because it felt the WCT's novel approach to walkability analysis is an extremely helpful tool for taking sustainable mobility decisions and pursuing the desirable (and necessary) goal of transforming our cities. As a result of the analysis, in 2016 the IDB gave priority to the proposed Calle 50 transformation project, which was part of Panama City's Action Plan; despite the interest the project also aroused amongst city administrators, however, it eventually had to be postponed for reasons unrelated with the plan.

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SKECHERS
MEMORY FOAM

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Gran
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SAN FRANCISCO ↑
COCO DEL MAR ↑
← OBARRIO

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Tucson

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2015

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**TO IMPROVE PUBLIC
SPACES
IS TO IMPROVE CITY
RESIDENTS' QUALITY
OF LIFE**

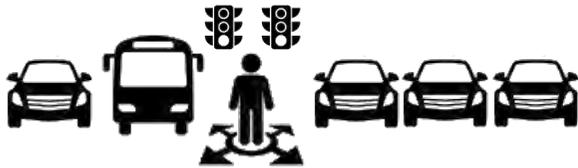
1. CITIES AND WALKING

CITIES AND PUBLIC SPACE

The physical city where we interact with each other is made up of squares, parks, and streets. Public space is the essence of the city.

Almost **70% of public space is occupied by areas devoted to cars.**

Yet it is citizens on foot who give meaning to public space. Public space is where people stroll, look around, interact, shop, experience, have fun, rest, move, work and engage in endless activities that should be encouraged. How? By making fit public space available.



CITIES AND MOBILITY

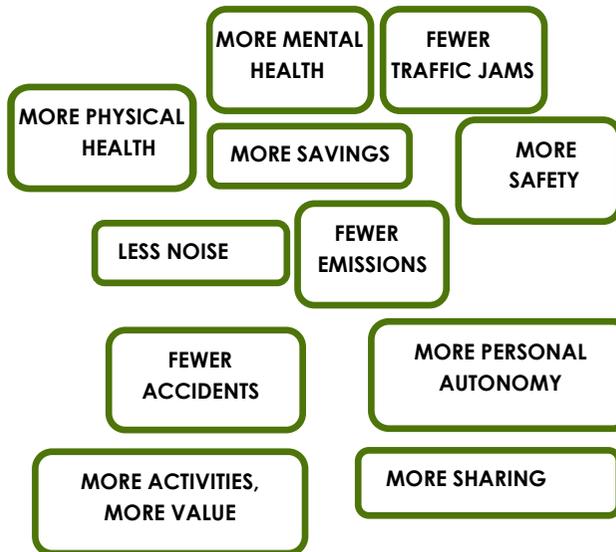
The design of our cities and the gradual increase in inhabitants have the effect of increasing private vehicle use, causing congested streets, which in turn increases atmospheric emissions, noise pollution, accidents and related problems, all of which worsen the quality of life for city dwellers.

Zoning, low densities, faulty strategic design and poorly planned public transport are some of the factors that contribute to mobility problems in the city.

WHY ENCOURAGE WALKABILITY?

Cities must work on measures that promote the shift toward non-motorised transport and collective transport. This way they will help improve city dwellers' quality of life right across a broad spectrum of perspectives. Actually, practically everybody who rides on any kind of transport is also one of the city's walkers during some portion of their trip.

The habit of walking is beneficial for both the individual and the community she or he belongs to, because it leads to:

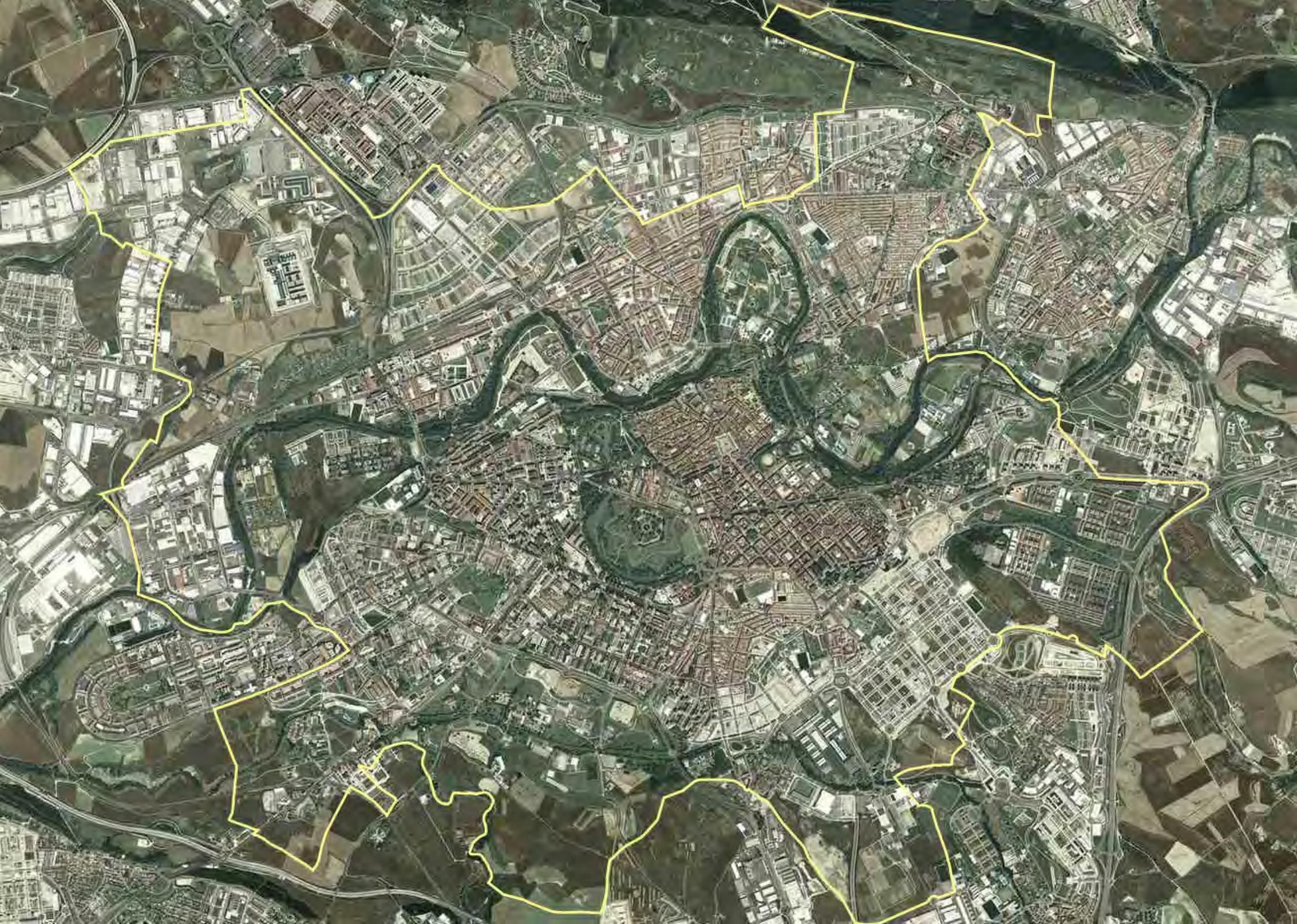


WHY ANALYSE WALKABILITY?

The needs of today's roadway system have been thoroughly analysed: Vehicles driven through the streets are counted, waiting times at traffic lights are studied, traffic conditions are reported, lane width is adapted and speeds are adjusted. As a result, the road system's condition can be evaluated, and suitable action can be taken at the points where action is most needed.

But what about the paths pedestrians travel? Often all that decision makers have to go on are personal impressions of which streets work better or worse, without any analysis of pedestrians' reasons for choosing one route or another or the problems they encounter. Likewise, when changes are made in the pedestrian network (like when streets are converted into pedestrian areas, kerbs are dropped or parking decisions are taken), there is no clear set of criteria.





**HOW DO YOU
ANALYSE A
LARGE AREA?**

**WHAT IS THE
SITUATION?**

**WHAT ARE THE
PRIORITIES?**

?

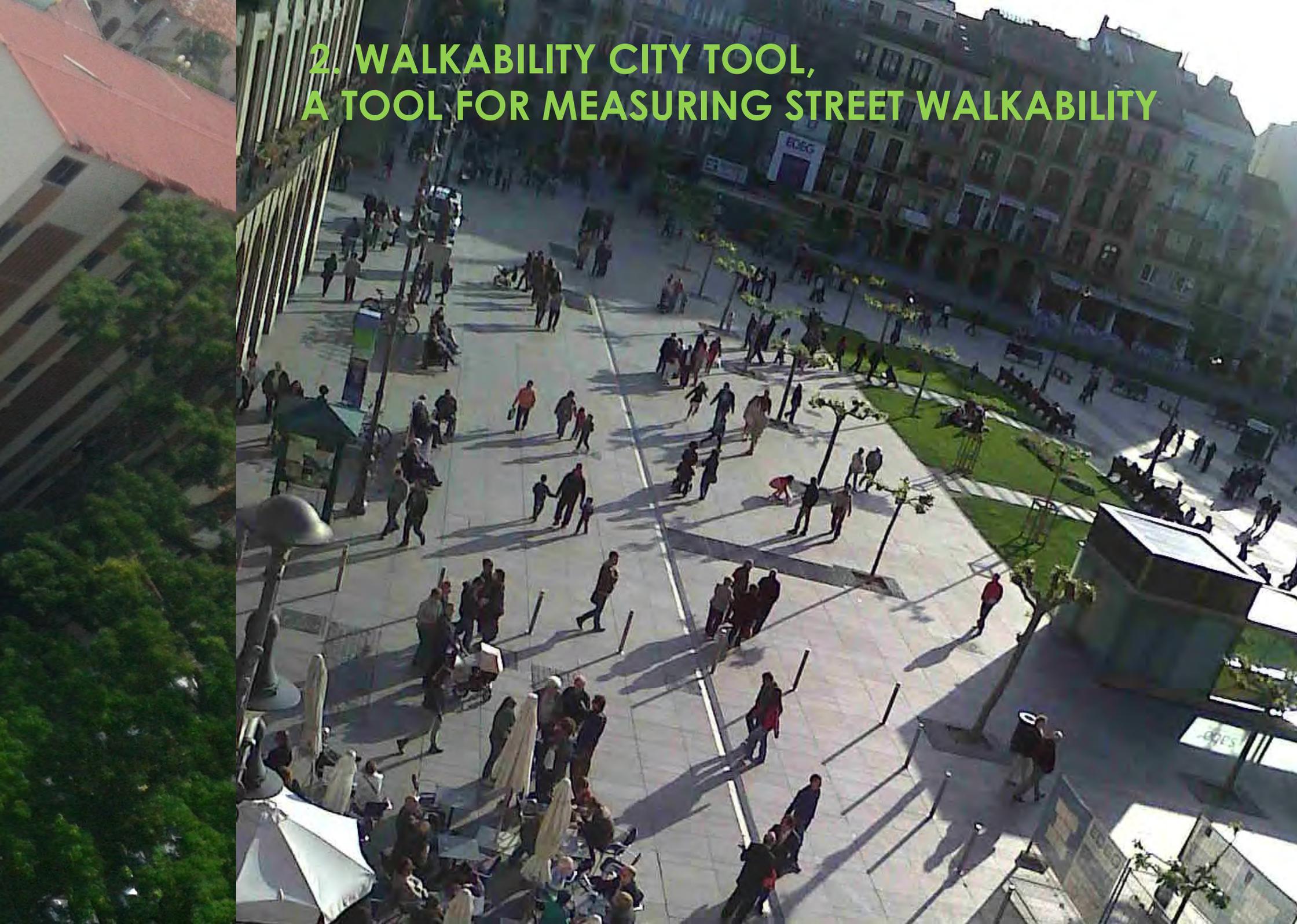
**ARE MY STREETS
GOOD
WALKING
STREETS?**

**WHERE DO
WE START?**

**WHAT SHOULD
THE CITY INVEST
IN?**

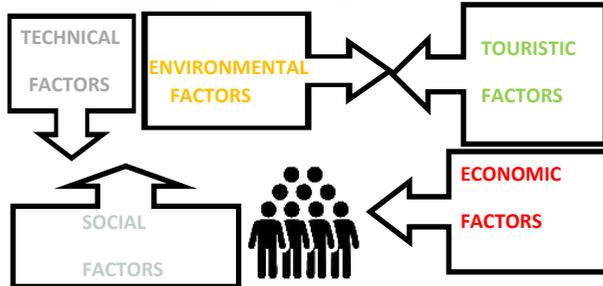


2. WALKABILITY CITY TOOL, A TOOL FOR MEASURING STREET WALKABILITY



WHAT THE WALKABILITY CITY TOOL (WCT) IS

The WCT is a walkability analysis method based on GIS technology. It enables the city's walkable network to be parameterised and measured, including technical, environmental, social, touristic and economic factors, so improvements to the network can be analysed, interpreted and planned. It provides the groundwork for taking strategic decisions about the city and tourism on the basis of hard evidence instead of intuition and subjective opinions.



HOW DO WE ANALYSE WALKABILITY?

Some streets are more inviting to walk along than others. What factors play a part in that inviting quality, and how much influence does each factor have?

THEMATIC AREAS

We have studied, collected and selected the factors that most strongly influence walkability.



We cluster our field data into five major adaptable thematic areas. All these areas influence the quality of the walkable network. In addition to collecting technical data, we assess the parameters that make local people and visitors feel good about walking down the street, and we can also take partial readings.

DATA COLLECTION

MODAL DISTRIBUTION (MD)

Data on how space is divided amongst the various modes of transport, for instance: number of lanes, parking, cycle lanes, pedestrian lanes, public transport.

URBAN FABRIC (UF)

Pavement features, such as: width, paving condition, protective strips, obstacles, encroaching vehicles, slope.

URBAN SCENE (US)

Data on the environment we walk through, such as: homes, trees, building fronts, urban furniture.

SAFETY (S)

Factors that influence our perceived safety when we walk the streets, for instance: street lighting, aids to orientation, activities on the street.

ENVIRONMENT (E)

Environmental factors that influence pedestrian activity, such as: noise levels, sunlight, pollution, prevailing winds.

To study walkability, we have to gather a multitude of data about streets and intersections and combine them with existing GIS information about the city. To do this, we have the help of local authorities and experts, citizens and fieldwork.

DATA UPLOAD AND ANALYSIS

The collected data are uploaded into a geographic information system, which enables us not only to analyse the grid as a whole, but also to calculate routes within the grid according to the ratings assigned to pavement sections and intersections.

We weight the data and assign a score to each section of pavement and each intersection. This score tells us its walkability.

With these data, we generate graphic information that managers can easily interpret: heat maps showing streets' ratings, tourist density and flow maps, network dysfunctions, black spots and the effect of activities.

We can vary the information to be generated when the WCT is applied to the target fabric, depending on the objectives defined for each job.



INFORMATION MAPS

Depending on the objectives defined for each project, we generate the information we need by applying the WCT to the urban fabric we are studying.

MAP WITH EACH SECTION OF PAVEMENT'S OVERALL SCORE

This map gives us an overall reading of which pavements or pavement sections, including intersections, are more or less walkable, the spots where section quality flags and so on.

MAPS WITH PARTIAL SCORES BY SUBJECT (MD, UF, US, S, E)

These maps give us a more-detailed reading of the issues where each section of pavement can be improved.

MAPS WITH AREAS OF NODE INFLUENCE

Since each section of pavement has a value assigned to it, we can examine nodes (such as shopping areas, tourist attractions and public services) and observe how their areas of influence spread more readily along the more-walkable streets.

PRODUCTION OF SPECIFIC INDICATORS AND THEIR DEVELOPMENT

INFLUENCE OF SECTION-SPECIFIC ACTIVITIES ON THE WALKABLE NETWORK

STRATEGIC DECISION MAKING IN THE CITY

DECISION MAKING ABOUT MOBILITY, SPECIFIC ROUTES FOR CERTAIN COLLECTIVES (E.G., SCHOOL ROUTES)

SECTION DEVELOPMENT DISPLAYED OVER TIME

CONVERSION TO PEDESTRIAN USE ONLY AND INTERMODALITY

STUDY AND IMPROVEMENT OF THE NETWORK FROM THE CHOSEN STANDPOINT: INTERSECTIONS, ACCESSIBILITY, SAFETY

COMPARISON OF FABRICS AND ECONOMIC ACTIVITY

STRATEGIC TOURISM PLANS

RATING AND IMPROVEMENT OF ACCESSIBILITY MEASURES





3. SUMMARY OF THE WORK DONE IN PANAMA CITY



study area in Panama city. 2015 ICES program BID

OBJECT OF THE WORK

Before the Action Plan for Panama City was drawn up (under the IDB's Emerging and Sustainable Cities Initiative, or ESCI), the preliminary phases identified a lack of pedestrian space as one of the city's problems: "Pavements (where pavements exist at all) are in woeful condition and certainly not easy for pedestrians to use, especially pedestrians with disabilities."

The idea behind applying the WCT to Panama City's financial district was to visualise and objectively analyse the things that affect walkability in the area, thus equipping the city's task force to map out a prioritised action strategy and carry out targeted improvements.

AREA OF STUDY

Under the working strategy ESCI brought to bear on the city, the financial district was identified as the right area for the tool's application.

The district's main features are these:

- Previous efforts at urban development
- A high rate of employment
- Public transport service
- Heavy pedestrian activity
- It is a central area that represents the city very well

The financial district was therefore regarded as an area of opportunity where improvements in walkability could prove very useful to citizens, have a strong repercussion and be highly visible, setting an example that could be used to improve other areas of the city.

In the early phases of the job, it was decided to include areas belonging to different adjoining corregimientos (subdivisions of the district), so sections and sites could be compared for a more-thorough study. The study area therefore includes streets and intersections such as these:

- OBARRIO
- CAMPOALEGRE
- BELLAVISTA
- EL CANGREJO
- SAN FRANCISCO



OBARRIO

The area's grid plan, thronging with high-rise buildings, is arranged around two main streets, Vía España, a shopping street with heavy pedestrian traffic due to the underground stations there, and Calle 50, where the financial industry clusters. The only public space in the area, Parque Harry Strunz, is on Calle 50.

CAMPOALEGRE

Area of hotels and restaurants, with more automobiles but also more trees.

BELLAVISTA

The Bellavista area, which lies between La Exposición and Obarrio, is quieter and more residential, with lighter vehicular traffic. It has one public space, Parque Urraca, and it borders with the Cinta Costera coastal beltway to the south.

EL CANGREJO

Area across from the University of Panama, busy with urban activity and pedestrian traffic. Vía Argentina and Vía Veneto are hotspots for both local and tourist pedestrian activity.

SAN FRANCISCO

The San Francisco area was brought into the study along with the adjacent corregimiento of Obarrio. Their layout is similar, with long blocks oriented along the north/south axis. Connections between Obarrio and San Francisco are interrupted by a river.





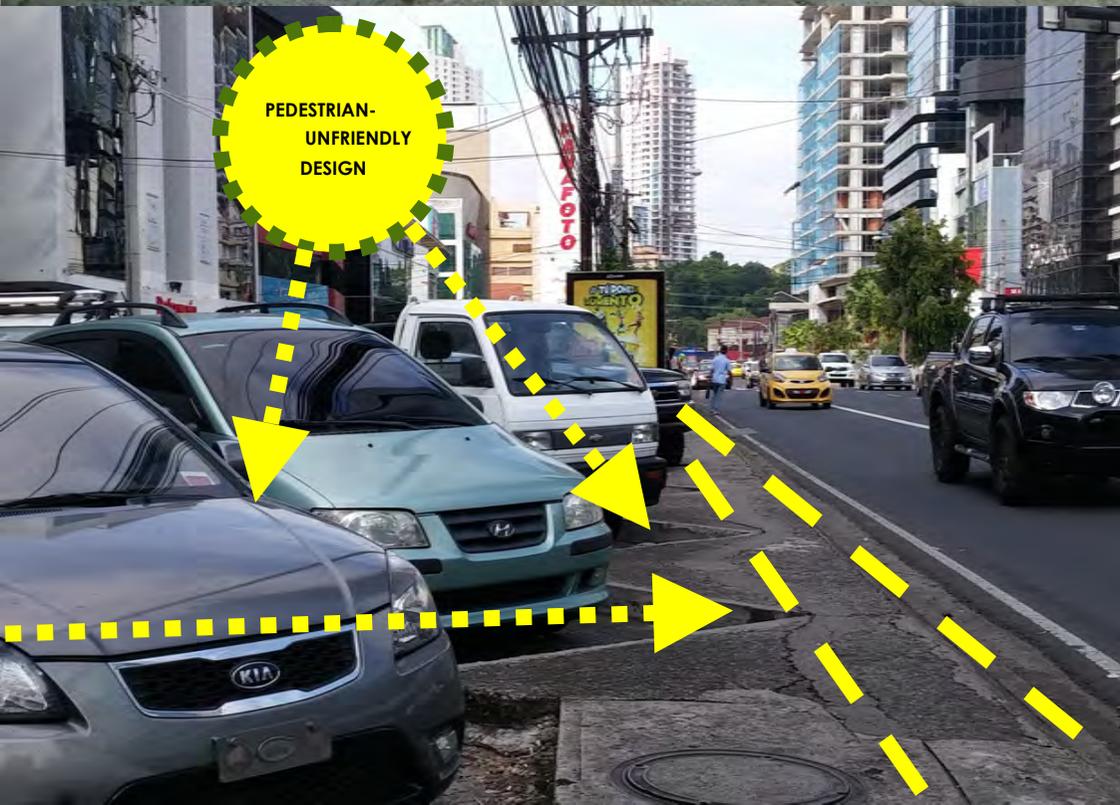
LITTLE
PROTECTION
FOR
PEDESTRIANS



CARS
ENCROACHING
ON
PAVEMENTS

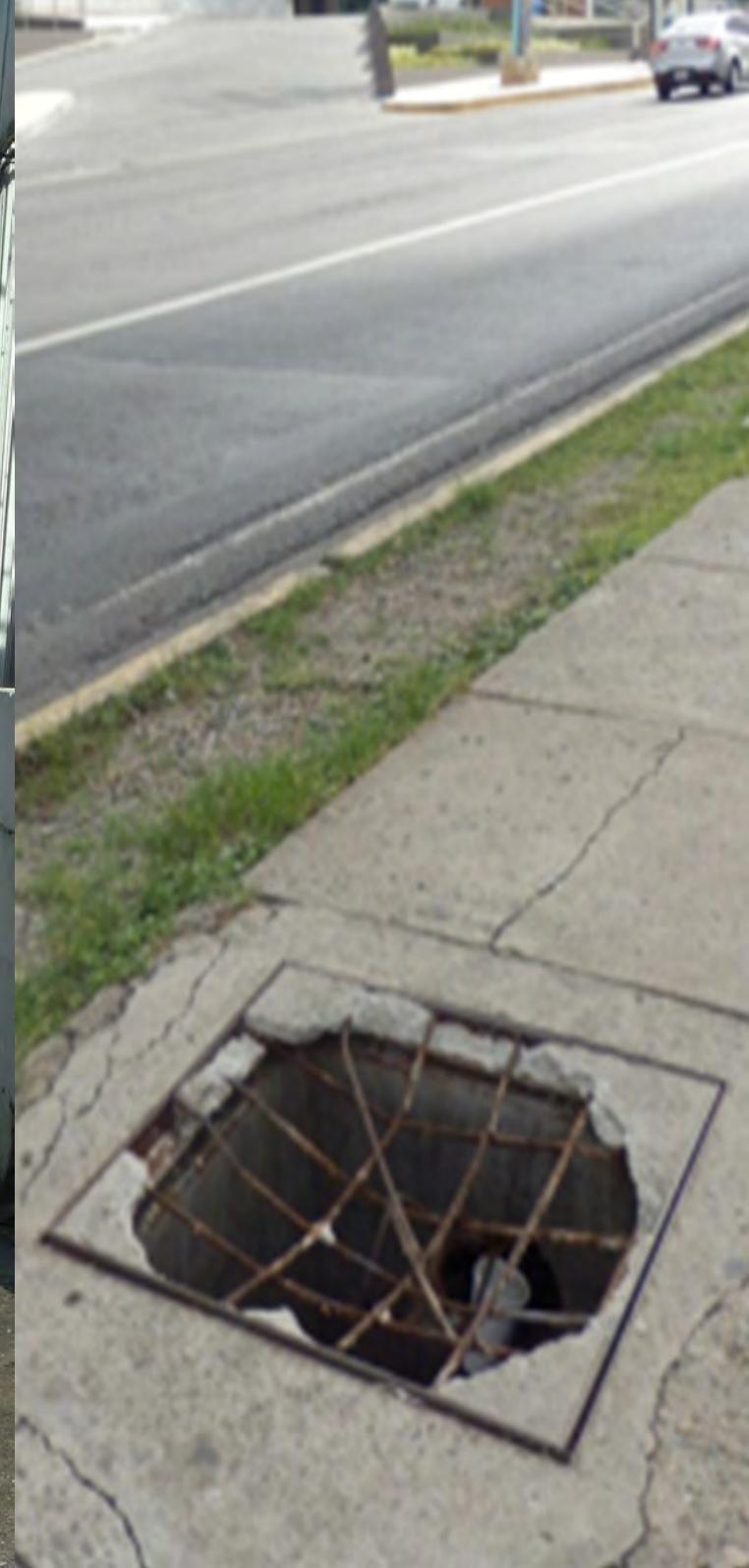
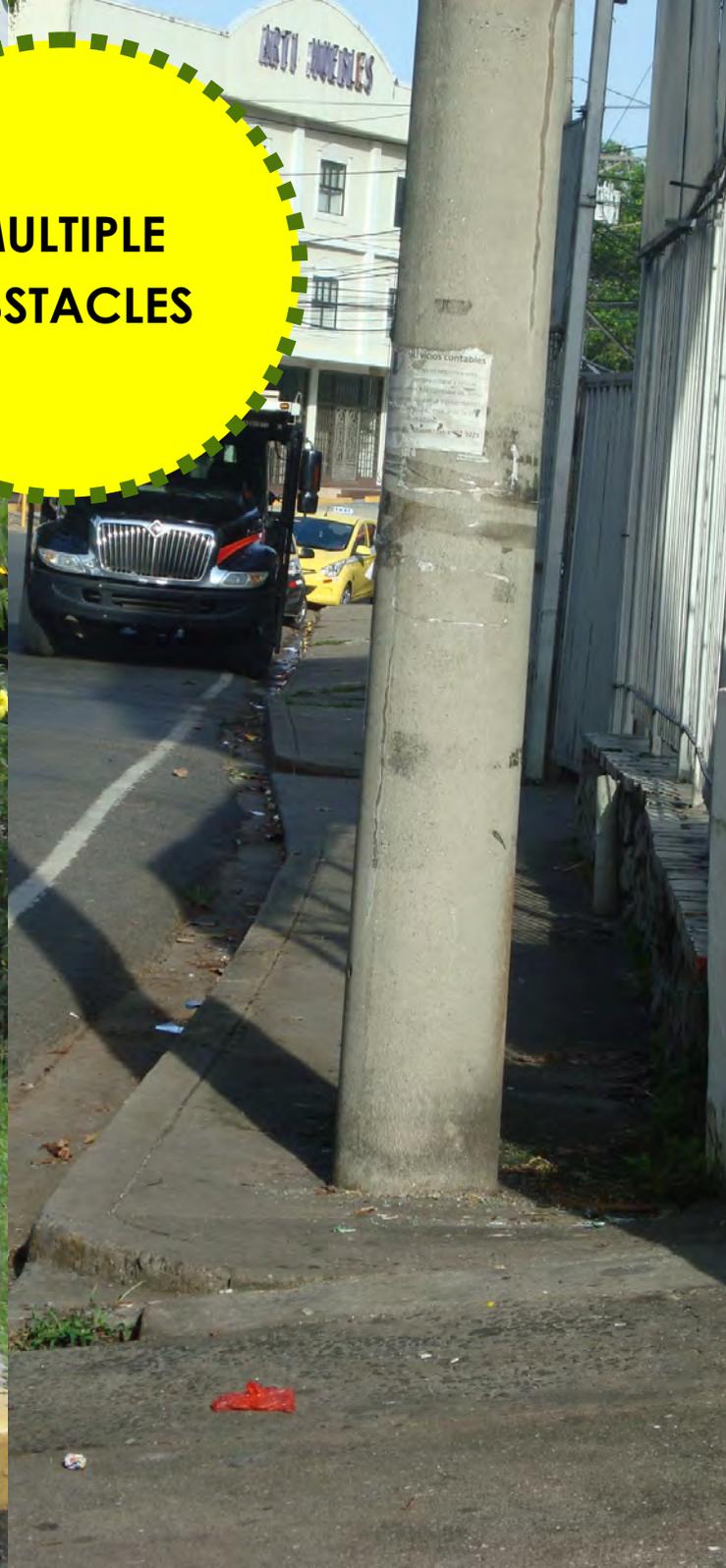


BARRIERS
TO
ACCESS



PEDESTRIAN-
UNFRIENDLY
DESIGN

**MULTIPLE
OBSTACLES**







**DANGEROUS,
UNMARKED
INTERSECTIONS**









3.1 DATA COLLECTION



**COORDINATION
WITH PLANNING
AND MOBILITY
INSTRUMENTS**

**GREAT
INTEREST IN
WALKABILITY**



1 LOCAL AUTHORITIES AND EXPERTS



One of the things the methodology calls for in the information-gathering phase is a workshop with local experts who specialise in walkability-related matters or are closely involved with the area under study.

In the case of Panama City, we were unable to hold the workshop, but we did collect valuable information from meetings and other activities with a variety of actors:

- City hall
- The Urban Planning team
- The IDB team
- The Bellavista Community Council

We toured the area, starting at Parque Harry Strunz and walking along part of Calle 50 and through Campoalegre to Vía España with representatives from city hall. Interesting contributions came to light during the walk concerning the area's walkability-related problems and opportunities.

A wheelchair tour with **Juanpi Dolande** underscored added difficulties related with accessibility: steeply sloping pavements, potholes, gaps, narrow pavements with no protective strip next to the street, steps, no dropped kerbs, no zebra crossings.

CONCERN
OVER
ACCESSIBILITY

2

**PUBLIC
CONSULTATIONS**

**SENSITIVE
TO
PROBLEMS**

**NEIGHBOURHOOD
FEELING**

**HIGH LEVEL
OF
INVOLVEMENT**



- 15 ITEMS MÁS VOTADOS

SEGURIDAD

- 1- No hay luz o es escasa
- 2- Hay basura y suciedad
- 7- No hay vigilancia
- 9- Actividades nocturnas no adecuadas

DISTRIBUCIÓN MODAL

- 3- Poco estacionamiento
- 4- Coches en la acera
- 8- Construcciones en el límite de la acera
- 11- Las aceras desaparecen

AMBIENTAL

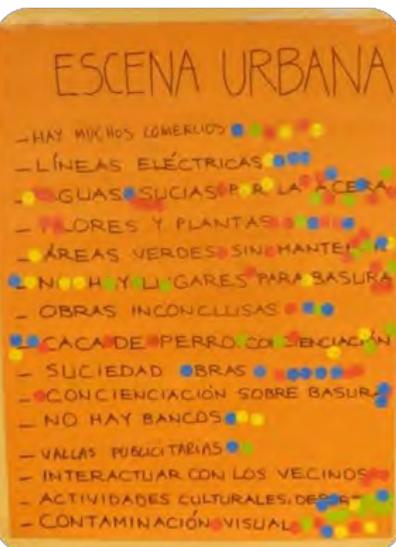
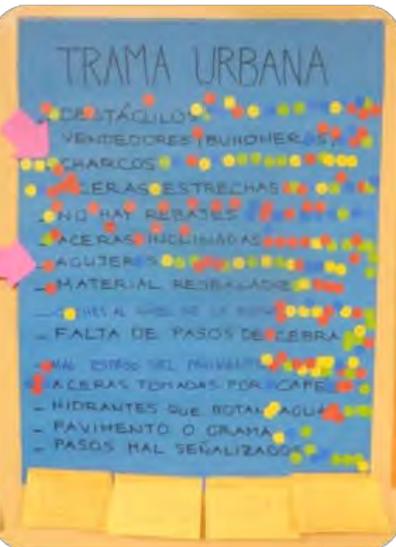
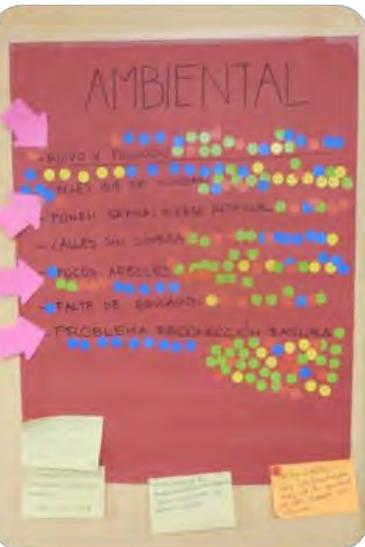
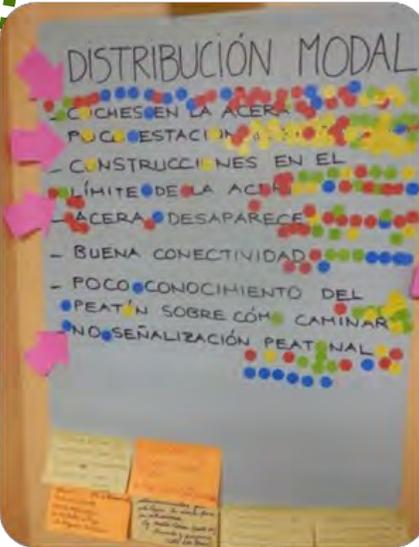
- 5- Calles que se inundan
- 10- Ruido y polución

TRAMA URBANA

- 12- Mal estado del pavimento
- 13- Obstáculos y agujeros
- 14- No hay rebajes en las aceras

ESCENA URBANA

- 6- Pocos árboles
- 15- No señalización peatonal



3

**FIELD
DATA**

**11
INTERSECTION
ITEMS**

**42
PAVEMENT
ITEMS**





WALKING THE STREETS



FIELD DATA. OBSERVER TRAINING

To perform any analysis with the Walkability City Tool, a great deal of field data needs to be gathered first. The data-gathering process is systematised: An information form is used for each section of pavement and for each intersection.

In Panama City the Urban Planning team collected data, and students from Panama University were hired to do field work under the Urban Planning team's management.

A training day was held for this purpose on 25 June 2015. This involved a session explaining the tool and each of the aspects listed on the pavement and intersection forms. The day was brought to a close with a hands-on data-collecting exercise using the forms, in which the group walked down a street in the Bellavista area and all the participants' questions were addressed.

The data collection methodology entails real contact with the city's streets, which means the kind of very positive awareness that is produced by observation at a higher-than-normal level of intensity. This in turn creates a starting point for discussion and reflection, which are always positive for improving the city.



GNT ASTRO
PANAMA

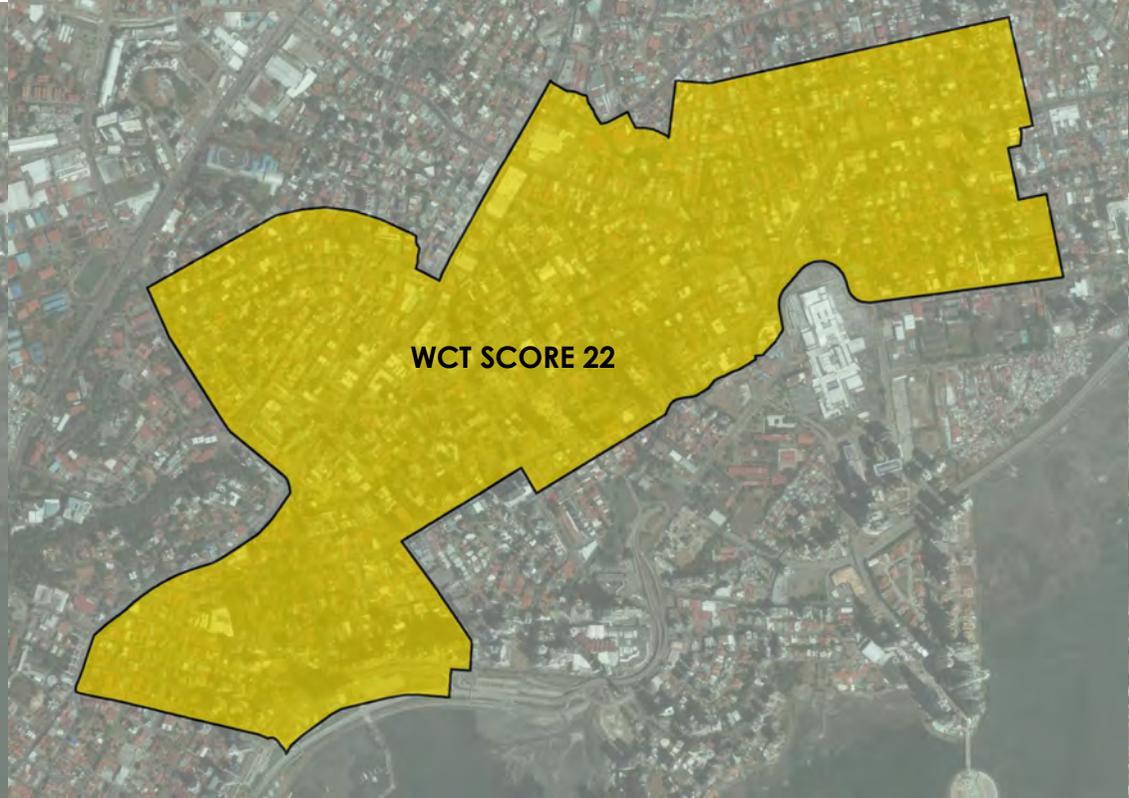
KANG HIN
HONG KONG

CHINA DE PANAMA

PANAMA R.T.



3.2 FINDINGS AND DIAGNOSIS: SOME EXAMPLES



**ARE THE
FINANCIAL
DISTRICT AND ITS
ENVIRONMENT
WALKABLE?**

When the WCT is applied, it means data are collected on every section of pavement and each intersection. The data are uploaded into a geographic information system and weighted to find a WCT score for each pavement section and intersection.

Analysis of the area of study yielded an overall WCT score of 22 out of 100. (Scores are not distributed in a straight line; the first 25 points are basic, and that is why a WCT score of 25 sits right in the middle of the scale.)

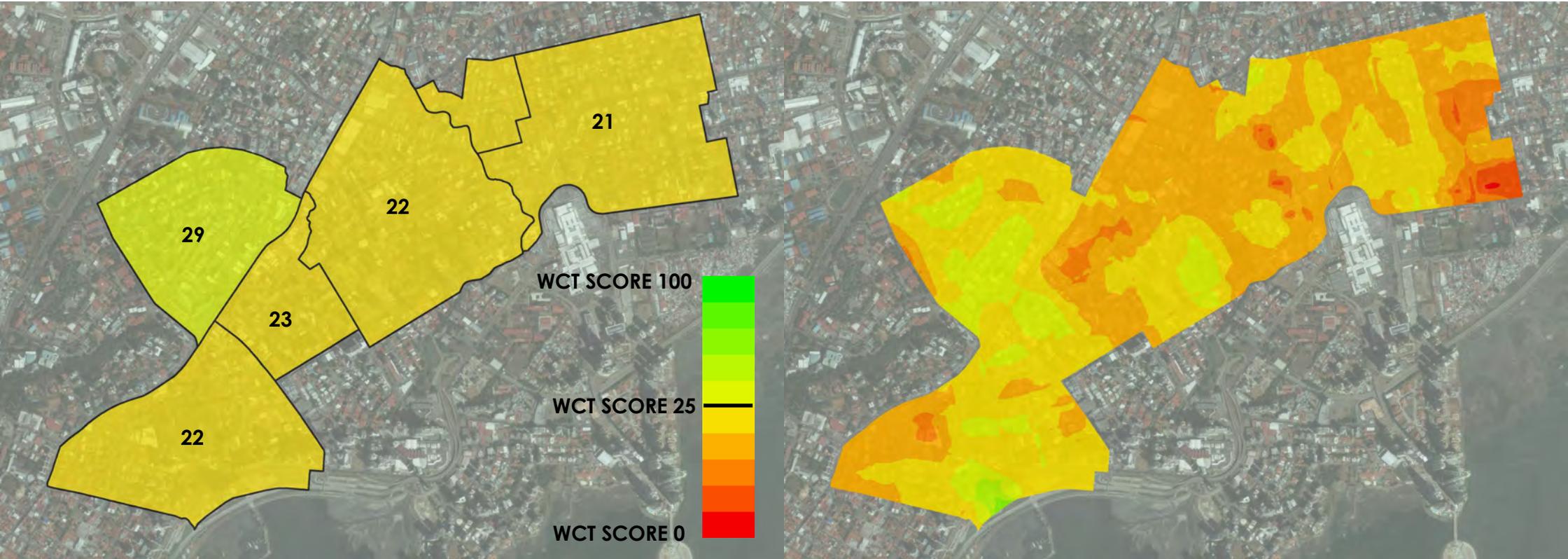
This score points to a situation with a great many areas of improvement.

The streets are packed with cars, a circumstance

that pedestrians must always bear in mind, since private properties are often occupied by car parks, which means many vehicles have to cross or invade the pavement. Pedestrians then walk between parked cars and cars driving along the street, and there is no opportunity to create a relationship between the pavement and building fronts.

In terms of accessibility, we found that many of the pavements in the area have problems: Numerous steps and ledges have to be negotiated, and almost no intersections have accessible dropped kerbs. Pavement surface condition in general is not good, and we even found some dangerous potholes.

OVERALL ANALYSIS



Work on these items would considerably improve autonomy for more-sensitive citizens (people with reduced mobility, children, the elderly, wheelchair users) and help make a city for everyone.

Improvements in pavement lighting would increase walkers' perceived safety.

Most intersections are not marked with zebra crossings or traffic lights, making them more dangerous and encouraging pedestrians to cross whenever and however they can.

The streets' intrinsic characteristics are a major positive aspect. For example, there is plentiful space available with potential for pedestrian use.

Analysis of the situation corregimiento by corregimiento found that El Cangrejo is by far the most walkable neighbourhood (WCT score: 29). Its good scores are due to its urban scene, especially in the section of street where the pavements run along next to building fronts. This section encourages street-level businesses, which improve walkability and make pedestrians feel less isolated, while parking is located on the street instead of on the other side of the pavement.

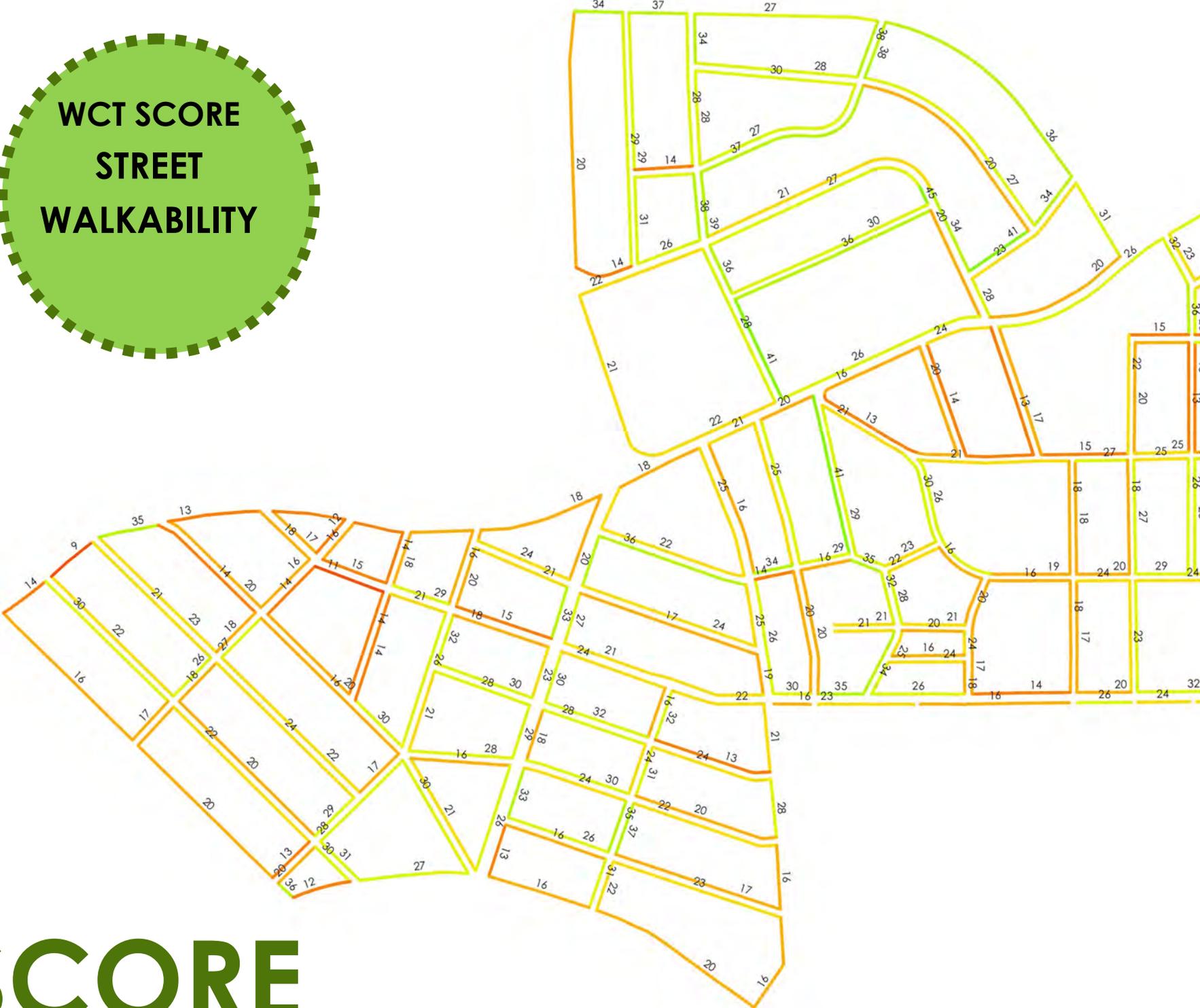
The corregimiento of San Francisco (WCT score: 21), Obarrio and Bellavista (WCT score: 22) feature fewer businesses and a great deal of cars. Campoalegre earned a slightly higher score (WCT score: 23), because it has more trees and businesses.

The illustration of street walkability superimposed over the area highlights the foci of positive influence, like parks (Parque Urraca in Bellavista and Parque Harry Strunz in Obarrio) and the El Cangrejo area, as opposed to foci with bigger problems, like the poor connectivity between San Francisco and Obarrio.

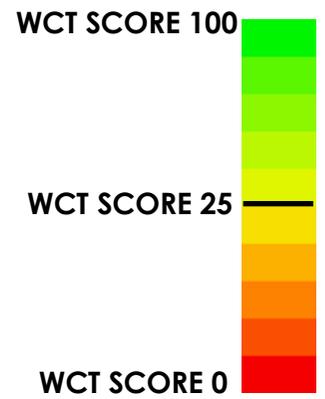
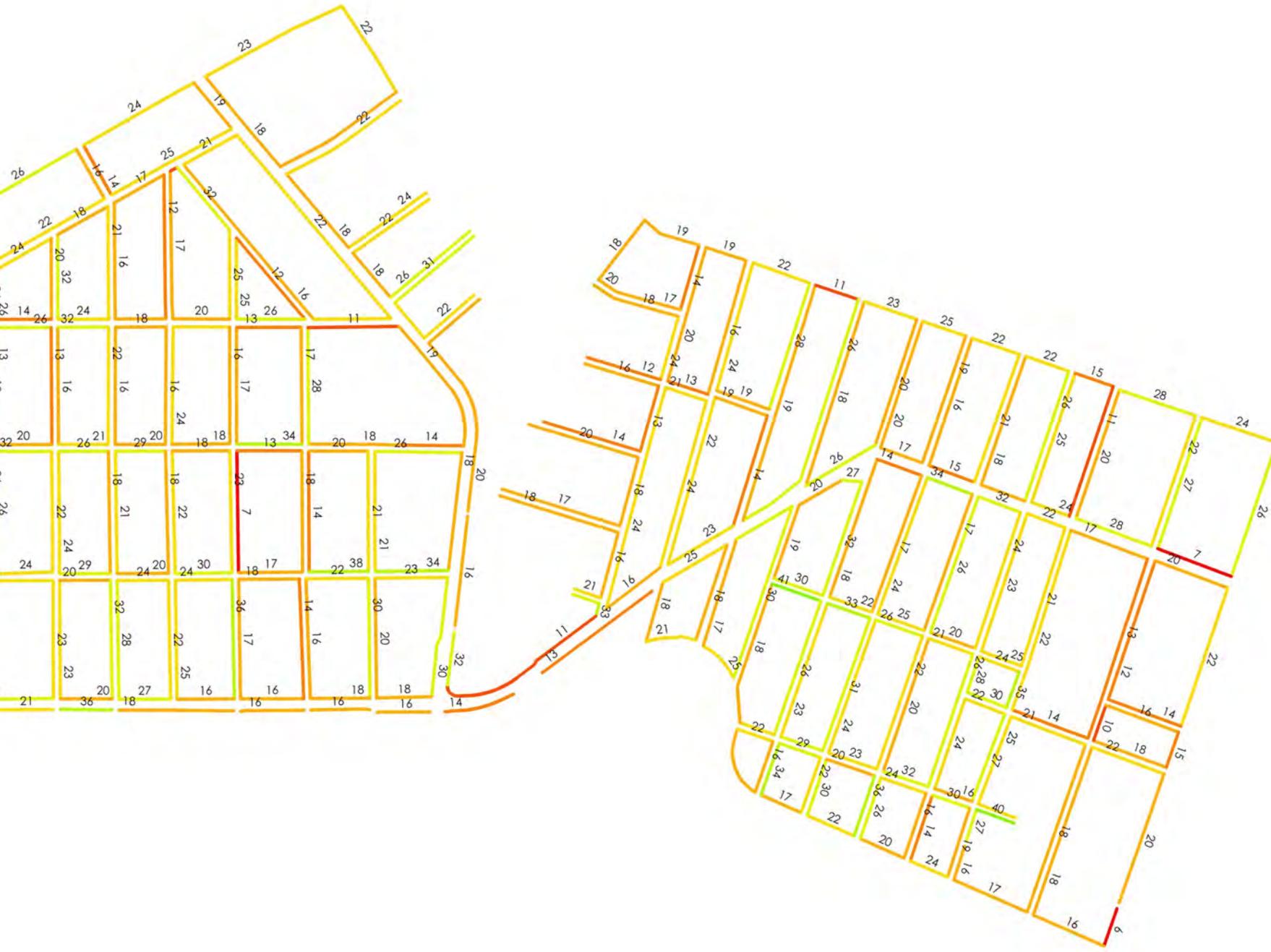
By analysing each neighbourhood item by item in all four areas (modal distribution, urban fabric, urban scene and safety), we can pinpoint the best action strategies for each particular case.

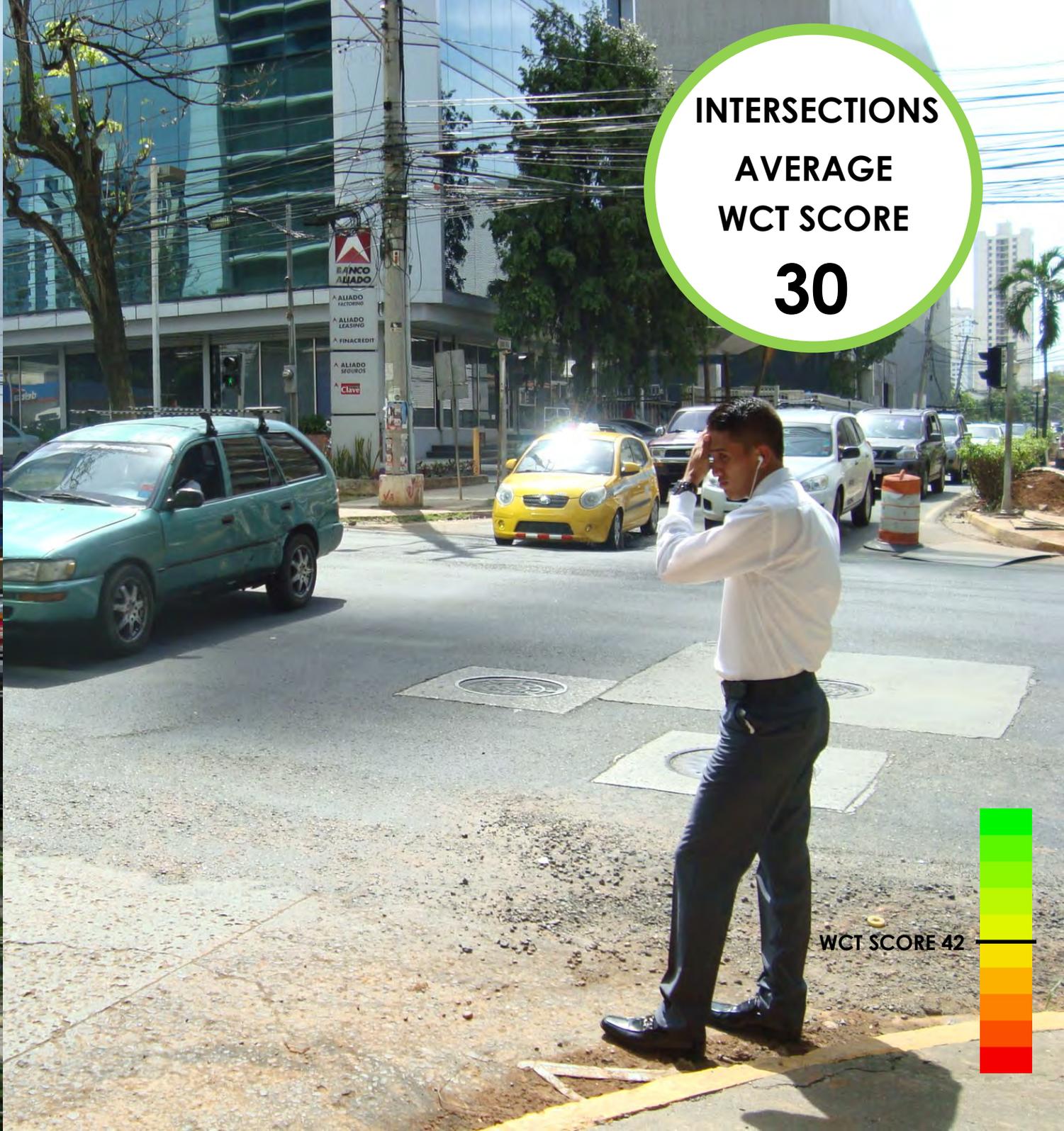
OVERALL ANALYSIS

**WCT SCORE
STREET
WALKABILITY**



WCT SCORE





**INTERSECTIONS
AVERAGE
WCT SCORE
30**



WCT SCORE 42



The WCT tool analyses intersection delay, which means the time it takes to cross an intersection. The average intersection score in the “delay” area is high (WCT score: 58).

This is because most intersections are classified as “uncontrolled”, that is, not equipped with zebra crossings or traffic lights. The waiting time at intersections of this sort is shorter than at controlled intersections.



The WCT analyses intersection safety. The average score in the “safety” area for the intersections we studied was low (WCT score: 29). “Safety” is the most heavily weighted area in the total score.

As mentioned before, most intersections do not have zebra crossings or traffic lights, so they are extremely unsafe for pedestrians.

IMPROVEMENT STRATEGIES

- Traffic lights and zebra crossings
- Kerb extensions in streets where this is possible, to increase visibility and reduce crossing distance



The WCT analyses intersection accessibility. The average score in the “accessibility” area for Panama City’s intersections is very low (WCT score: 4).

Practically all the intersections in the target area of Panama City have steps that pedestrians must negotiate.

IMPROVEMENT STRATEGIES

- Installation of dropped kerbs at intersections
- Pedestrian crossings level with pavements
- Other accessibility measures (e.g., audible signals, tactile paving)

WCT INTERSECTIONS

WCT SCORE

MODAL DISTRIBUTION



The overall WCT scores paint the picture of a fabric with low walkability quality, including intersections. Some streets do have acceptable scores, but theirs are isolated situations without enough connections between high-scoring streets to create a nice area for pedestrians.

RELATIONSHIP WITH PUBLIC TRANSPORT

The most important connections with the public transport system lie on the streets near the area's perimeter (Calle 50, Vía España and Vía Brasil). Accordingly, there are more people on foot on these three streets. The overall WCT scores tell us that there are clear opportunities for improvement on these streets, especially in the areas of modal

OBARRIO Y CAMPOALEGRE

URBAN FABRIC



URBAN SCENE



SAFETY



distribution (Public space could be better distributed to recover encroached-upon areas and thus increase the area available to pedestrians), urban fabric (The physical features of pavements, like paving, potholes and steps, could be improved) and urban scene (urban furniture and vegetation).

HARRY STRUNZ PARK

To the north of the middle section of Calle 50 lies the only public space in the entire corregimiento. This public space is a major hub and should be strengthened.

Although the streets surrounding it have higher-than-average overall scores (WCT scores: 22-28), improvements should be made in paving and in

i the relationship between pavements and the park. It is also important to improve the intersections that reach the park, so the park is better connected and has a higher service level.

Improvements to the streets comprising the park would have a positive influence on the surrounding streets, which would improve as well, creating a snowball effect improving the entire fabric.

CALLE 50

Modal distribution is the area where the street receives its worse scores. This is due to the extremely large number of cars; there are four lanes of traffic and numerous car parks on private property. Therefore, priority should go to recovering space for pedestrians.

HIGH-PRIORITY PROJECTS

- * **ON VÍA ESPAÑA, CALLE 50 AND VÍA BRASIL, WITH THE HIGH-PRIORITY OBJECTIVES OF RECOVERING SPACE, REPAVING, ELIMINATING BARRIERS AND INCREASING VEGETATION**
- * **AT ENTRANCES AND CONNECTIONS TO PARQUE HARRY STRUNZ, TO IMPROVE THE PAVING AND ELIMINATE OBSTACLES**



CONNECTIVITY



NUMBER OF RESIDENTIAL ENTRANCES



BENCHES



PAVEMENT CONDITION



CAR PARKS BETWEEN THE PAVEMENT AND BUILDING FRONTS



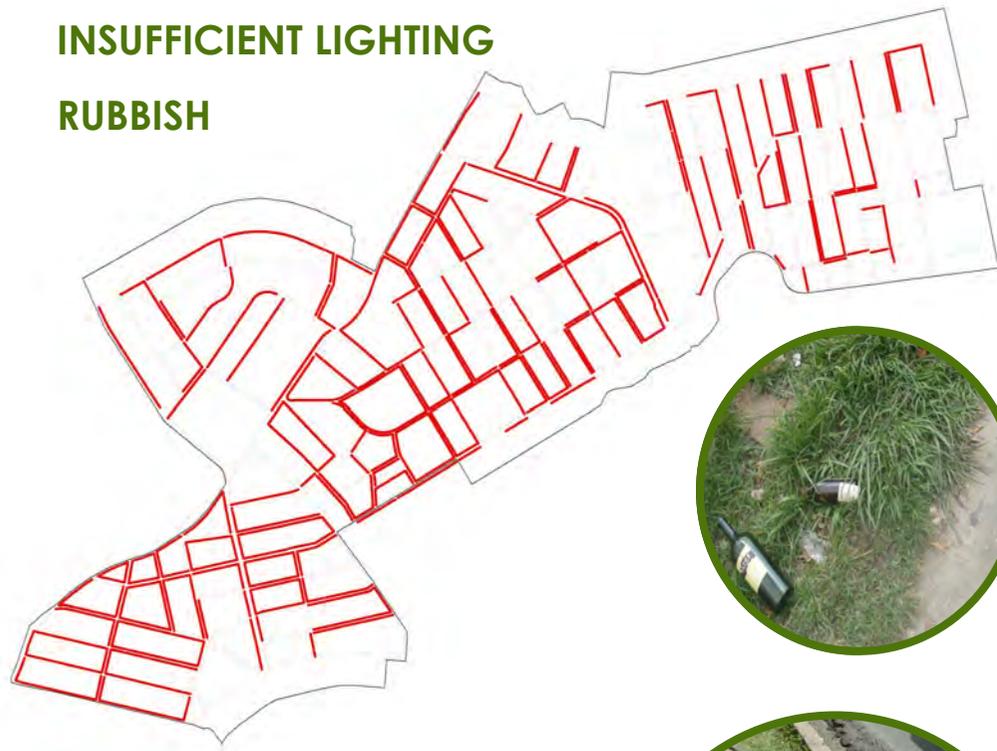
walkability
citytool



Urban
Sustainability
Consultants

INSUFFICIENT LIGHTING

RUBBISH



PARKING



CITIZENS' PRIORITIES

ENCROACHING AUTOMOBILES



The maps given here show the distribution, in each pavement section, of the aspects that received the most support in the local citizens' participatory session held during the information stage.

The WCT links the perception of safety on foot with aspects such as pedestrian lighting, rubbish, graffiti and broken facilities. The top two items are unlit streets and rubbish. As can be observed in the first map, these two aspects are widespread, coinciding with their social perception. El Cangrejo is the corregimiento that reports the fewest of these shortcomings, but some general work on these aspects would considerably improve citizens' perception of how safe it is to walk around in the area.

TREES



The third high-priority topic was lack of parking. The map shows the sections of pavement featuring parking in either public and private areas, but in contact with the pavement. Except for in the centre of El Cangrejo, car parks on the street are quite plentiful, especially in the corregimiento of Obarrio. Therefore, this point could be used to kick off discussion about local parking policy, since, although citizens demand more parking, the streets appear to be pretty well saturated. Strategies must be aimed at mobility projects addressing modal change, restricted automobile use and improvements in public transport.

Cars on pavements are the next high-priority item, and the map shows that the priority is not misplaced. This aspect is highly related with the last aspect discussed; to reach car parks located on the other side of the pavement, drivers are forced to cross pedestrian spaces, and they often park right on the pavement.

The fourth high-priority topic on the WCT's list of items is trees. The tool collects data on the number of trees and their growth. The map shows the streets where trees grow in different shades of green. San Francisco is home to large areas whose condition is worse than that of the other zones studied.

CITIZENS

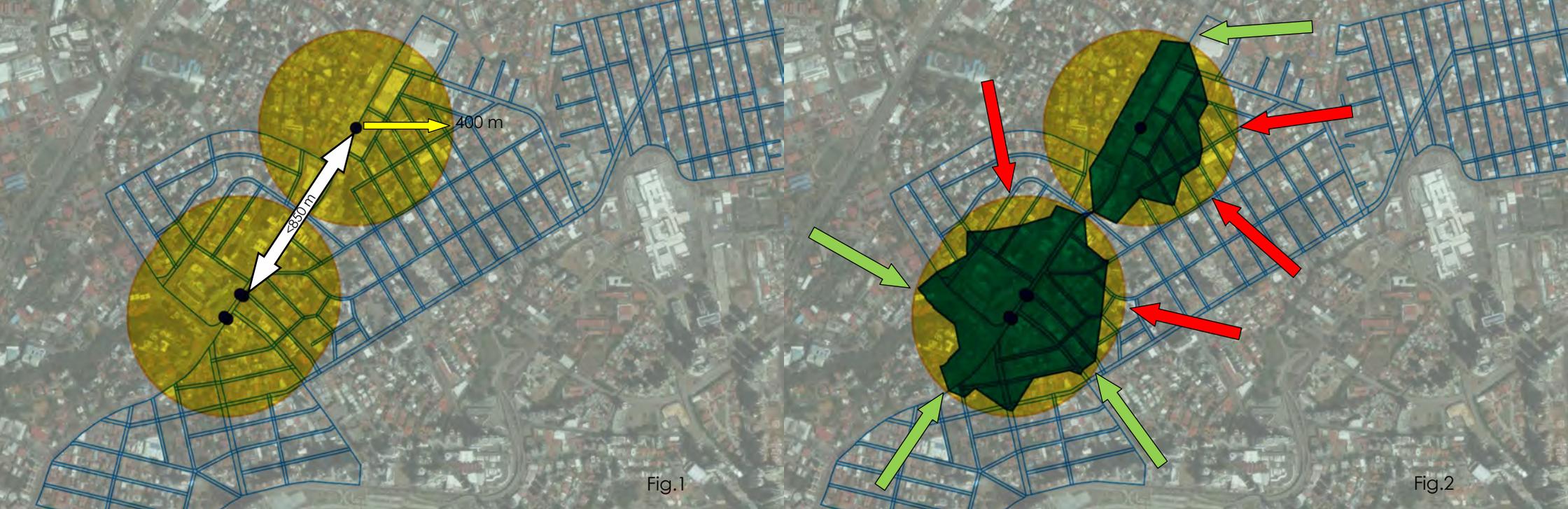


Fig.1

Fig.2

THE PANAMA METRO

In April 2014 the first underground railway line in Panama City, the Panama Metro, was opened. Its objective was to introduce a safe, fast, reliable means of transport for the metropolitan area, thus raising the quality of life for Panamanian citizens and boosting the country's competitiveness. Panama Metro Line 1 is laid out basically north to south, and it runs from the National Bus Terminal in Albrook to the Los Andes shopping centre in the northern metropolitan area, a distance of approximately 13.7 kilometres. The investment put into building and introducing this new means of transport must be used to its best advantage by providing service to an increasing number of passengers.

More passengers means better quality of life, which will be reflected in the city's sustainability indicators (such as greenhouse gas emissions). The number of trips passengers made on Line 1 has risen considerably, from 4.8 million rides a month in 2014 to 5.5 million in 2015.

STATIONS AND WALKABILITY

The network of streets (pavements and intersections included) surrounding underground stations is what provides the necessary pedestrian coverage to get the most out of the public transport system. There is a percentage of passengers who use the underground because they do not have access to any other means of transport; they would continue to ride the underground even if its stations were not located in

the best of environments. In addition to benefitting these captive passengers, improvements to the walkable network in the neighbourhood of underground stations would improve station accessibility and as a result increase the number of system users.

STATION COVERAGE

Inside the target area lie the Iglesia del Carmen and Vía Argentina underground stations. Both are on Vía España. Each is situated so as to cover a service radius of 400 to 500 metres, a distance that it takes approximately five minutes to cover on foot (Fig. 1). However, this is a theoretical radius only, which we can convert into real distance by checking how a pedestrian would cover the distance between stations on the actual

UNDERGROUND STATION COVERAGE

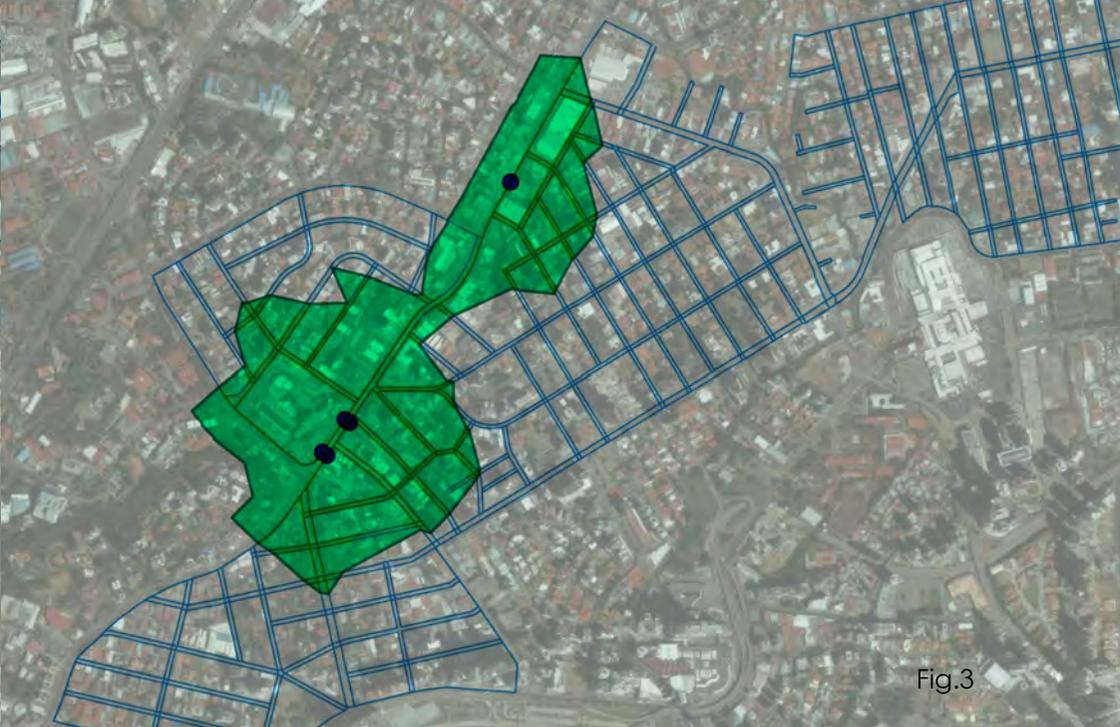


Fig.3

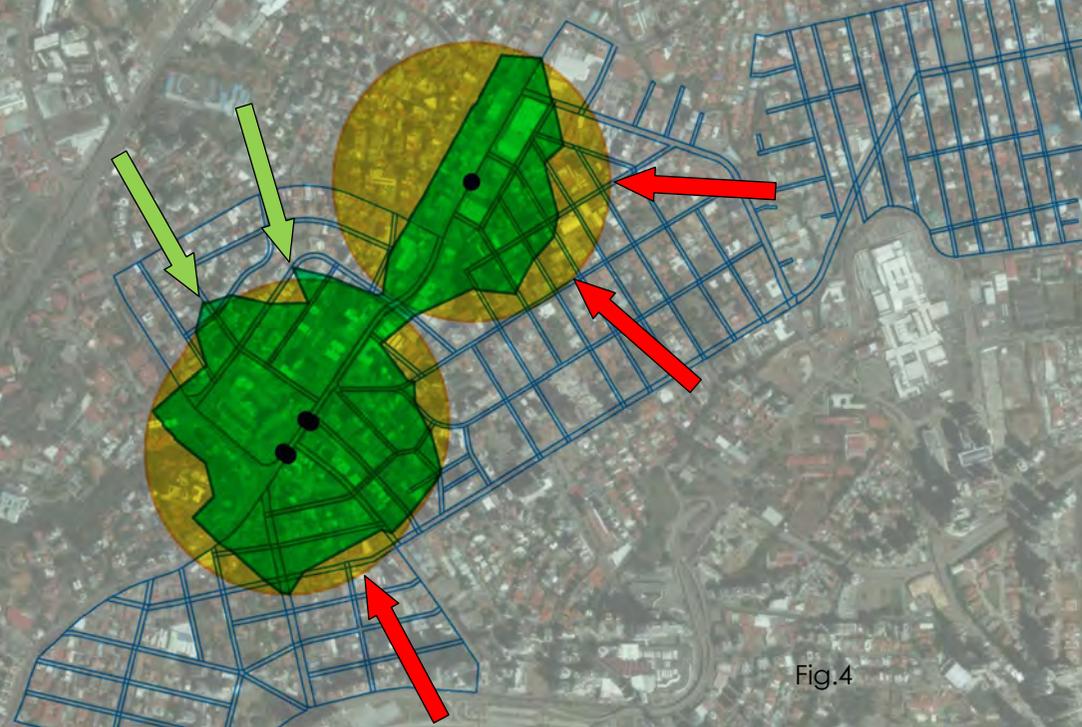


Fig.4

street (Fig. 2). Looked at in real terms, the 400 metres which are considered a suitable station service radius are reduced considerably in some areas due to the layout of the urban fabric. Low-connectivity areas (where there are few intersections and large blocks) aggravate this circumstance.

WCT SCORE

If to this analysis we add the influence of street characteristics for walkers (WCT score), we find that the theoretical distance of 400 metres, the five minutes' walk, shrinks where scores are low and expands where scores are high (Fig. 3). This reflects the fact that we walk more and better along high-scoring streets and are less inclined to walk along

low-scoring streets. If we layer the study of this coverage in the target area over the initial theoretical calculation of a 400-metre radius (Fig. 4), we find that the walkability characteristics of streets in some cases are effectively reducing the area the infrastructure covers.

MORE-WALKABLE STREETS

A good strategy for fostering and supporting Metro system use is to work on the factors affecting the walkability of the areas surrounding Metro stations. Some of the factors are faster and easier to address than others, while some are the consequence of others and are reached on their own in time.

The WCT clusters and weights these factors, which can be analysed either according to the overall score pavements earn, partial scores by areas (modal distribution, urban fabric, urban scene, safety and environment) or of course by displaying the map of each of the items covered. Thus, city managers can find the answers to questions like 'What are pavement conditions like along the streets surrounding stations?', 'Are there any potholes?', 'Are the intersections safe?', 'Do the streets have trees and furniture?', 'Are they clean and well kept?', and 'Are they well lit?'. Thus priorities can be set and strategies can be established for taking action and managing the available resources, with a view to investing in concrete objectives, not just generating maintenance expenses.

UNDERGROUND STATION



walkability
city too



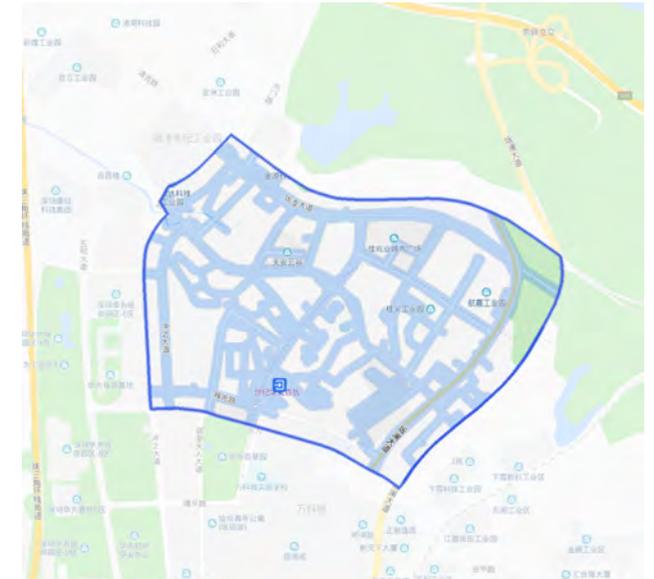
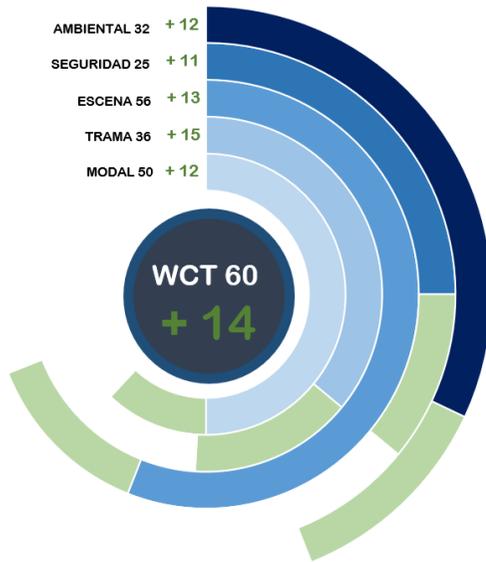
Urban
Sustainability
Consultants



(" WCT, UNA PROPUESTA PARA SHENZHEN, CHINA



**BETTER
QUALITY OF URBAN LIFE**



THE REALM

We propose a study of the pedestrian infrastructure of the realm shown in the pictures, using the WCT methodology.

The area occupies approximately 3 square kilometres and is split into four quadrants by two winding streets. The area contains different urban fabrics, different morphologies and densities, and a range of use distributions that will yield some interesting data for analysis.

WALKABILITY DATA

Data will be collected to generate and find the walkability index of the entire area and each of the homogeneous sub-areas into which it can be divided. In addition to the overall score, we can

find the score of each of the families into which data are grouped:

- * modal distribution
- * urban fabric
- * urban scene
- * safety
- * environment

Analysis of the factors affecting each family will enable us to reach a diagnosis and identify and visualise the shortcomings of each. This information, plus the urban analysis of the area, will definitely lead to some interesting conclusions that will prove most useful for city decision makers, who can then focus their actions on the basis of solid data.

MARGIN FOR IMPROVEMENT

Applying the WCT methodology will furthermore enable us to pin down the margin of improvement for sections or streets in each of the data families.

This information is especially important, because it enables the authorities to know beforehand where their investments will produce the most benefits, as they will be aware of the locations where action will have the greatest impact on improved walkability and the multiple benefits associated with it.

HIGH-PRIORITY PROJECT IDENTIFICATION

After the diagnosis is run, a proposal will be made for a high-priority project based on the WCT's findings and the points that are identified as having the most potential to improve quality of life for the area's inhabitants.

The urban space that is given priority will not only be the location of the proposed improvements but will also be scheduled to be fitted with pollution-absorbing paving, so it can help improve the city's air quality.





5. WCT awards and news.....

BANCO INTERAMERICANO DE DESARROLLO- INICIATIVA DE CIUDADES EMERGENTES Y SOSTENIBLES

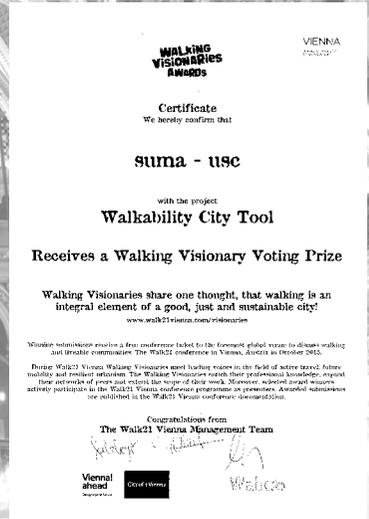
2015, ALCALDÍA DE PANAMÁ

APLICACIÓN WCT EN CIUDAD DE PANAMÁ



WALK21 2015, VIENNA, AUSTRIA

WALKABILITY CITY TOOL, ONE OF THE
WALKING VISIONARIES AWARDS





PEATÓNITO 2015, VIENNA, AUSTRIA
WALKABILITY CITY TOOL,
WITH THE PEDESTRIAN REVOLUTION!



JUANPI DOLANDE, PANAMÁ 2015
WALKABILITY CITY TOOL,
WITH THE ACCESSIBILITY!



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