

CICLOVÍA RECREATIVA

IMPLEMENTATION AND ADVOCACY MANUAL



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Since the second half of the 20th century, Latin America and the Caribbean have been the epicenter of a rapid urbanization process. This has engendered a series of challenges with respect to the provision of infrastructure, public services, housing, jobs, transportation, health services and education to an ever-increasing population. Although the growth of cities has contributed to improving the standard of living for many, not all of the changes have been favorable. Urban life has also had a negative impact on people's quality of life, especially the poorest. These adverse changes include environmental contamination, insufficient public services and transportation, increases in delinquency and insecurity, a rise in substance abuse, and the deterioration of physical, social and recreational spaces that are occupied more and more by cars.

Moreover, the urban mobility system has favored the use of motorized vehicles, to the detriment of walking or bicycle riding. There are fewer options for recreation and entertainment in open spaces in today's cities, and the population's diet has shifted to the consumption of mostly processed foods that are high in fat, sugar and salt. Our current urban lifestyles contribute to increases in overweight, obesity and sedentary lives, which are risk factors associated with the appearance of chronic diseases such as diabetes, heart disease and cancer. These diseases are now the primary causes of premature death and disability in Latin America and the Caribbean, to which 2 out of every 3 deaths are currently attributed. These diseases have the largest impact on the most vulnerable population groups, since they lack access to quality health services that include prevention, early detection and adequate treatment. This reality exaggerates inequity even further, and favors the persistence of the cycle of poverty and disease.

Nonetheless, in the midst of these problems there are also some promising alternatives. For example, physical activity is considered one of the most effective ways to prevent chronic diseases. Designing good quality programs that promote physical activity requires an environmental approach that includes the input of diverse disciplines, professionals, political levels and strategies. Environmental interventions such as creating parks, plazas and other spaces for physical activities are highly recommended for their effectiveness, and their accessibility to all people.

In this context, the Car Free Sundays or "*Ciclovía*" program offers an attractive option for cities in the Americas, not only because it provides an opportunity to engage in physical activity and prevent the consequences of unhealthy lifestyles, but also because it helps to address other challenges of urban life today, such as air contamination, insecurity and danger in the streets, and a lack of public spaces. *Ciclovía Recreativa* is gaining more and more ground in different cities of the Americas, where experience has shown that its implementation requires a large dose of determination, inter-sector collaboration, and perseverance.



Although it does not necessarily require large-scale investments, we should not underestimate the complexity of developing and maintaining such a program. For this reason, the Pan American Health Organization (PAHO) and the Centers for Disease Control and Prevention (CDC) have joined forces to develop a basic tool that can serve as a guide for planning, promoting and implementing a Ciclovía program. Various professionals from the public health and urban planning disciplines and experts on Ciclovías have pooled their experiences to develop this manual. Our thanks to all of them.

This manual can be used by anyone who wants to implement or advocate a Ciclovía Recreativa program. We hope that it contributes to efforts aimed at improving the quality of life in our cities.



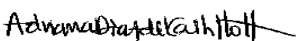
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WHAT IS IN THIS MANUAL?

This manual is a basic guide to the essential steps for planning and implementing Car Free Sundays, or *Ciclovías*.

The manual is divided into 8 sections that correspond to the planning, development and implementation phases. It also contains two sections that provide additional tools for promoting and evaluating a *Ciclovía*. These tools include aspects related to public health and transport engineering.

The manual is available at this website: <http://cicloviarecreativa.uniandes.edu.co/>, where you will find videos and documents that can be downloaded, photographs, and links that will help you read this document and get more informed.

How to read this manual:

The manual follows a logical sequence of steps and procedures. However, you are free to read the section that best responds to your needs at any given moment.



In the boxes marked with this icon, you will find examples drawn from Vía RecreActiva of Guadalajara, a 25 kilometer *Ciclovía*.



In the boxes marked with this icon, you will find examples drawn from the Ciclovía of Bogotá, which is 121 kilometers in length.

In some cases, experiences from other places will also be presented to illustrate concrete situations. These cases will be marked with the logo of the corresponding program.



This icon means that a video is available for downloading at this web page: <http://cicloviarecreativa.uniandes.edu.co/>



This icon indicates that a document is available for downloading.



Video 1 - Interview with Gabriel Michel, Director, Vía RecreActiva, Guadalajara.

<http://cicloviarecreativa.uniandes.edu.co/english/manual.html>





What is Car Free Sunday, or a *Ciclovía Recreativa*?

Car Free Sunday, or a *Ciclovía Recreativa*, means temporarily making the streets available to a city's residents so that they have a safe and free space for recreational and sports activities.^{1,2} Vehicle access is briefly closed in the space where the *Ciclovía* is taking place. This is different from a permanent "*ciclovía*" (or bike path), since it is a space opened up for recreational reasons rather than for transport purposes. It is carried out on a fixed day of the week (usually Sundays, and sometimes on holidays), and lasts for an average of 6 hours. The program has different names in different countries. In this manual, we use the term *Ciclovía*, since this name was adopted by the United Ciclovías of the Americas (CUA).³



Video 2 - Ciclovías Recreativas

<http://cicloviarecreativa.uniandes.edu.co/english/index.html>

What are the benefits of implementing a *Ciclovía*?

Implementing a *Ciclovía* program generates benefits related to numerous aspects of urban life. Studies carried out in Latin America have found that the program offers communities the chance to engage in different physical activities without restrictions related to cost, social class, age or recreational preference.² This type of program has a huge potential for helping people adopt healthier lifestyles, and thereby improve their health. It is estimated that some *Ciclovía* programs provide local residents with 5% of the weekly physical activity recommended by the US Centers for Disease Control and Prevention (CDC).⁴

However, the benefits of a *Ciclovía* program go much further than physical activity alone, and should be viewed from a broader health perspective. *Ciclovía Recreativa* helps to reduce inequity, through providing all segments of the population with recreation, sports and ways to utilize their leisure time, enabling the recovery and democratization of public spaces under equal conditions.⁵ By taking over urban spaces in this manner, citizens learn the value of living with each other, communicating, social cohesion, respect, pertinence, democracy and social inclusion.⁶ *Ciclovía* programs let people develop a new way of interacting with their cities, as they pass through spaces of cultural and architectural importance, moving safely through areas that have historically been the sole domain of automotive vehicles.

The *Ciclovía* also has social impact, generating opportunities for jobs and creating spaces where different community services can be offered. The program stimulates the economic reactivation of communities, and promotes community participation in volunteer activities.²

In addition, by reducing traffic and replacing motorized vehicles with walkers, cyclists, skaters and joggers, a *Ciclovía* program can help protect the environment by improving air quality and lowering noise levels in cities.⁷



What should be the objectives of a *Ciclovía* program?

The objectives can be as diverse as the benefits. Conditions in each city are different, and the needs of communities will also vary. Thus, it is likely that emphasis will initially be placed on objectives linked to the specific context when a program is first being presented to the competent public officials, and that other objectives will be developed later in a parallel manner. The main objectives of a *Ciclovía* program include:

- Providing a space where local residents can take part in free recreational activities and enjoy their leisure time (sports and recreation, art and culture, science and technology, and social development activities).
- Reclaiming the streets for citizen interaction.
- Generating job opportunities.
- Promoting the importance of citizen coexistence, which includes democratic values, respect and tolerance, communication, and social cohesion.
- Generating a sense of belonging to the city.
- Helping to reduce inequity.
- Favoring healthy lifestyles.
- Helping to prevent chronic diseases through promoting physical activity.
- Reducing traffic.
- Promoting the use of alternative means of transport.
- Reducing environmental contamination and noise pollution.

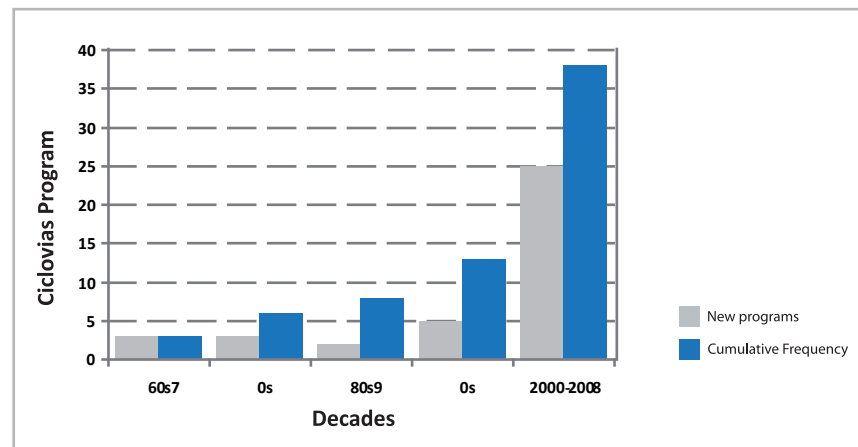
What are some of the experiences implementing *Ciclovías*?

The first *Ciclovías* registered appeared in the 1960s. Since the 1970s, the initiative has gradually spread to many corners of the American continent, especially Latin American cities. The movement's largest growth began in the new millennium, as illustrated in Figure 1. The good results and positive response to the *Ciclovías* has helped to spread the word about this experience.

The *Ciclovía Recreativa* of Bogotá, which began in 1974 and is known as the “*Ciclovía*,” is considered the pioneer in the Americas and has inspired the people of many other cities



Figure 1. The appearance and cumulative growth of Ciclovía programs in the Americas




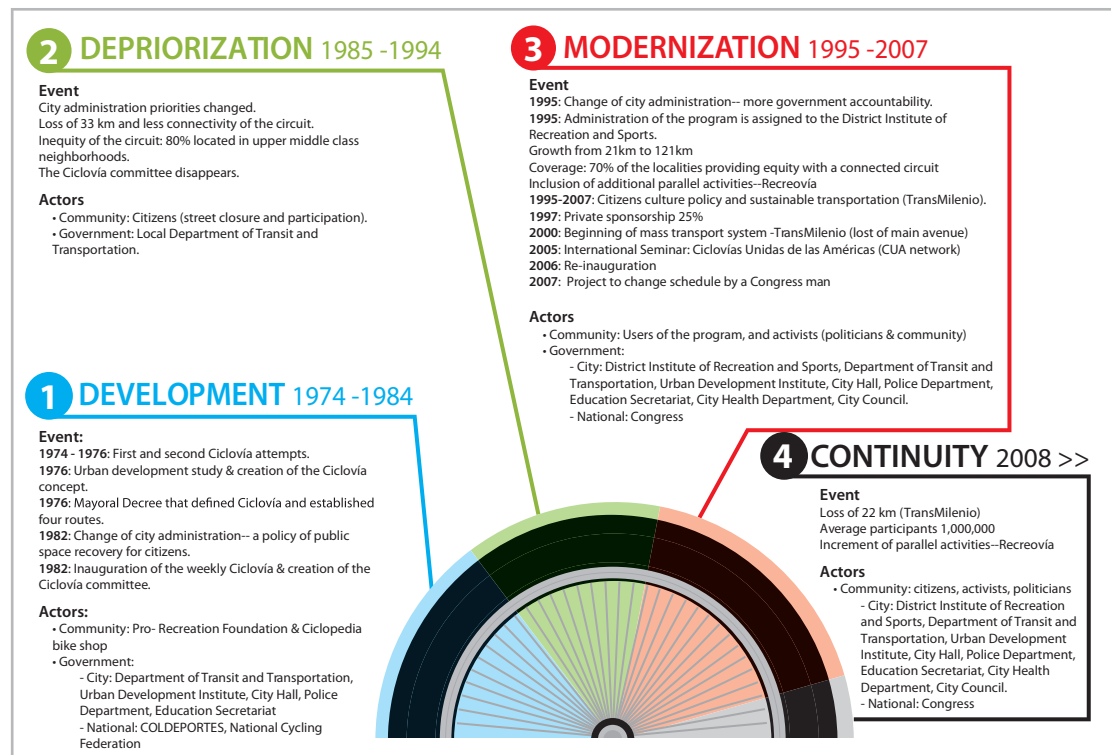
 **Appendix 1** - Source: Sarmiento, OL and colleagues. Ciclovías de las Américas. Un programa de salud pública.²
http://cicloviarecreativa.uniandes.edu.co/english/advocacy/anexos/ENGLISH_final_vertical.pdf

Figure 2. History of the Ciclovía of Bogotá



The United Ciclovías of the Americas (CUA) network was created at the CUA's First International Seminar in Bogotá, Colombia in 2005. This network is made up of municipalities, government institutions, NGOs, private businesses, and international organizations that are looking for ways to help expand these programs over the entire continent.⁸

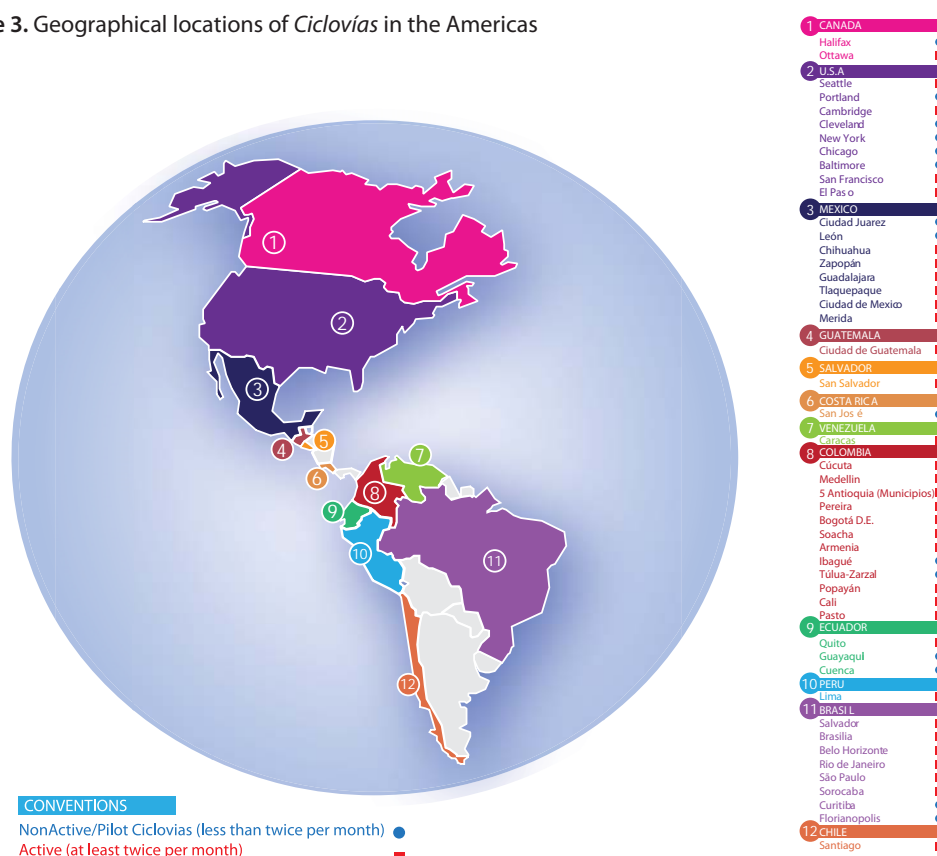
What is the current status of *Ciclovías* in the Americas?

Today, a *Ciclovía* program takes place at least two times per month in 12 nations of this continent. Approximately 33 cities are implementing programs, and there are five more being organized in rural municipalities. The programs occupy an average of 15.3 kilometers (ranging from 1 km to 121 km), and anywhere from 60 to 1,000,000 citizens take part in each event.⁴

The municipalities or cities with *Ciclovías* are responsible for promoting, expanding and improving these programs. Colombia has the largest concentration of *Ciclovías* in the Americas, led by the *Ciclovía* of Bogotá, which measures approximately 121 km and has an average of 1,000,000 participants every Sunday or holiday. The 29 kilometers of the *Ciclovía* in Medellín, Colombia, has an average attendance of more than 50,000 people.⁹ More than 140,000 people take part in Guadalajara's La Vía RecreActiva, which covers 25 km, and the "Muévete en Bici" (Move on Bikes) program in Mexico City covers a distance of 14 km and has 15,000 participants every Sunday. In Santiago, the capital of Chile, 3,000 people take part in the Ciclo RecreoVía program, which covers a total of 7 km,⁹ while 40,000 Ecuadorians participate in the 29 km Ciclopaseo in Quito. In the United States, there are *Ciclovías* in Cambridge, El Paso, San Francisco and Seattle.¹⁰



Figure 3. Geographical locations of *Ciclovías* in the Americas



 **Appendix 1** - Source: Sarmiento OL and colleagues. *Ciclovías de las Américas. Un programa de salud pública.*²
http://cicloviarecreativa.uniandes.edu.co/english/advocacy/anexos/ENGLISH_final_vertical.pdf



THE CASE OF GUADALAJARA: History of the Vía RecreActiva

The initiative began in Guadalajara in late 2003, thanks to the interest of a citizen's group called "Public Cities." In response, the Guadalajara City Council—through the Municipal Council on Sports—took on the task of developing the program. The goal was to reclaim public spaces for use in sports, recreation, and cultural activities.¹¹ After the project was proposed and approved, the planning, organization and implementation of the program known today as Vía RecreActiva began in May 2004. By the end of that year, the program was utilizing 11.7 km of the city's main avenue. A year later, all of the city's socio-economic zones were connected through the 21.5 km *Ciclovía*, drawing more and more people to the program each week.⁹

By 2009, a team of 450 people were collaborating the Vía RecreActiva program, serving more than 180,000 participants who enjoy a Car Free Sunday from 8:00 am until 2:00 pm. The program includes three main routes and covers a total of 25 km.¹² An average of 120,000 participants were counted in the Vía RecreActiva during the last months of 2008, making this an extremely successful program. By early 2009, more than 180,000 participants were counted, making the Vía RecreActiva a model for other cities in Mexico and the world.¹² Other municipalities in the greater Guadalajara urban area have also developed their own interconnected programs, which add up to 64 km that are used by 250,000 local residents.





1. BASIC REQUIREMENTS

The following are basic requirements for starting up a *Ciclovía* program:

1.1. Advocacy Coalition

This is a group of citizens who take the initiative to start up a program and negotiate its implementation with local authorities. The group's main function is to request implementation of a program by the local government, and to communicate with the leaders of different social groups (universities, trade unions, chambers of commerce, religious groups, business groups, etc.) to seek their involvement and support. The Coalition's makeup will depend upon the specific conditions in each municipality or city. The group can be organized by anybody who believes in this type of program and wants to promote one. In many cases, this advocacy group will include activists who encourage bicycle use as an alternative form of transportation and recreation, or individuals from the transport, tourism, health, business, recreation and sport sectors. Group members can include representatives of public institutions or private businesses, academic institutions or non-governmental organizations. The Advocacy Coalition's work will be most effective if the group is already consolidated and has worked together previously, but forming a new group is an equally valid approach.



THE CASE OF GUADALAJARA: Advocacy Coalition

The name of the advocacy coalition in this city was "Public Cities," and its members included sympathetic businessmen from different political parties. One of the first tasks undertaken by this group was presenting a development proposal for the city, whose objective was positioning Guadalajara as a center for business tourism. This led to the idea of including a *Ciclovía Recreativa* program, to support the city's overall development.

1.2. A Political Commitment from the Mayor or Governor

Given the important political role played by mayors and governors, their support of the program is essential. At the moment when the program's implementation begins, their support will be decisive, since they will be the ones who allocate resources for setting up and operating a *Ciclovía* program in their municipality and/or city.



THE CASE OF GUADALAJARA: The Mayor's political commitment

The *Vía RecreActiva* project had the Mayor's support from the time it began in 2004, and also received support from the following administration, elected in 2007. *Vía RecreActiva* was declared the municipality's most important "community living" project. The project has grown from 11 km to 25 km in just four years. In addition, the mayors of adjoining municipalities—which include Zapopan, Tlaquepaque, Tlajomulco and Tonalá—also implement the program, which has allowed them to link up and expand the *Ciclovía* to 64 km in the greater metropolitan area.



Figure 4. Map of the Vía RecreActiva in Guadalajara



THE CASE OF BOGOTÁ: The Mayor's political commitment

In the years between 1995 and 2003, Bogotá was administered by a series of mayors who shared similar views about the city and citizenship. They promoted new cultural practices, improvements to infrastructure, and alternative means of transport. During these years, the Recreation and Sports Institute was responsible for the *Ciclovía*'s administration, increasing its length from 33 to 121 km and creating a more solid organizational structure.

1.3. Municipal Government Offices

It is important to clarify which local government office will be responsible for coordinating the program, right from the start. The local office whose responsibilities coincide most closely with the program should be identified, so that it can plan, set up and implement it.



THE CASE OF GUADALAJARA: Responsibility for the project

The designated institution is Guadalajara's Municipal Council on Sports, whose mission is: 1. To strengthen, promote, and coordinate athletic activities and a physical culture among the citizens; 2. To insure the quality of sports, recreational, and other public activities; and 3. To contribute to the population's comprehensive development. In other municipalities of Mexico, the project is coordinated by local offices responsible for promoting sports or tourism, or urban development and planning offices.

Offices responsible for Ciclovía projects in other cities:

In Bogotá, the Department of Transit and Transportation was responsible for the program when it first began. Later, responsibility was transferred to the Recreation and Sports Institute. In Venezuela, transit and transportation authorities are responsible, while the program is in the hands of a non-governmental organization (NGO) in Quito and the Environment Secretariat in Mexico. Administration of the programs in El Paso and Seattle include involvement of the health sector.

1.4. Project Leader

This is the person or group of people who, based on their technical and institutional expertise, will be responsible for the program's overall development.



THE CASE OF GUADALAJARA: Project leader

There are two leaders: 1) the project leader, who has the knowledge required for overseeing technical aspects of the Via RecreActiva's implementation (design, definition of routes, schedules and personnel); and 2) the institutional leader, who negotiates with local authorities and is responsible for allocating resources and channeling support from different government offices such as road works, medical services, police, etc.

The difference between the project leader and the institutional leader is that while the project leader plans and coordinates studies about technical aspects related to roads, social factors and training needs, the institutional leader tackles issues related to public policies and negotiates with the corresponding governmental institutions. The Advocacy Coalition, meanwhile, undertakes an advocacy role with different social groups.

1.5. Financing

To insure sustainability, *Ciclovía* programs should ideally be financed with city or municipal resources. Since this is a program that benefits all citizens, utilizing public resources for its implementation and maintenance can be justified. Most existing programs receive public financing, except for the Ciclorecreovía program in Santiago, Chile, which mostly uses private funds. The programs' real costs range from US\$ 45,000 to US\$ 2,072,896 per year, which includes operational and maintenance costs.⁴

Access to additional revenues generated by publicity and/or sponsorship is also suggested, and guidelines regulating the involvement of private companies should be clearly defined. Such partnerships can be beneficial to all parties involved.



Appendix 2 - Guidelines for private business participation in the Muévete en Bici program

<http://cicloviarecreativa.uniandes.edu.co/english/images/anexos/Lineamientos.pdf>



THE CASE OF MEXICO CITY: Private sector participation

The Muévete en Bici program has invited private companies to take part in the program, which offer attractive events to program participants. The Disney Channel, for example, organized a performance of BMX bike stunts. The Channel paid the entire cost of the event, which attracted a large public and was very successful. In exchange for the publicity, the Channel also donated 15 bike-drawn strollers.



Photo 1. Bike-drawn strollers donated to the Muévete en Bici program by private companies.



2. IMPLEMENTING A CICLOVÍA PROGRAM

2.1. PHASE ONE: PLANNING

The program is presented and approved during this phase. The *Ciclovía* route will be planned, and any studies needed for its adaptation, implementation and future evaluation will be carried out.

2.1.1. How to Gain Acceptance for the Program

The Advocacy Coalition should request approval of the program by the Municipal Government. The steps for gaining program approval include:

a. Developing and presenting the proposal

A proposal should be developed that will be presented to the Municipal Government. The proposal should include:

- An introductory letter from the CUA.
- A definition of the program and its impact both locally and internationally.
- The program's objectives.
- A time line.
- A budget.
- Additional documentation to assist a better understanding of the project (videos, photos, informational brochures).



Appendix 3 - Guide for Proposals

We recommend that you use this guide and adapt it to the needs of your community. When this information is being presented to decision-makers or politicians, it should not exceed one page. In the case that your *Ciclovía* project differs from the model, please contact the CUA for more specific assistance.

<http://cicloviarecreativa.uniandes.edu.co/>

Since some public officials will not have had any prior experience with a *Ciclovía* program, the provision of additional information can greatly enhance their understanding of the program's components. This information can include videos, photos and other documents that can be found in Section 4 of this manual, and which will be useful for promoting the program at this stage.

(available at: <http://cicloviarecreativa.uniandes.edu.co/advocacy/>)

b. Approval of the program by the Municipal Government

Once the local government has given its consent, it should assign the program to the competent government office and allocate the corresponding resources. This office MUST have ALL studies, logistics materials and duly trained personnel in place PRIOR to initiating the program (see Development Phase). The government office will be responsible for hiring the program leader.





THE CASE OF GUADALAJARA: Program approval

The following steps were part of the process undertaken by the Advocacy Coalition and that led to the program's approval:

1. In September 2003, the business advocacy group became interested in implementing a *Ciclovía* program and began setting up meetings with public officials.
2. The program was presented to the State Governor.
3. The program was presented to Mayors from the Guadalajara Metropolitan Area.
4. In March 2004, the Guadalajara Municipal Government approved the *Ciclovía Recreativa* program and assigned its immediate implementation to the Municipal Council on Sports.
5. The Council's director was named as the project's institutional leader, and in turn hired the project leader to carry out preliminary studies.
6. Preliminary studies were begun following their approval.
7. Six months later (September 2004), the program's implementation began.

2.1.2. Design of the Preliminary Route

A key activity when planning a *Ciclovía* program is the preliminary definition of the route. The design should be based on direct observation, the use of geographic information systems (some cities have databases with this type of information that can serve as a baseline), and the analysis of photographs and data used in urban and transportation planning. The following aspects of a city or municipality should be considered:

a. The city's historical development

Cultural and recreational attractions should be identified, including:

- Parks, plazas or entertainment centers.
- Museums.
- Monuments.
- Architectural landmarks.

When designing the route, inclusion of such sites will be a sort of natural magnet that helps attract participation in the program. Implementing a *Ciclovía* program requires closing an attractive roadway. If there are no attractions along the route, local residents will be less likely to make use of it.



THE CASE OF GUADALAJARA: Sites of interest

The following map indicates sites of interest that can be found along the three routes of Guadalajara's *Vía RecreActiva*: Arcos de Vallarta, Exconvento del Carmen, Parque Revolución, Plaza Guadalajara, and the Templo San Juan de Dios.

View the map at:

http://www.fomentodeportivo.gob.mx/sitios_via.php?PHPSESSID=bdfc7f35a6c54779a534d611664f8c92

b. Pavement quality and the slope of the land

The quality of roads that will be included in the *Ciclovía* route must be able to insure the safe transit of bicycles, roller skates and pedestrians. Ideally, a flat asphalt surface is preferable (although cobblestones or concrete can also be considered), which has drainage for rainwater and is resistant to root penetration. If the roadway contains storm drains, these should have protective grates to avoid damaging bicycle tires. The quality of the pavement of potential roads should be studied to determine whether they need any repairs. In the case that they do, this cost should be included in the project's initial budget (for example, unpaved roads and roads requiring repairs). If bridges or tunnels are included in the route, adequate signs will need to be posted to insure the safety of all people using the *Ciclovía*.

In addition, the slope of the roads should be determined at 20-meter intervals, with the help of a GPS system. The slope should not exceed 5%, since larger inclines are associated with more frequent accidents.



THE CASE OF GUADALAJARA: Using tunnels

Guadalajara's *Via RecreActiva* includes a tunnel and an underpass. In order to insure safety, the following measures were adopted:

1. At the entrance, a sign instructs all people to enter the tunnel on foot (walking); the same information is repeated on another sign as they continue.
2. Operations staff (guides or other support personnel) is posted at the entrance, and ask riders to dismount their bicycles and walk through the tunnel on foot.
3. The tunnel is closed to vehicles.

Photo 2-3. Tunnel in Guadalajara



a) on a typical weekday



b) during the *Ciclovía Recreativa*



THE CASE OF BOGOTÁ: Using bridges and speed reducers

Bogotá's Ciclovía Recreativa uses several routes that include vehicular bridges. Specific rules have been instituted for the use of bridges to insure people's safety. In this case, people must cross the bridge on foot. Speed reducers have also been set up on roads with inclines (examples of specific signs may be found in Section 2: Development).

Foto 4-5. Bridge in Bogotá



a) on a typical weekday



b) during a *Ciclovía*



Video 3 - How to Cross a Bridge

<http://cicloviarecreativa.uniandes.edu.co/english/planning/preliminaryRoute.html>

c. Existing uses of the route

Developing a *Ciclovía* should be seen as something beneficial, rather than as a barrier or impediment to the population. Thus, it is important to consider the existing use of a particular roadway. For example, activities that have been carried out previously on the road or an adjacent road—such as a flea market or parking lot—could be affected by the program. It is important, therefore, to design routes that won't affect access to hospitals, military bases, religious centers, residential complexes, social clubs and hotels.



THE CASE OF GUADALAJARA: Hotel entrances

Guadalajara's Vía RecreActiva passes by 15 different hotels. Most of these have alternative access via side streets. In the case of hotels without this option, an exclusive lane of the Vía RecreActiva needs to be reserved to insure vehicle access for hotel guests.

Photo 6. Entrance to a hotel in Guadalajara



a) hotel along the route of the Vía RecreActiva



b) sign used for hotel entrances



THE CASE OF BOGOTÁ: Entrances to special locations

Bogotá's Ciclovía passes religious centers, commercial zones and hospitals. Therefore, the route needs closure points that allow the passage of vehicles without affecting the Ciclovía.

d. Photographic analysis

Photographs that illustrate the route and its physical characteristics should be used when presenting studies to local authorities.

e. Studies of risk factors

A risk map should be developed that indicates the location of high risk zones for flooding, fires, crime, the overflow of rivers, seismic activity, frequent accidents, and large concentrations of people (markets, temples, etc.), along with specific contingency plans. This map is only intended to assist operational staff in preparing any necessary responses in the unlikely event that an emergency were to occur.

A public safety manual should be developed to insure preparedness in the case of any emergencies during a *Ciclovía* program.



Appendix 4 - Public Safety Manual used by the Muévete en Bici program

<http://cicloviarecreativa.uniandes.edu.co/english/planning/>

f. Accessibility

Experience has shown that local residents are more likely to use a *Ciclovía* program when it is easily accessible. There are three main types of access:

- Via bicycle (it is recommended that the maximum distance traveled to reach a *Ciclovía* should be 2 km, since greater distances are associated with lower safety indices).
- Via private cars that park nearby the *Ciclovía*.
- Via public transportation.



Via
RecreActiva
Guadalajara

THE CASE OF GUADALAJARA: Access to the Vía RecreActiva

Bicycles are permitted on the light rail system on Sundays when the Vía RecreActiva is operating. There are also 3 private companies that lend out bicycles free of charge.

Photo 7. Guadalajara's light rail system



THE CASE OF MEXICO CITY: Access to Muévete en Bici

The Metro and Metrobus systems permit access to bicycles every Sunday, all day long, throughout the entire year. In addition, the City's Institute on Youth has a bicycle lending service, and a private company has set up 4 fixed bike-stations that lend out bicycles free of charge.

Photo 8. Bicycles on loan from the Institute on Youth, Mexico City.



e. Income levels and population density

One goal of the *Ciclovía Recreativa* is to help create greater equity. It is absolutely essential to include different socio-economic zones of the city or municipality in the route, insuring access to all segments of the population. The route should be designed to reach the most densely populated zones of the city or municipality, since these are generally the highest risk areas. However, this goal should be pursued in a natural way that does not compromise the route's logic or connectivity.



Via
RecreActiva
Guadalajara

THE CASE OF GUADALAJARA: Population and equity

The *Vía RecreActiva* is accessible to neighborhoods with different socio-economic conditions. The main route was selected in part because it meets this criterion.

Photo 9. Guadalajara's different socio-economic zones



a) Constanza - Gomez Farias



b) Juarez - Av 16 de Septiembre



THE CASE OF BOGOTÁ: Population and equity

Today, Bogotá's Ciclovía route crosses through neighborhoods with many different socio-economic conditions. Between 1984 and 1995, the Ciclovía was focused in the northern part of the city where there is a greater concentration of high-income residents. Later the Ciclovía was extended to the southern part of the city, which has permitted access to a greater range of socio-economic sectors.

Photo 10. Bogotá's different socio-economic zones



a) south of the city



b) north of the city



THE CASE OF MEXICO CITY: Population and equity

Two *Ciclovías* are organized in Mexico City in a parallel manner every Sunday. One is a fixed route in the city center, and the other is organized in adjacent municipalities. This system encourages different socio-economic sectors to take part in the program.

f. Connectivity

A *Ciclovía Recreativa* route should be designed in such a way that participants can make linear or circuitous trips without any interruptions. This helps make the route safer, adding to its acceptance by local residents. The length of the route should depend upon the number of inhabitants in a city or municipality. It is generally recommended that a route should not be shorter than 4 km, and ideally should have a length of at least 10 km.

Routes



Figure 5. Vía RecreActiva's linear route.



Figure 6. The circuit route of Ciclovía of Bogotá.

2.1.3. Road and Transit Studies

Once a preliminary route has been designed, studies should be carried out to determine the impact that closing roads will have on the city. Consulting first with previous studies can yield helpful results, since urban planning studies often include some of the information being sought. This activity will require working together with the transit authority or corresponding government office, which should be responsible for carrying out any additional studies that are undertaken. This coordinated work provides a good opportunity for presenting the project to transit personnel, awakening their interest and securing their support.

The road and transit studies consist of evaluating the types of roadways, traffic flows, traffic density, and the types of vehicles traveling on the selected route.

The design of the *Ciclovía* route should preferably include main roads that are wide and travel in only one direction. In the case of two-way roads, it is important to determine whether or not they provide the necessary protection to keep vehicles away from participants. Roads with median strips or other dividers provide this type of protection.

In addition, alternative vehicular routes that are capable of receiving the volume of vehicles normally traveling on the *Ciclovía* route should be explored. These routes need to be easily accessible, above all for the users of public transportation.

Redirection of vehicular traffic

Photo 11. Use of one-way main roads



a) on a typical weekday



b) during a *Ciclovía* day in Bogotá

Photo 12. Use of two-way roads



a) on a typical weekday



b) during a *Ciclovía* day in Bogotá

Photo 13. Use of a divided roadway



a) on a typical weekday



b) during a *Ciclovía* day in Bogotá

Photo 14. Shared use of a main roadway with a rapid transit bus system in Jakarta, Indonesia.



Traffic density:

A visual vehicle count should be conducted on roads selected for the *Ciclovía* route, as well as on alternative roads. The study should be conducted at different times and days of the week, including weekdays, Sundays, and during rush hour and off-peak hours. In addition, vehicles should be classified in two categories: public transport and private transport. The count points should be selected according to traffic density throughout the day. This will help evaluate the extent to which normal traffic on the selected route will be affected, and make projections of anticipated increases in traffic along alternative routes.



Appendix 5 - Protocol for traffic density

<http://cicloviarecreativa.uniandes.edu.co/english/planning/transportStudies.html>



Appendix 6 - Example of the form used in the field when determining traffic density

<http://cicloviarecreativa.uniandes.edu.co/english/planning/transportStudies.html>



Appendix 7 - Example of the summary of collected data.

<http://cicloviarecreativa.uniandes.edu.co/english/planning/transportStudies.html>



2.1.4. Community and Market Research

Community and market research provides important input for decision-makers, program organizers and the community. This information is also useful for measuring the program's baseline, in order to evaluate its effectiveness once it is operating. These studies can be carried out by universities or marketing firms. The cost of research should be included in the program's budget.

Some of the research objectives are:

- Evaluating the degree to which *Ciclovía* programs are accepted by potential program participants (merchants and residents living in the program's area of influence).
- Evaluating the extent to which local residents are planning to participate in the *Ciclovía* program.
- Evaluating the perceptions of merchants whose businesses will be affected by the program, and the impact they anticipate.
- Evaluating acceptance of the scheduled hours of the *Ciclovía* program.
- Characterizing the community's behavior in terms of recreation and physical activity.
- Characterizing the community with respect to quality of life indicators.

Community and market research will consist of the following phases:

- Selection of the sample and the study population.
- Design of the questionnaire and data collection.
- Data analysis and presentation of findings to stakeholders.
- Consultation.

a. Selection of the sample and the study population

The study population: A representative sample of households will be selected within a 500-1,000 meter radius of the preliminary *Ciclovía* route, and a representative sample of merchants along the preliminary route. The optimum size of the sample will depend upon the population density of the city or municipality, and available resources.

b. Design of the questionnaire and data collection

Two questionnaires should be developed. One will be used with local businesses, and the second will be used with the study population of households in the preliminary route's area of influence. Data can be collected through in-person interviews, or over the telephone.





Appendix 8 - Survey form for neighborhood residents

<http://cicloviarecreativa.uniandes.edu.co/english/planning/socialStudies.html>



Appendix 9 - Survey form for local merchants

<http://cicloviarecreativa.uniandes.edu.co/english/planning/socialStudies.html>

The questionnaire for local merchants includes the following sections:

- Socio-demographic factors.
- Acceptance and potential support to the program.
- Sales, including the ways customers reach the business premises and its work hours.

The questionnaire for neighborhood residents includes the following sections:

- Socio-demographic factors.
- Acceptance of the program.
- Recreation and physical activity.
- Quality of life.

Data can be collected through in-person interviews, or over the telephone.

c. Data analysis and presentation of findings

A descriptive analysis of the data should be conducted, which will assess public acceptance of the program and any potential obstacles or facilitating factors. In addition, this analysis should describe the prevalence of different recreational and physical activities prior to initiating the program.



THE CASE OF ZAPOPAN: Technical-Social Study

In 2007, the Zapopan City Council undertook a technical-social study aimed at assessing public acceptance of the Via RecreActiva project, which was going to be expanded. The evaluated zone included 5 routes along main avenues. The study population included merchants and residents in a 500-meter radius around the route. The study's findings indicate a 70% and 80% acceptance rate among those surveyed, who indicated that they were highly likely to take part in the program. The main advantages they cited in relation to having the Via RecreActiva pass through their neighborhood were: interaction among neighbors (21.3%), the ability to engage in some physical activity (16.5%), benefits to the environment (6.9%), more relaxation (4.8%), people (4.2%), and health (1.5%). The main disadvantages cited by neighbors were: traffic (29.7%), access (15.3%), clean up (7.8%), insecurity (2.8%), and income (2.5%). The Zapopan City Council considered these findings when it set up the program.



Appendix 10 - Report from the technical-social study of the Zapopan Vía RecreActiva

<http://cicloviarecreativa.uniandes.edu.co/english/planning/socialStudies.html>



2.1.5. Consultation and Program Approval

It is very important to introduce the program to different social groups in the city or municipality, to fully explain its motives and present the proposal, and—most importantly—to describe the kind of city that the program can help create. These groups are known as “program stakeholders,” either because they are decision-makers or are involved in some aspect of city politics, or participate directly or will be affected by the *Ciclovía* program. Stakeholders are usually merchants, neighbors, neighborhood boards, businessmen, representatives of political parties, the media, hospitals, religious centers and transportation companies. The following table contains a list of groups who can be contacted, depending upon the specific traits of each community:

Table 1. Groups to contact

Private Institutions	The Community
Transport companies	Potential program participants
Potential sponsors	Neighborhood committees, community boards
Athletic clubs	Merchants
Academic institutions	Bicycle shops
Professional associations: merchants, hotels, restaurants	Private car users
Fairgrounds	Bike riders' organizations
Non-governmental organizations	Religious centers
Media	Hospitals
	Gas stations
	Representatives of political parties and politicians with decision-making power

Since it is likely that many people will not know anything about the *Ciclovía* program, an effort should be made to thoroughly explain the experience before stakeholders express positions or offer critiques. Regardless of the amount of documentation available, it is often difficult to understand the program and its benefits unless it is experienced directly. The purpose of these consultations is to reach agreements with different groups and resolve any concerns in a personalized manner. To avoid any future misunderstandings or legal actions, a document should be produced in which different stakeholders express their approval in writing.

A useful tool for studying different stakeholders and designing specific strategies to involve them in the program is available in Section 4.

Link: Stakeholder Analysis

<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/evaluation.html>





THE CASE OF GUADALAJARA: Stakeholder consultations and program approval

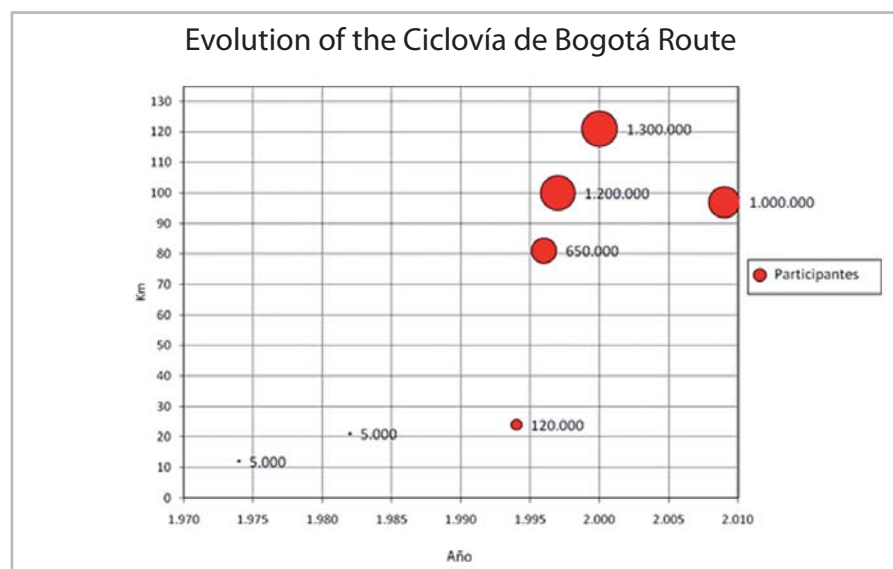
The Advocacy Coalition in Guadalajara carried out the consultation and approval process. Consequently, there was no resistance from the community or from private and community-based institutions once the program began.

2.1.6. Defining the Definitive Route and Its Schedule

a. The Route

Once all of the corresponding road studies and community research have concluded, the information needed to define a definitive route that maximizes benefits to the community and minimizes any negative impact on motorized transport, commerce and other sectors (hospitals, religious centers, hotels, etc.) will be available. At this time, the preliminary route for the *Ciclovía* program can be adjusted or confirmed, and alternate traffic routes can be identified. If findings from studies indicate the need to adjust the preliminary route design, the corresponding road and community studies should be repeated.

Figure 7. Evolution of the Ciclovía de Bogotá route, 1974 to 2009



b. Schedule

This should be based on:

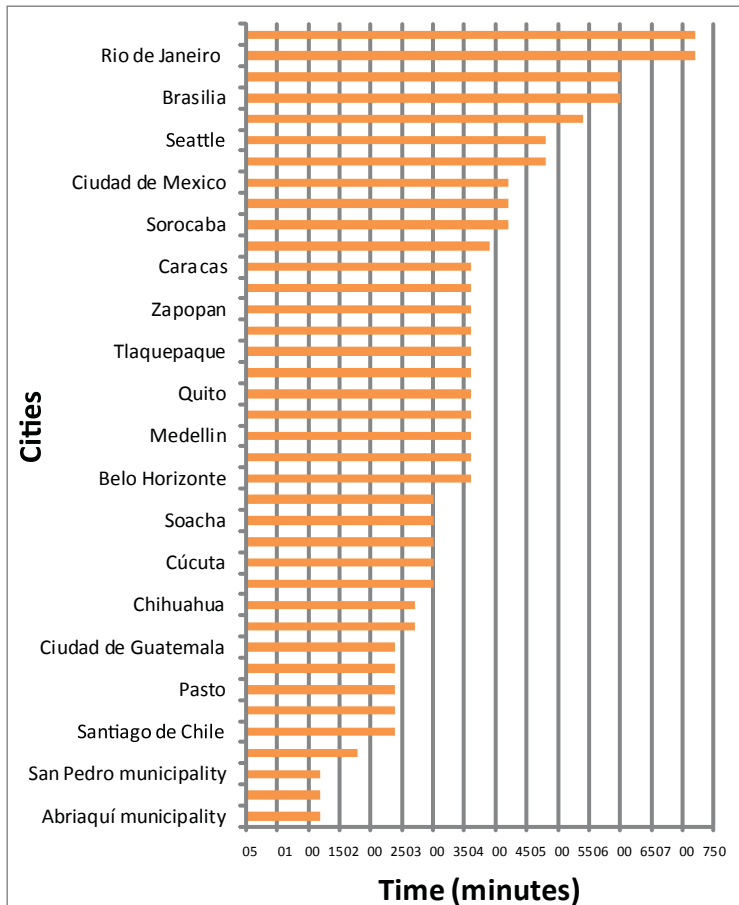
- The life of the city, so that the daily routines of citizens are not interrupted.
- The findings of community and marketing studies.




THE CASE OF GUADALAJARA: The Vía RecreActiva schedule

Vía RecreActiva began as a four-hour program, from 8 am to 12 pm. For its third event, the schedule was extended two more hours, until 2 pm, and was highly successful. The *Ciclovía* programs in the Americas have an average duration of 6 hours.

Figure 8. Duration (in minutes) of the different *Ciclovía* programs



 **Appendix 11** - Source: Sarmiento OL and colleagues. The *Ciclovía-Recreativa*: a mass recreational program with public health potential 2009⁴



2.1.7. Presenting Studies for Approval by Local Authorities

All research findings should be compiled at this stage and presented in a summarized form to local authorities, for their final approval. We recommend that the document include the following appendices:

- The legal basis for program implementation.
- Requests from citizen groups that express their interest in this type of project.
- Acceptance of the proposal by community representatives.
- Acceptance of the proposal by private and community-based institutions.
- Road and transit studies.
- Community/market research.
- Zoning plan for the defined route.
- Risk map.
- Photographic analysis.
- Recommended actions prior to implementing the Ciclovía.
- Approval by the Transit Authority.
- Proposed outreach tools for the program.
- Letter of endorsement from the CUA.
- Material and personnel resources.
- Budget.



2.2. PHASE TWO: DEVELOPMENT

During this phase, logistics equipment is selected and acquired, human resources are recruited and trained, complementary activities are planned, and program outreach begins.

2.2.1. Selection of Logistics Equipment

This is all of the equipment needed for implementing each Ciclovía event. There are three basic categories:

a. Design

- The program's image

The program image includes the name, logo, uniforms, logistics materials, letterhead, publications, promotional brochures, etc. The program's image is developed with an awareness of the target audience. Thus, an image is selected that allows participants to immediately identify with the activity and the environment in which it takes place. Colors should be used that can be seen at a distance, and that reflect the program concept.

- Name:

A name should be selected that is unusual and that identifies the program in a way that suits each context. The term Ciclovía was first used in Bogotá's pioneering program. However, this term causes some confusion since it is also used to refer to permanent bike paths that are used exclusively by bicycles for transportation purposes and not for recreation³.

The following are names of existing programs:

Table 2. Names of existing Ciclovía programs

Name	City
Brazil	
Domingo na Orla	Belo Horizonte
Eixão do Lazer	Brasilia
Ruas da Saúde	Rio de Janeiro
Rua de Lazer, Farol da Barra	Salvador
Ruas de Lazer	São Paulo
Sorocaba	Pedalea Sorocaba
Canadá	
Alcatel Sunday Bike-days	Ottawa
Chile	
CicloRecreoVía	Santiago



Name	City
Colombia	
Avenida de la juventud	Abriaquí
Carolina Saludable	Carolina del Príncipe
Encuentro en Familia	El Retiro
Ciclopaseos nocturnos	Guarne
Ciclovías recreativas	San Pedro
Ciclovía de la Avenida Centenario	Armenia
Ciclovía Recreovía	Bogotá
Ciclovidas comunitarias	Cali
Ciclovía o ciclopaseos	Cúcuta
Ciclovía de Ibagué	Ibagué
Ciclovía Recreativa	Medellín
Ciclovía Recreovía	Pasto
Ciclovía de la Villa	Pereira
Ciclovida	Soacha
Ciclo-vía	Tuluá
Ecuador	
Ciclopaseo	Guayaquil
Ciclopaseo - Bici rueda	Quito
El Salvador	
Ciclovías Familiares	San Salvador
United States	
Memorial Drive Recreational Sundays	Cambridge
Ciclovía El Paso/ Scenic Sundays	El Paso
Healthy Saturdays in Golden Gate Park & free car Sundays	San Francisco
Group Health Bicycle Saturdays & Sundays	Seattle
Guatemala	
Pasos y Pedales	Ciudad de Guatemala
Mexico	
Recreovía	Chihuahua
Vía RecreActiva	Guadalajara
Muévete en Bici	Ciudad de México
Bici-ruta	Merida
Vía RecreActiva	Tlaquepaque
Vía RecreActiva	Zapopán
Vía RecreActiva	Tonalá
Peru	
Muévete San Borja	Lima
Venezuela	
CicloChacao Dominical	Caracas



- Logos

Participants in *Ciclovía* programs need to identify with the program and feel a sense of pertinence. Thus, an attractive logo should be designed for potential program participants. The following table contains examples of the logos of *Ciclovía* programs in the Americas

Table 3. Logos of programs from different cities

Logo	Program
	Bogotá - Colombia Ciclovía rueda la vida
	Ciudad de Guatemala - Guatemala Pasos y pedales
	Guadalajara – Mexico Vía RecreActiva
	Santiago – Chile Ciclo recreovía
	Mexico City – México Muévete en Bici
	Quito – Ecuador Ciclopaseo-Bici rueda

- Uniforms

Program staff, especially guides (see Section 2.2.2: Human Resources) should wear clearly identifiable program uniforms. When selecting the uniforms, the following four criteria should be considered, at a minimum:

- **Comfort:** It is important to remember that program staff will be riding bicycles during most of the day, and therefore need clothing that allows freedom of movement.
- **Utility:** Uniforms should have pockets that allow staff to carry different objects.
- **Visibility:** Bright colors that are easily visible and identifiable should be used, so that Ciclovía program personnel can be easily identified.
- **Weather conditions:** The uniforms should be suitable for the weather conditions in the cities or municipalities where the program is being implemented (i.e., summer, winter).



THE CASE OF GUADALAJARA: Uniforms

The uniforms worn by Via RecreActiva guides consist of: pants, a jacket, a long-sleeved sports shirt, and shorts. All items display the program logo and are orange and blue. Staff members also receive whistles, helmets and bike bags. They do not receive bicycles. The uniforms of community service volunteers consist of a vest, cap, stop sign, and a whistle.

Photo 15. Via RecreActiva uniforms



THE CASE OF BOGOTÁ: Uniforms

Ciclovía of Bogotá uses red and yellow uniforms, which are the colors of the city's flag. It is useful, although not essential, to use a distinctive emblem to identify the route chiefs. In the Bogotá program, different colors are used for different positions. It is also useful to provide uniforms to community service volunteers. A red jacket and blue pants are used in Bogotá. Volunteers also receive a cap with the same color scheme, and a stop sign and a whistle.



Photo 16. Muévete en Bici uniforms



b. "Urban furniture"

Different equipment and "urban furniture" is needed for closing cross streets, providing instructions to drivers about lanes or roadways being used as *Ciclovías*, identifying the program, and facilitating different recreational activities.

All equipment used by the *Ciclovía* program needs to meet the following criteria:

- Equipment should be painted in bright colors to make it more visible. It is also useful to use the *Ciclovía* program's colors for purposes of identification.
- Equipment should be lightweight. Keep in mind that objects need to be easily moved.
- The intended use of equipment should also be easily deciphered.

Some of the items include:

• Barrier tape

Purpose: This is used to mark intersections, and is easy to manage and very visible. It can also be used for marking specific segments or sectors of the *Ciclovía* that are going to be set up for special activities, and for cordoning off restricted access areas that may pose some type of danger.

Use: The tape should be placed at approximately one meter high, and should cover the entire area being closed off. It would be useful to have the program's logo printed on the tape.

Photo 17. Barrier tape for closing road access



- Movable freestanding barricades

Purpose: These can be used as “fences” to block off or restrict access, or as a way of posting information along different segments of the route for *Ciclovía* participants, neighbors and drivers.

Description: These are generally metal or plastic structures, painted in bright colors, that are sufficiently large to make them easily identifiable to program participants. Their size varies according to their use and placement. They cannot exceed 1.5 meters in height and 2.4 meters in width, and are preferably made of metal.

Types of temporary traffic signs



a) Closure



b) General Information



c) Counterflow Traffic



d) Entrance/Exit

Types of barricades that can be used:

- Freestanding barricades to restrict access: These are used to: 1. Mark areas where the *Ciclovía* intersects with traffic arteries, and 2. Indicate specific exit/entry points along the route of the *Ciclovía* (for example garage entrances, gas stations or other public places).

Photo 18. Barricades used to restrict access



Measurement:
Height: 97 cm
Width: 107 cm
Weight:
12,5 kg

- Freestanding informative barricades: Their purpose is to provide information and make safety recommendations within the *Ciclovía*. For example, they indicate that bridges should be crossed on foot, and provide information about available services, dangerous crossings, route maps, schedules, etc. They should be placed at intervals of approximately 800 meters.

Photo 19. Informative barricades



Measurement:
Height: 159 cm
Width: 102 cm
Weight:
24 kg

- Traffic counterflow barricades: They are used to partition off areas and as a reminder that traffic is flowing in reverse.

Photo 20. Counterflow barricades



Measurement:
Height: 125 cm
Width: 32 cm
Weight:
14 kg

- Traffic channelizers: These are used to: 1. Indicate the beginning/end of the *Ciclovía*; and 2. To separate the lane used for vehicular traffic and the lane used for the *Ciclovía* on streets where vehicles need access. Barrier tape is an essential ingredient when using these channelizers. In addition, canvas signs can be hung from them to provide additional information about the program.
- Other devices
 - Plastic barriers: On streets where vehicular traffic needs access, these can be used to separate lanes for vehicle use from lanes for *Ciclovía* use. They can also be used to indicate speed reductions at certain danger points, such as intersections, steep gradients, and zones with high concentrations of pedestrians. Keep in mind that unlike in the case of bridges, cyclists are not required to dismount their bicycles but are only instructed to use greater caution and moderate their speed at certain danger points.

Photo 22. Plastic barriers



Measurement:
Height: 50 cm
Width: 95 cm
Weight:
4,5 kg

Photo 23. The channelizer drums used in Mexico City, which are known as “trafitambos”



Video 4 - Plastic barriers used in the *Ciclovía* of Bogotá

<http://cicloviarecreativa.uniandes.edu.co/english/development/index.html>

Photo 24. Speed reducers



Video 5 - Speed reducers used in the Ciclovía of Bogotá

<http://cicloviarecreativa.uniandes.edu.co/english/development/index.html>

- Traffic cones: These can be used to indicate entry points to sites with low-density vehicular traffic such as hotels, small housing complexes, etc.
- Signs
Purpose: To provide information about services available along the route, such as the distance to the next water station, restrooms, dangerous intersections, steep gradients, the beginning and end of the route, and the *Ciclovía* schedule.

Photo 25. *Ciclovía* warning sign

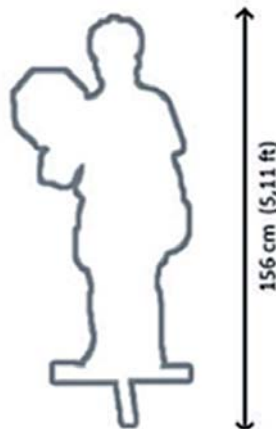


Photo 26. Hand-held sign, Mexico City



- Examples of closure points:

- Closure of traffic circles

- Closing traffic circles or two-way intersections requires the use of several types of equipment, since it is one of the most complicated traffic control situations.

Required elements: freestanding barricades, traffic channelizers/barriers, and barrier tape.

Description: The traffic barriers should be placed along the inner circle of the central portion of the traffic circle. Then, they should be placed parallel to this functional position all along the circle (but still not in the road), together with the freestanding barricade that will indicate the beginning of the enclosed area. After this, you will need to determine the direction vehicles come from at the beginning of the central part of the circle. The barricades should be set up as the first clearly visible sign to drivers, indicating that the lanes are restricted for Ciclovía use, and these should be placed successively until the entire circle is closed off. To remove these barriers when the event concludes, the reverse procedure should be followed. In other words, first collect the last barricade that was placed and continue until they are all collected.

Photo 27. Closure of a traffic circle in the Ciclovía of Bogotá



Figure 9. Intersection closure using police and volunteers

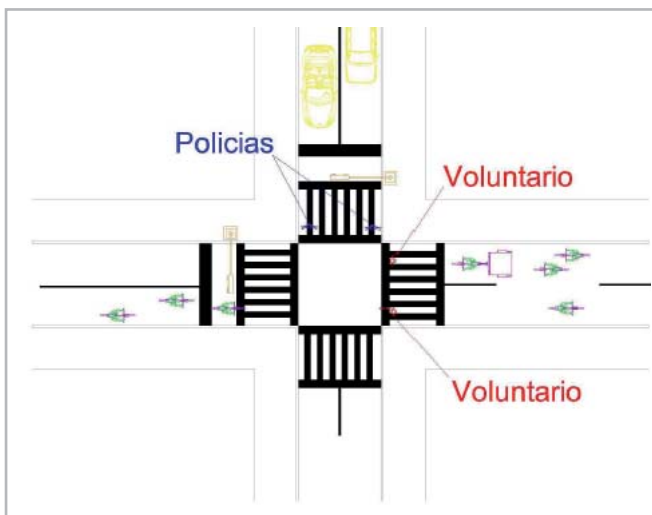
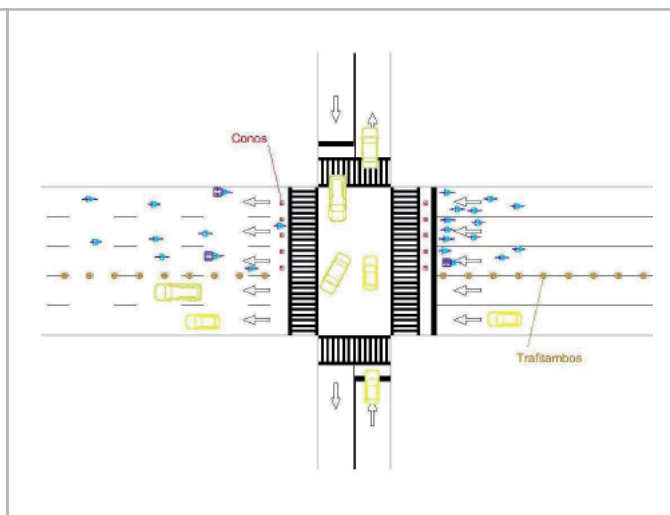


Figure 10. Intersection closure using cones and traffic barriers (trafitambos)



- Equipment used for managing garbage

Function: One of the most sensitive issues associated with the *Ciclovías* is management of garbage.

Inadequate handling of garbage can lead to criticisms of the program, since athletic activities can generate numerous waste products like containers and packaging material. This, in turn, could shut a program down.

Description: Garbage containers need to be large enough to collect substantial volumes of garbage, since conventional garbage cans are insufficient. Containers should be easily identifiable and portable. The use of durable plastic containers is recommended, and they should be painted with the international colors used for sorting recyclable garbage, and be identified by the *Ciclovía* program logo.

Use: They should be placed in very visible locations, at intervals of 400-600 meters.

- Public restrooms

In cities or municipalities that do not provide public restrooms along the route of the *Ciclovía* program, portable toilets (Porta-Pottys) should be set up at points where large numbers of people concentrate, such as parks, water stations or exercise centers. They should also be set up along the route, at intervals of 800-1,000 meters.

Photo 29. Porta-Pottys



- Water stations

Water stations can be run as private concessions or can be part of a program administered by the municipality or city. Signage indicating the distance to the next water station is essential. Such signs should be posted along the route at strategic points or every 5 km. The water stations should not impede circulation along the *Ciclovía*.

Photo 30. Water stations



- Assistance and maintenance centers

These centers can be set up as concessions, or can be directly administered by the *Ciclovía* program. They will provide bicycle repair and maintenance services along the route of the *Ciclovía*. Informational signs that indicate the distance to the next assistance and maintenance center should be posted at strategic points or every 5 km.

Photo 31. Assistance and maintenance centers



- Information kiosks

The information and assistance kiosks are staffed by a member of the *Ciclovía* program. They can also serve as meeting points and data collection centers. They should be set up at a minimum at the beginning and end of the *Ciclovía* route, and should be clearly marked.

Photo 32. Information kiosk



- Bicycle parking

These structures should be placed at sites of interest along the Ciclovía route, such as parks and public buildings. They should preferably be permanent structures that can be used by the general public during the rest of the week. Merchants in the area should be invited to offer this infrastructure to Ciclovía participants. They should also be placed near assistance and maintenance centers, water stations, etc., and in this case should be portable structures that are lightweight and easy to set up.

Photo 33. Bicycle parking structures



a) Permanent parking structures in Guadalajara (Ciclopuertos)



b) Bicycle parking structures used in the Ciclovía of Bogotá

- Central command center

This space is used as the central communications center for different public agents providing security and attention to Ciclovía participants (guides, police, medical services, the fire department, and emergency aid). It receives information from guides about the situation along different routes, and provides responses when required.

When a route is longer than 5 km, the guides must carry professional communications equipment that can cover the entire range of the route and be able to communicate with the central command center. This allows organizers to insure security and operational and informational support to activities along the entire route.



THE CASE OF GUADALAJARA: Central command center

The central command center operates out of a trailer that is transported every Sunday to the Via RecreActiva. It includes two office areas; one houses the communications equipment and the other is staffed by representatives from Transit Police, Security, Emergency Services, the Fire Department, and Medical Services. It also has a storage area.

Photo 34. Central command center in Guadalajara



• Cargo and transport vehicles

Each event relies upon vehicles to transport logistics materials and personnel who are responsible for setting up events and collecting materials when they conclude. These vehicles can be rented from third parties or can be acquired by the program, depending on the capacity of the organizational structure responsible for the Ciclovía program. The number of vehicles will vary, depending on the type of route (whether it is linear or not), the number of barricades used, and their size.



THE CASE OF GUADALAJARA: Cargo and transport vehicles

Via RecreActiva has the following vehicles available for each event: pickup trucks, 3-ton trucks, and trailers.



Video 6 - Setting up and dismantling the Ciclovía of Bogotá

<http://cicloviarecreativa.uniandes.edu.co/english/development/index.html>

• Program office

The institution responsible for administering the Ciclovía program should assign a specific office to the program. Ideally, this office should have a storage space available where operational materials (such as medical equipment, uniforms, signs, etc.) and the program files (reports from guides and route chiefs, press coverage, and registries from each event) can be stored. The office will also provide a workspace for administrative staff (see Section 2.2.2: Human Resources).



Appendix 12 - Basic logistics materials required for a Ciclovía program

<http://cicloviarecreativa.uniandes.edu.co/english/development/index.html>



2.2.2. Human Resources

The human resource team includes:

a. Administrative staff

The *Ciclovía* program's administrative staff is responsible for planning, directing, supervising and insuring the program's successful development once it is underway. The organizational structure, functions, and number of staff will depend on the size and complexity of the program. The minimum recommended staff for a route longer than 10 km includes: director, assistant director, chief of operations and a coordinator of community service staff and volunteers. The staff can be increased as the program grows.

• Director

This person is responsible for launching the program and insuring its successful development. He/she will be appointed by the municipal office that oversees the project, and will have the following responsibilities:

- Plan, organize and implement the *Ciclovía* program.
- Conduct overall supervision of the program, of both logistical and administrative aspects.
- Organize and promote the development of complementary activities.
- Insure the program's financial sustainability.
- Coordinate ongoing outreach campaigns.

• Assistant director

This person is responsible for supporting the work of the director, including the following tasks:

- Maintaining the office's documentation and records, and the director's agenda.
- Maintaining the project's official correspondence.
- Receive requests and complaints from *Ciclovía* program participants, and insure that the director is informed and attends to them.

• Chief of operations

This person is responsible for coordinating the operations of each event. His/her main functions include:

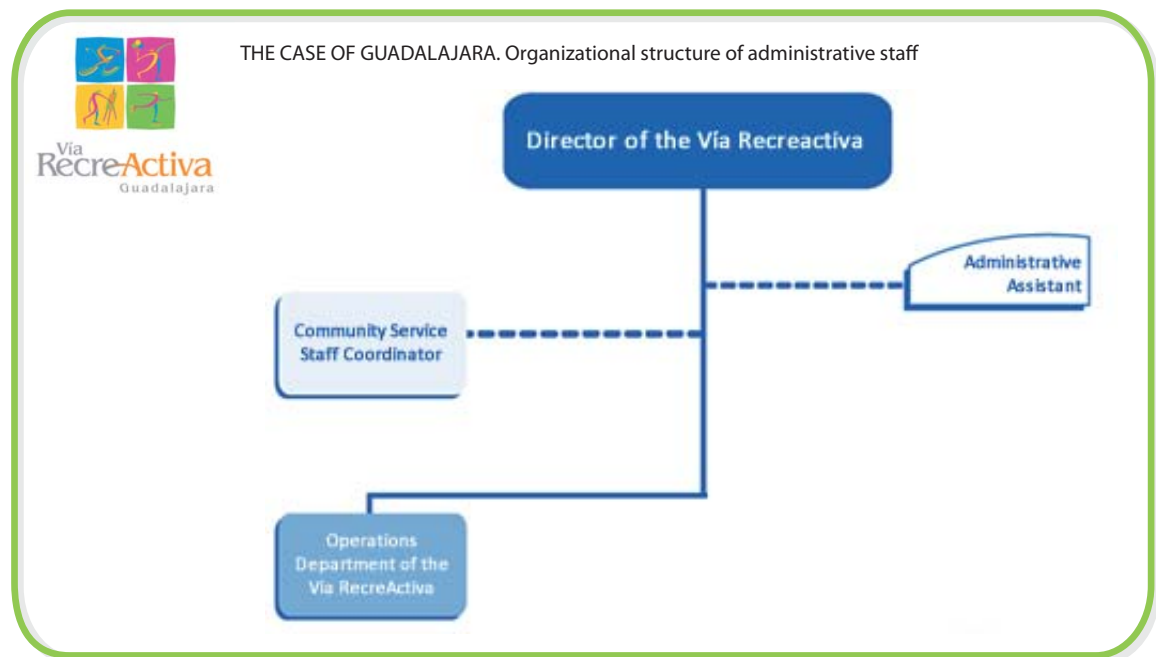
- Coordinating the logistics of each *Ciclovía* event.
- Maintaining the corresponding registries for all *Ciclovía* equipment and materials.
- Overseeing the forms utilized during the event.
- Supervising complementary activities carried out during the event.
- Coordinating human resources, especially guides and route chiefs.
- Training *Ciclovía* staff.

- Community service/volunteer coordinator

This person is responsible for community service staff and volunteers. His/her main functions include:

- Receiving students who fulfill their community service in the Ciclovía program.
- Training different community service staff and volunteers.
- Delivering equipment to community service staff and volunteers (cap, whistle, handheld signs).
- Overseeing the attendance of community service staff and volunteers.
- Supervising the work of community service staff and volunteers.
- Issuing all corresponding certifications.

The coordinator of community service staff and volunteers should develop agreements with secondary schools and higher education institutions, so that students can fulfill their community service requirements in the Ciclovía program. Each municipality will define its own community service agreements.



b. Event operations staff

The *Ciclovía* program requires ongoing support from a staff that is responsible for the many basic tasks that insure the program's success. The number of staff members will depend on the length and complexity of the route. At a minimum the program will need:

- Guides or guards.
- Route guides.
- Community service/volunteer service staff.
- Specialized support staff from other institutions.

Other positions may become necessary as the program expands and becomes more complex, such as personnel for complementary activities or recreational/athletic instructors, choreographers, workshop leaders, etc.

- Guides or Guards

Job description: Guides for a *Ciclovía* program are responsible for providing orientation to participants and carrying out logistical activities along the route they are assigned to.

Profile: The guard or guide is of age, and is someone who wants to serve his or her community. Preference should be given to individuals in good physical condition, and who have leadership abilities and good communication skills.

Their role with *Ciclovía* participants:

- Provide orientation about the *Ciclovía* program's objectives, activities and rules.
- Make safety recommendations, especially about using helmets and speed.
- Insure that the route keeps moving.
- Assist in search efforts if someone gets lost.
- Deliver lost children to their parents or guardians.
- Respond to minor accidents in their section of the route. In the case of accidents requiring more serious assistance, contact the First Aid Guide or paramedics from the area's emergency health services.
- If any drivers attempt to circulate in the *Ciclovía* area, explain that their entry is prohibited and that only area residents are permitted to enter or exit, using the necessary precautions (lights, traveling at a maximum speed of 10 km, and using zones designated for traffic).

Their role in logistics:

- Closure of intersections in the segment they are assigned to.
- Supervise the staff assigned to their area and sign attendance sheets at the end of the event.
- Substitute for the staff in their area during breaks.
- Oversee strict compliance with the time periods allocated for staff breaks.
- Provide support to institutions carrying out complementary activities in the *Ciclovía* to insure their success and guarantee that they do not disrupt fluid movement in the area.
- Report any unauthorized street vendors to the route chief.
- Report any suspicious individuals or persons impeding the *Ciclovía* program's development to the competent authorities.
- Report any situation that could interrupt the program to the *Ciclovía*'s central command center.



- Immediately report any unusual situation that occurs in the assigned portion of the route to central command authorities, such as robberies, lost children, or accidents, or the presence of members of the press or high-level officials, and any other information that might be requested.
- Record data about any vehicles abandoned or parked along the Ciclovía route, and notify central command authorities so that the corresponding measures may be taken.
- Request support from the police, fire department, emergency medical services or transit authorities when required.
- Follow instructions issued by the program's Route Chief or Operations Chief.
- Fill out all corresponding forms when the event concludes, such as rapid counts, 15-minute counts, and reports about activities, accidents, robberies, lost children, and operational follow up. These forms should be delivered to the Route Chief.



Appendix 13 - Forms used in Guadalajara's Vía RecreActiva

<http://cicloviarecreativa.uniandes.edu.co/english/development/humanResources.html>



THE CASE OF GUADALAJARA: Selecting Guides

Initially, the selection of guides for the Vía RecreActiva was based on a person's physical abilities and image. However, two problems arose with this approach. On the one hand, it was a potential violation of the right to equal opportunities. On the other, there was little rationale for supporting such criteria. Today, preference is given to citizens who are committed to the program, who are in adequate physical condition, and who know how to ride a bicycle. The selection process consists of an interview and some physical tests. Points are assigned and the most highly qualified are selected as guides.



Appendix 14 - Regulations for Vía RecreActiva guides

<http://cicloviarecreativa.uniandes.edu.co/english/development/humanResources.html>

Photo 35. Guides



- Route Chief

Job description: The *Ciclovía* route chief is responsible for logistics tasks and personnel supervision. His or her main job is overseeing the work carried out by community service workers and by *Ciclovía* program guides.

Profile: The chief is of age, and is someone who wants to serve his or her community. Preference should be given to individuals in good physical condition, and who have leadership abilities and good communication skills. The chief is selected from among the guides, based on his/her excellent performance.

Their role in relation to staff:

- Take attendance of all guides and community service/volunteer staff at the beginning and end of each event.
- Motivate guides and community service/volunteer staff, and inform them about the day's activities.
- Supervise the closure of intersections carried out by guides.
- Assign personnel under his/her supervision to guard intersections when required, due to a lack of community service/volunteer staff.
- Provide support to activities carried out by guides and community service/volunteer staff.
- Supervise the performance of guides, and point out cases of deficient performance.
- Evaluate activities carried out by guides at the end of each event.

Their role in logistics activities:

- Open and close the *Ciclovía* event in coordination with central command authorities.
- Inform central command authorities about the initiation and conclusion of activities.
- Resolve any problem that might interfere with opening and closing the *Ciclovía* route.
- Insure that no unauthorized activities are set up along the route, especially by street vendors.
- Inform central command authorities about the performance of support personnel, such as the police, the fire department, medical services and transit authorities.
- Oversee the corridor to insure the best solution to any problems arising during the event.
- Respond to all communications from personnel under his/her supervision.
- Follow instructions issued by the Operations Chief or the Director of the *Ciclovía* program.
- Attend meetings that are programmed with *Ciclovía* authorities.
- Present weekly reports about the route's events to the Operations Chief, using the corresponding forms, or specific case reports when required, and make any suggestions that might optimize operation of the *Ciclovía* program.
- Jointly evaluate the performance of guides in his/her respective area, together with the Operations Chief.





THE CASE OF GUADALAJARA: Selecting route chiefs

The Via RecreActiva's route chiefs previously worked as guides, and are selected on the basis of their performance. They are asked to submit a work proposal that will be evaluated, and three finalists are selected based on the following criteria: the quality of the project presented, good monthly evaluations, and at least six months working as a guide. An effort is also made to select an equal number of male and female route chiefs.

There are other categories of guides and chiefs, including those assigned specifically to the tasks of first aid, central communications, community service workers/volunteers, and assisting cyclists.

Operational monitoring forms are available for: 1. The community service Guide and Route Chief; and 2. The First Aid Guide and Route Chief.



Appendix 15 - Operational monitoring forms for community service guides and chiefs

<http://cicloviarecreativa.uniandes.edu.co/english/development/humanResources.html>



Appendix 16 - Operational monitoring forms for first aid guides and chiefs

<http://cicloviarecreativa.uniandes.edu.co/english/development/humanResources.html>

• First Aid Guide

Job description: These guides are responsible for responding to any situations that pose a risk to the health of Ciclovía participants or personnel, such as accidents, fainting spells, dehydration, or other less serious situations requiring first aid.

Profile: These guides have training in first aid, medicine, or physical education.

Their role:

- Respond to accidents along the route; assess them and request assistance from the Municipal Medical Services if required, via the central command center.
- Help check and distribute first aid equipment and material to guides.
- Help collect data from any accident where guides have provided assistance.
- Write a report about activities carried out during the day when the event has concluded, and deliver it to the First Aid Chief.
- Follow instructions issued by the program's Route Chief, First Aid Chief, and/or Operations Chief.
- Support the daily tasks of guides assigned to his/her route.



Photo 36. First Aid Kit, Bogotá



- **First Aid Chief**

Job description: The chief is responsible for coordinating the work of first aid guides, conducting training and teaching courses, responding to emergencies along the route, analyzing accident reports, and proposing strategies that improve the route's conditions.

Profile: These guides have training in medicine or physical education and/sports, or have been trained as paramedics. It is recommended that they have worked a minimum of 6 months in the program.

Their role:

- Assign first aid guides to their corresponding routes, in coordination with the Ciclovía chief of operations.
- Maintain staff attendance records and obtain signatures for processing pay slips.
- Jointly evaluate the performance of guides and first aid guides in their respective areas, together with the Chief of Operations.
- Check first aid equipment and materials and distribute them to guides.
- Respond to accidents along the route; assess them and request assistance from paramedics if required, via the central command center.
- Collect and analyze reports from all accidents that have occurred during each Ciclovía event.
- Study the incidence of accidents and propose strategies for reducing them.
- Plan and teach first aid courses for guides.
- Submit weekly reports about events taking place along the route to the Chief of Operations, using the corresponding forms, and deliver specific reports when merited.
- Take over the role of Route Chief in the case of any absences.

- Central command guide

Job description: These guides are responsible for radio communications equipment, and for insuring suitable and timely responses to any situations that arise along the route.

Profile: These are individuals who have worked as guides in the program in an ongoing and dedicated manner, and who have clear and friendly communications skills. It is recommended that they have worked at least 6 months with the program.

Their role:

- Manage and oversee radio communications in the central command center.
- Collect complete information about specific reported events, such as lost children, robberies, accidents, and any situation that arises during the event, and record this on the corresponding forms.
- Provide instructions, respond, and report to guides via radio in relation to *Ciclovía* operations.
- Record information about activities on the corresponding forms and submit these to the Chief of the Central Command Center.
- Follow instructions issued by the Chief of the Central Command Center or the Chief of Operations.

- Chief of the Central Command Center

Job description: The chief is responsible for coordinating activities carried out in the communications center, insuring timely and effective communication between members of the operational, administrative and support staff.

Profile: These are individuals who have worked as guides in the program in an ongoing and dedicated manner, and who have clear and friendly communications skills. It is recommended that they have worked at least one year with the program.

Their role:

- Announce the beginning and conclusion of event activities to the entire *Ciclovía* team via radio, as well as the opening and closure of the route.
- Receive reports from Route Chiefs about the initiation and conclusion of activities along each of the routes.
- Maintain staff attendance records and obtain signatures for processing pay slips.
- Supervise and oversee the delivery of equipment/provisions to support staff.
- Report any emergencies to the appropriate personnel at the Unified Command Post such as the police, fire department, municipal medical services, or transit authorities, and request their support if necessary.
- Assess the support received during any incidents that occur, and report on this to the *Ciclovía* program's Chief of Operations and Director.
- Coordinate the activities of central command center guides.
- Immediately inform the *Ciclovía* program Director if members of the media or any high-level public officials are present at an event.



- Jointly evaluate the work of central command center guides, together with the Chief of Operations.
- Inform the Chief of Operations about the condition of equipment in the Unified Command Post.
- Submit a general report about each event when it concludes, and any specific reports as required, using the corresponding forms.
- Follow the instructions issued by the program's Chief of Operations or Director.

- Community service workers and volunteers

One of the strategies used to insure the *Ciclovía* program's low cost and good cost/benefit relationship is involving volunteers or community service workers in running the events.

Job description: Community service workers are people who are completing their obligatory community service requirement. They are usually young people in their final years of high school or university. They are responsible for regulating movement along the route and directing traffic through intersections.

Profile: Community service workers are high school and university students older than 15 years of age, who feel a sense of belonging to the community and who wish to collaborate with the *Ciclovía* program.

Volunteers are people older than 15 years of age who wish to support the *Ciclovía* program so that it operates successfully.

The role of community service workers:

Their role with *Ciclovía* participants:

- Regulate the entry and exit of vehicles that must use some portion of the route.
- Regulate the movement of drivers and *Ciclovía* participants.
- Warn participants about speed limits.
- Provide information to participants about water stations, restrooms and workshops.
- Support any complementary activities and special events that are programmed as part of the *Ciclovía*.

Their role in relation to logistics:

- Help set up any equipment at the beginning or end of events (barricades, barrier tape, cones, etc.) in the segment of the route they are assigned to.
- Use and safeguard any equipment issued (uniform, handheld signs, whistles, caps).





THE CASE OF GUADALAJARA: Community Service

Community service workers in the Vía RecreActiva are high school and university students who are completing their obligatory community service. This is a particularly attractive assignment for students who hold jobs during the week, both for scheduling reasons and because they receive more hours than actually worked since events take place on Sundays.

The community service arrangement is worked out directly with schools. The program is presented to high schools and universities, emphasizing the important role they can play in the program's operations, and they are asked to supply students who can fulfill their community service requirements. The process involves the following steps: 1) contact schools and present the program; 2) reach agreements with the schools; 3) make a request for community service workers; 4) train community service workers; and 5) monitor community service workers.

Agreements with some institutions are more formalized, while others are made verbally. The schools generally request that students who are providing community service are monitored, and that program authorities confirm the number of events and the number of students taking part. In some cases, schools may request letters of acceptance and other formal statements, as well as bimonthly reports about student performance and a final report describing the activities, the number of events, and the number of community service hours completed by students. In addition, some schools require students to carry out academic research related to the Vía RecreActiva program in their professional area of study.



Appendix 17 - Identification card and attendance log for Vía RecreActiva community service workers

<http://cicloviarecreativa.uniandes.edu.co/english/development/humanResources.html>



Appendix 18 - The rights and duties of Vía RecreActiva community service workers

<http://cicloviarecreativa.uniandes.edu.co/english/development/humanResources.html>



Appendix 19 - Academic proposal for community service in the Vía RecreActiva program

<http://cicloviarecreativa.uniandes.edu.co/english/development/humanResources.html>





THE CASE OF GUADALAJARA: Overview of human resources working in the Vía RecreActiva program:

Administrative staff:

Director and his/her assistant
Chief of Operations and his/her assistant
Community Service Coordinator

Operational staff:

65 guides
120-250 community service workers and volunteers
40 set-up crew members

Guides are divided into the following specific roles:

4 Cyclist Assistance Guides
3 Community Service Guides
1 Chief of Community Service
1 Recreation Guide
1 Central Command Center Guide
1 Central Command Center Chief
6 First Aid Guides
1 First Aid Chief
3 Route Chiefs
44 Route Guides

Support staff:

40 Transit Police
20-30 Police
35 Fire Fighters, Emergency Assistance
7 Paramedics
2-5 Business Inspectors
40 - 100 people from other municipal offices to staff complementary activities

Appendix 20 - Document containing job descriptions and profiles of the Vía RecreActiva's administrative and operational staff
<http://cicloviarecreativa.uniandes.edu.co/english/development/humanResources.html>

2.2.3. Staff Training

Operational staff—especially guides and chiefs—need to receive basic training when they enter the program. Topics covered in training include:

- Program mission.
- Citizenship, the environment and health.
- Road and transit protocols.
- First aid and security.
- Operational management of a Ciclovía program: using radios, conducting counts, controls, orientation, aiding program participants, and using forms for program monitoring and evaluation.

Staff must receive this training prior to taking part in their first event, in order to provide maximum security to program participants and insure the smooth functioning of Ciclovía events, thereby contributing to the program's overall sustainability.

Special codes in radio communications should also be utilized, to optimize communication during the event and insure prompt and efficient responses to any situation.





THE CASE OF GUADALAJARA: Staff Training

Guadalajara's Vía RecreActiva uses the following guidelines for staff training:

The community service coordinator conducts training for community service workers, which provides general information about traffic management. The training takes place on the same day of a given activity. Any guide can further reinforce this training based on observations made during an event.

The route staff (guides and chiefs) receives more specialized training, on the basis of their specific requirements. They attend a 2-day workshop each year, which focuses on group integration, teamwork, and other types of training.



Appendix 21 - Radio codes used in the Vía RecreActiva

<http://cicloviarecreativa.uniandes.edu.co/english/development/humanResources.html>



Appendix 22 - Selecting and training guides when the program begins, and as new guides join the program

<http://cicloviarecreativa.uniandes.edu.co/english/development/humanResources.html>

Support Staff

In addition to administrative and operational staff, each Ciclovía event also depends upon support staff from the municipality:

- Police.
- Transit agents.
- Paramedics from municipal health service providers.
- Firefighters and emergency services.
- Municipal inspectors.
- Other municipal offices that can enrich the program through art and culture, science and technology and social development activities.

Requests for this type of support personnel are made directly to the Mayor's office or other municipal agencies (fire department, police, health services, transit services). Such requests should explain the program and clearly define how support personnel will be utilized. It is hoped that agreements with different municipal offices will be reached; the formality and regulation of such agreements will depend upon the particular characteristics of each city or municipality.

The personnel included among support staff will depend upon the characteristics of each municipality or city, and the agreements that are reached.



Appendix 23 - Basic human resource requirements for a Ciclovía program

<http://cicloviarecreativa.uniandes.edu.co/english/development/humanResources.html>



2.2.4. Complementary Activities

A *Ciclovía* program should offer a variety of services that are aimed at enriching the population's recreational, sports, and leisure needs. Providing different complementary activities helps to sustain the program, since it keeps community residents interested and also attracts new participants. A *Ciclovía* program needs to continuously reinvent itself, and complementary activities are essential to maintaining a dynamic program.

Complementary activities can be arranged by the *Ciclovía's* administrative staff, other local government offices, different social groups, or a combination of these.

When activities are being planned, it is important to insure that:

- Activities respond to the needs or tastes of the local population.
- Activities are provided free of charge.
- Activities are geared toward different segments of the population.
- Activities do not interrupt the *Ciclovía's* operations, or mobility in the city or municipality.
- There is sufficient oversight of permits issued for using public space and for commercial activities.

Complementary activities can include arts and cultural events, recreation and sports activities, health, science and technology, and social development actions. The following table contains examples of some of the complementary activities organized with *Ciclovías* in the Americas:

Table 4. Complementary activities organized in *Ciclovías*

Area	Activities
Arts and Culture	Theater productions, photography exhibits, music concerts, dance classes, reading spaces, libraries and playrooms, and craft exhibits.
Recreation and Sports	Football, volleyball, aerobics, yoga, tai chi, tae-bo, spinning, extreme sports, cycling, skating and personal defense classes, walks, giant table games (chess, dominos, checkers), children's games and activities such as magic shows, clowns, mimes, theater, origami, drawing and painting.
Health	Kiosks/information tables about health care and physical activity recommendations, and for taking vital signs, giving vaccinations, receiving blood donations, and conducting medical screening tests.
Science and Technology	Interactive games and expos (for example robotics).
Social Development	Anti-crime educational campaigns, workshops about environmental protection, and other workshops and games focused on gender issues.
Miscellaneous	Bicycle repairs, water stations, safety recommendations, kiosks for pet care, and rescue equipment demonstrations.



THE CASE OF GUADALAJARA: Organizing Complementary Activities

Complementary activities in the Vía RecreActiva are coordinated by Vía RecreActiva and are run by the corresponding government offices, civil society groups, private enterprises, or academic institutions. In the case of municipal offices that support the program, they have taken on complementary activities as part of their civic duties (police and fire fighters, youth, women and the family, sports, education and culture). All of the activities are organized in parks and plazas that adjoin the Vía RecreActiva.

Photo 37. Vía RecreActiva complementary activities



Photo 38. Complementary activities in the Muévete en Bici program





THE CASE OF BOGOTÁ: Recreovía

Recreovía is a complementary program that offers free exercise classes (aerobics) taught by instructors. There are 30 Recreovía classes offered every Sunday and on holidays, located in adjoining locations or public spaces near the *Ciclovía*.

Photo 38. Complementary activities in the Ciclovía of Bogotá



Video 7-8 - Complementary activities

<http://cicloviarecreativa.uniandes.edu.co/english/development/complementaryActivities.html>

2.2.5. Program Outreach

It is important to publicize the *Ciclovía* program among the general public and different social groups. An outreach campaign should be organized when the program begins and then in an ongoing manner, to insure sustainability. Outreach and publicity work should target the following groups:

- Political groups at all levels of government
- Businessmen
- Merchants
- Universities
- Social groups
- The media
- Athletes
- Artists
- Intellectuals
- Religious centers and groups
- Community members
- Transport companies

The initial outreach can take many forms, depending on the specific interests of each municipality and the available budget.



Outreach to the general public: The use of mass media outlets is recommended, for around 2 weeks prior to inaugurating the program. One or two press conferences should be organized, where more extensive information can be supplied and any concerns or questions can be addressed. In addition, alternate traffic routes should be publicized through announcements in the press. Fliers and brochures can also be handed out in areas with large concentrations of people.

Outreach to opinion makers: The best type of outreach is direct contact through meetings and forums. This should be carried out during the program's initial phases, and is part of the process we have referred to as stakeholder consultations (Section 1: Consultations).

Outreach to neighbors and transportation companies: Given that these groups could view the program as a threat, it is very important to address any doubts or concerns in a more personal manner, and reassure people that their mobility will not be limited. As an additional strategy, brochures can be distributed to all the homes and shops adjoining the *Ciclovía* route.

Photo 39. Outreach about Muévete en Bici





THE CASE OF GUADALAJARA: Outreach

When the Vía RecreActiva project began, no paid ads were purchased. Instead, citizen groups that were interested in the project directly solicited media support. Information about the project was broadcast on television and was publicized in other media outlets.

Some specific examples:

One special case was the hotels and gas stations that were located in the middle of the Vía RecreActiva route and which were concerned about the impact the program would have on their businesses. The project was discussed one on one with business owners, and exclusive lanes were set up to insure the entry and exit of vehicles, without jeopardizing activities in the Vía RecreActiva.

The community was informed through fliers, newspaper announcements, and campaigns carried out by transportation authorities. The campaigns highlighted the program's collective benefits, and also indicated alternate routes that would insure mobility, seeking consensus among all participants.

The Municipal Council on Sports has a regular weekly radio program on a commercial station and also maintains a website, which it uses to provide information about specific Vía RecreActiva activities and news.

"Programa Retos" at www.fomentodeportivo.gob.mx.



Appendix 24 - Radio, television and print ads for the Vía RecreActiva

<http://cicloviarecreativa.uniandes.edu.co/english/development/eventPromotion.html>

2.3. PHASE THREE: IMPLEMENTATION

This is the phase when the program is launched. It includes organizing the first *Ciclovía* event, making adjustments to improve future events, and monitoring and evaluating the program.

2.3.1. The First Event

It is recommended that important local figures be invited to the program's inaugural event, to generate more participation by local residents. Usually, local government representatives (including the Mayor) and other social and business leaders attend, and media coverage of the event is indispensable. Once the official ceremony concludes, this high-level contingent can walk the route. Starting on this day, a range of complementary activities should be offered so that the *Ciclovía* is viewed as a community festival.

Photo 40. First event of the Vía RecreActiva (press photos and coverage)

PAGINA 4-B EL INFORMADOR Lunes, 13 de septiembre de 2004

LOCAL GUADALAJARA / FOMENTO DEPORTIVO

Disfrutan > Tomás López Miranda, uno de los organizadores del evento, aseguró que durante las cuatro horas que duró el cierre al tráfico vehicular asistieron más de 45 mil personas, mismas que disfrutaron de la avenida sin automovilistas, además de realizar diversas actividades en compañía de sus familiares o amigos. <

Inauguran con éxito Vía RecreActiva

El Ayuntamiento de Guadalajara inició con éxito la primera edición de la Vía RecreActiva, misma que se celebró ayer con saldo blanco. La Dirección de Fomento Deportivo estimó más de cinco mil participantes en la inauguración del evento, el cual se desarrolló de las 8:00 a 12:00 horas por la ruta marcada: Javier Mina-Juárez-Vallarta, en un recorrido de 11 kilómetros.

Los tapatíos salieron a disfrutar de la ciudad en bicicletas, patines, patinetas y hasta carroceras, sin que el tráfico interrumpiera su destino.

A las 8:00 horas inició el programa en la Plaza de las "Sombritas", con cerca de 50 personas en bicicleta y a pie. El alcalde tapatío, Emilio González Márquez, encabezó la salida vestido deportivamente de negro, acompañado de su esposa.



El próximo domingo se realizará la segunda edición del evento. El siguiente paso será generar rutas abastecedoras para que llegue más gente, así como más seguridad, según organizadores.

¡ATENCIÓN!
SOLICITAMOS:
PROFESIONISTAS PASANTES O TRUNCOS
(Que no estén ejerciendo)
¡Oportunidad única de empleo!
En la Campaña Cultural 2004
REQUISITOS:
* Verdadera necesidad de trabajo * Buen nivel cultural
* No estar laborando actualmente * Edad 23 a 45 años
* Sexo indistinto * No estudiantes
OFRECEMOS:
* Excelentes ingresos * Buen ambiente de trabajo
* Capacitación pagada * Bono de ahorro
Interesados presentarse con solicitud elaborada en:
Av. México No. 2285 Esq. Américas, Col. Lindero de Guevara


Excelente Empresa en Expansión Solicita:
VENDEDORES
CON EXPERIENCIA EN EL RAMO DE DETALLE ABARROTES
AUXILIAR DE ALMACEN
CON EXPERIENCIA EN ALMACEN
CHOFERES
CON EXPERIENCIA COMPROBABLE Y LICENCIA DE CHOFER
* Sueldo BASE: Comisiones: EL 5% en Ventas y Depósitos.
* Bono en Especie. * Fondo de Ahorro. * Prestaciones de Ley.
Entrevistas hasta el miércoles 15 de Septiembre
de 10:00 a 15:00 y de 4:00 a 6:00 en:
CALLE CERNICALO 149 Y 155 COL. MORELOS
Informes al Tel: 3811 3071 ext. 100 y 126










2.3.2. What Takes Place During a Ciclovía Event?




The following is a step-by-step, hour-by-hour description of a Ciclovía event, based on the experience of the Vía RecreActiva:

Detailed outline of the schedule and activities of a Vía RecreActiva event:


Time	
6:00	Logistics staff arrives (set up crew: 40 people).
6:15	The set up crew coordinator assigns the staff that will distribute barricades along the route. These barricades will be used to provide information, to close off sections, and to indicate traffic counterflows. In addition, collection sites for organic and non-organic garbage will set up.
6:30	Barricades are set up along the Vía RecreActiva's routes. The logistics equipment includes seven trucks and four trailers. The mobile office—called the Unified Command Post—is towed from its hangar to a central point of the Vía RecreActiva.
7:00	Guides arrive at their meeting points (65 guides meet up at 4 different points along the Vía RecreActiva route). The central command authorities announce the beginning of the event via radio from the Unified Command Post. (A description of the activities carried out by different types of guides may be found in Section 2.2.2: Human Resources).
7:15	Route chiefs confirm the arrival of guides at meeting points, and report the start of activities along the route to the central command center. The route chief begins a meeting to excite and inspire the guides, and briefly reviews their normal responsibilities (route logistics and with Ciclovía participants) and in relation to any special activities that will take place during the day's event.
7:30	The route chief reports the following information to the central command center: attendance, late arrivals, and absences of guides. The route chief also assigns guides to the route segments where they will work, while considering the complexity of certain areas based on the number of intersections, vehicle flow, the presence or absence of street signals, and the adjoining public spaces. Guides are responsible for route segments ranging from 800 to 1,200 meters in length.
7:40	The route chief distributes the logistics materials that correspond to each section (informational signs, barrier tape, bags for organic and non-organic garbage). The guides spread out to their assigned sections.
7:50	The guides are responsible for supervising the overall situation in their section. They inspect the area to make sure there are no fallen trees or branches, remnants from car crashes, etc., and insure that barricades are correctly placed. If any irregular situation is discovered, they must report it immediately to the central command center.
8:00	This is the start time for support staff such as transit police (40), fire fighters (35), paramedics (7), police (25), and community service workers and volunteers (120-250).  Appendix 18 - The rights and duties of community service workers and volunteers http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html The central command center indicates the exact moment when guides, support staff and community service workers and volunteers should close off the streets to vehicle circulation. Participants begin entering the Vía RecreActiva (an average of 140,000 participants per event).


Time	
8:00-8:30	The guide in each section is responsible for setting up informational signs, barrier tape, garbage bags, etc. If necessary, the guides can reassign community service workers from an intersection with low vehicular flow to another one with more traffic, in coordination with the community service guide and the route chief, and they also coordinate half-hour breaks. Low-flow intersections can be closed—either completely or partially—if community service workers or volunteers are absent, but only when necessary. A partial closure can be defined by rearranging the barricades.
8:30- 13:30	<p>Instant counts are conducted every hour on the half-hour (8:30, 9:30, etc.) by staff—either guides or community service workers—at designated points.</p> <p> Appendix 25 - Instant count forms http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html</p>
11:00	<p>15-minute counts are also conducted by the guide assigned to designated points.</p> <p> Appendix 26 - 15-minute count form http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html</p>
8:00 – 14:00	<p>During the event, the guides are responsible for: 1) responding to accidents; 2) reporting and searching for lost children; 3) reporting robberies; 4) providing basic mechanical assistance to cyclists; 5) providing information about activities and interest points, and making safety recommendations; 6) providing assistance to programmed activities and any necessary orientations in the case of non-programmed ones; and 7) instructing street vendors, individuals distributing brochures or publicity products, or any political, religious or protest groups to exit from the Vía RecreActiva route, since such activities are inappropriate and are prohibited along the route. In the case that such instructions are not heeded, the central communications center will be advised so it can alert the corresponding public authorities about the situation.</p> <p> Appendix 27 - Accident report http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html</p> <p> Appendix 28 - Lost child report http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html</p> <p> Appendix 29 - Robbery report. http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html</p> <p> Appendix 30 - Activities report form http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html</p> <p> Appendix 31 - Vía RecreActiva regulations http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html</p>
8:00 – 11:00	Community service guides cover their assigned routes and corroborate and register the attendance of community service workers or volunteers, and respond to any doubts about their specific activities, reports, and administrative procedures.



Time	
13:30 – 13:45	The route guides sign and register attendance, and record any necessary observations in their <i>Community Service Worker Attendance Log</i> .  Appendix 17 - Community service log http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html
13:45 – 14:05	The route chief coordinates the guides' preparations to re-open the streets, which consists of informing participants that the <i>Vía RecreActiva</i> is about to conclude. They must also remove barrier tapes, garbage bags, information signs and any other equipment used so that the streets are ready for vehicle circulation when the communications center makes the announcement.
14:05	The chief of the communications center announces the conclusion of the <i>Vía RecreActiva</i> and the resumption of vehicular circulation. The guides, community service workers and support staff assist the removal of barricades so that vehicular traffic can resume. Once this task is concluded, the community service workers and support staff leave the area, and the guides assemble at their meeting point.
14:05 -14:45	The set-up crew collects barricades from the entire route and stores them.
14:10	Guides move to their respective meeting points.
14:10 -14:40	The guides write up their final reports. The route chief collects the reports and reviews them, and offers a brief assessment of the event.  Appendix 15-16 - Operational monitoring form for <i>Vía RecreActiva</i> 's Guides Operational monitoring form for <i>Vía RecreActiva</i> 's First Aid Guides Operational monitoring form for <i>Vía RecreActiva</i> 's Community Service Guides http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html
14:40 -15:00	Route chiefs, the chief of community service workers and the first aid chief prepare final reports for the central command center about the event.
15:00 -15:20	The central command center prepares an overall report about the event and submits it to the Operations Chief.  Appendix 32 - Final event report http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html
15:20	The <i>Vía RecreActiva</i> Operations Chief and Director review the final report about the event, and begin to plan work strategies that will be implemented during the week.
15:30	<i>Vía RecreActiva</i> 's Director reports to the General Director on the overall situation of the Sunday event.

Different area heads should submit their reports about the Sunday event to the program's central offices no later than the following Wednesday, along with any recommendations for improving the routes, other proposals and special reports, and other relevant information about the project.

 **Appendix 33** - Operational monitoring form for the Route Chief, *CicloVía RecreActiva* program
<http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html>

 **Appendix 15** - Operational monitoring form for the Chief of Community Service Workers, *CicloVía RecreActiva* program
<http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html>





Appendix 16 - Operational monitoring forms for Chief of First Aid Guides

<http://cicloviarecreativa.uniandes.edu.co/english/execution/index.html>



Video 9 - Ciclovía of Bogotá event

<http://cicloviarecreativa.uniandes.edu.co/english/index.html>

2.3.3. Tracking Press Coverage of the First Event

Press releases detailing the results of the first event and future events should be written and distributed to the media. Media coverage of the first event should be reviewed on a weekly basis, in order to better understand community perceptions of the program and issue any corresponding communiqués.

Press bulletins should always be produced when any temporary closures or modifications of the route are expected due to the dynamics of city life (for example, public construction works, or sports events). These press bulletins should be sent out prior to the event.



Appendix 34 - Document containing records of video/press coverage of the first event, and press releases

<http://cicloviarecreativa.uniandes.edu.co/english/development/eventPromotion.html>

2.3.4. Operational Adjustments for Future Events

An evaluation should be conducted once the first event has concluded, which will allow any pertinent adjustments to be made and thereby insure the success of future events. This task should be carried out as long as the *Ciclovía* program is operating. Program staff needs to be motivated all the time, and it is important to keep supervising, observing and evaluating what is going on with the program. The following aspects should be evaluated:

- Media coverage: Study the coverage and evaluate any criticisms.
- Survey neighbors and local merchants: Resolve any doubts and criticisms they might have, in a personalized manner.
- Logistics materials: Evaluate the effectiveness of the locations and types of barricades used.
- Safety and road conditions: Evaluate the conditions of roads, the gradient of roads, and accident statistics.
- Staff performance.



2.3.5. Monitoring and Evaluation

Monitoring and evaluating the first event will provide important input for decision-makers, program organizers and the community. The goals of this evaluation include: 1) influencing policymakers and program financiers; 2) developing the community's commitment and skills vis-à-vis the program; 3) sharing the community's perceptions about the program's advantages and disadvantages; 4) insuring financing and program sustainability based on results; and 5) reformulating strategies in order to redirect efforts that will help improve the program.

This evaluation's objectives are:

- Evaluating the degree to which program participants (residents and merchants in the program's zone of influence) accept the program.
- Evaluating overall acceptance of and participation in the *Ciclovía* program.
- Evaluating the perceived impact that merchants whose businesses will be affected by the program are anticipating.
- Evaluating acceptance of the *Ciclovía* program's schedule.
- Evaluating the community's behavior with respect to recreation, physical activity and the quality of life.

To evaluate program effectiveness, this evaluation should follow the same methodology used in community/market research (refer to Section 2.1.4: Community and Market Research). The program's ongoing improvement depends upon conducting systematic evaluations.

2.3.6. Join the United Ciclovias of the Americas (CUA)

In order to maintain ongoing contact and receive feedback and share experiences with other *Ciclovía* programs, become active members of the CUA: <http://www.cicloviasunidas.org/>



3. TOOLS FOR EVALUATING THE CICLOVÍA PROGRAM

Monitoring and evaluating the *Ciclovía* program will provide important input for decision-makers, program organizers and the community. Some of the tools used for evaluating the *Ciclovía* de Bogotá program are presented here, since they may be of use for evaluating other programs.

3.1. Stakeholder Analysis

What is it?

It consists of identifying and analyzing the needs, interests and concerns of different stakeholders that will be involved in the program, either because they are directly connected to decision-making or because they will be affected by the program's implementation.

Why is it done?

This type of analysis is useful for determining who should be aware of the program, their positions and interests, and how the program should be presented so that it is attractive to different stakeholders. This will help to maximize the program's potential success and reduce the likelihood of problems.

What are the steps?

Step 1: Identify the stakeholders: These can be public and private institutions, community members, networks, or individuals. As complete a list as possible should be compiled. The following table details a list of a *Ciclovía* program's typical stakeholders:

Table 5. *Ciclovía* program stakeholders

Public Institutions	Private Institutions	The Community
Fire Department	Trade associations: merchants, hotels, restaurants	Neighborhood committees, community action boards.
Public Spaces Committee	Chamber of Commerce	Hospitals
City Council	Sports clubs	Churches
Civil Defense	Merchants	Non-governmental organizations
Board of Education	Transportation companies	Cyclist organizations
Department on the Environment	Academic institutions	Potential program participants
Department of Transportation	Media	Bicycle repair shops
Department of Urban Planning	Potential sponsors	Private vehicle users
Department of Health	Fairgrounds	
Department of Recreation and Sports		
Academic institutions		
Department of Public Works		
Police		

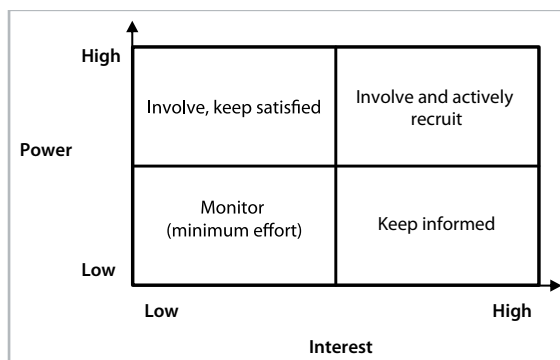


Step 2: Conduct focus groups (discussion groups): We recommend the creation of small groups (10-12 people) that include people with different points of view about the topic, in order to brainstorm and clarify the viewpoints of different stakeholders.

Step 3: Organize the information obtained into a matrix. Two different matrices are presented below:

Matrix 1¹³

Organize the information according to the interests and power of each stakeholder. “Interest” measures the degree to which the stakeholder could be affected by the program, and their level of interest and/or concern. “Power” refers to the extent to which the stakeholder can influence the program, either by facilitating or impeding it. The matrix also suggests the degree to which the program should pursue each stakeholder.



Matrix 2¹⁴

This matrix also includes information about attitudes (interest) and power, but instead of qualifying these as either high or low, it rates each aspect and the confidence level for each one. The matrix is filled in as follows:

Stakeholders	Attitude		Influence		Strategy
	Estimate	Confidence	Estimate	Confidence	

Column 1: The stakeholder

Column 2: Estimate of the stakeholder’s attitude:

- ++: Completely in favor.
- + : In favor.
- 0 : Indifferent or undecided.
- : Opposed.
- : Seriously opposed.

Column 3: How certain are you about the estimate made in Column 2:

/: Completely.

¿ Reasonably (lacking some information, some doubts).

¿? An informed guess.

¿?? Just a guess.

Column 4: Estimate of the stakeholder's influence:

H: High. A great deal of power, either formal or informal.

M: Medium. The objective might be achieved despite opposition from this individual or group, but not easily.

L: Low. This group or individual has little influence.

Column 5: How certain are you about the estimate made in Column 4 (See Column 3)

Column 6: Strategy.

Step 4: Design strategies: Strategies should be planned for attracting different stakeholders, as well as for presenting interesting and useful information about the program and staying in contact with stakeholders. Designate the person who will make contacts, the way they will do so, and the messages to be transmitted. The participation of each group, individual or institution should be categorized according to their interest (attitude) and power (influence), selecting one of the following options: a source of information only, a consultant, directly involved in decision-making, or a co-participant in the program's implementation process.

Stakeholders with power and interest in the program are the ones who should be actively recruited and involved. The highest level of power is held by decision-makers, usually members of the government. Situated below them are people whose opinions are important, such as opinion makers.

High interest stakeholders who have a low level of power should be informed, and if they are organized they can form the base of the coalition that advocates the program. People with a low level of interest but a high level of power should be involved in some way, or options for neutralizing their influence should be explored. This group might require the greatest effort.

Once it has been determined which stakeholders should be the focus of work, it is important to converse directly with them to present proposals and, most importantly, outline the type of city you have in mind and hope to bring about with a *Ciclovía* program. Once their approval and support have been obtained, this commitment should be clearly stated in a written agreement so that any future legal problems can be avoided.



Appendix 35 - Raising citizen awareness about sustainable transport and changing behavior.

A training course developed by GTZ

<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/evaluation.html>

Additional references may be found in Section 6: References, or on the web page in the section on Evaluation/ Academic Articles (<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/academicArticles.html>).

For more information, please contact Adriana Díaz del Castillo: addiaz@uniandes.edu.co



3.2. Case Study About Program Determinants

What is it?

This type of analysis allows us to understand what has taken place in a specific context and which factors have played an important role in implementing or maintaining a *Ciclovía* program. The methodology outlined below has been selected for this study because it allows an in-depth contextual understanding of a phenomenon or a series of situations.

Why is it done?

This type of analysis is useful for obtaining a retrospective understanding about the factors that have made it possible to develop a program. The goal is: 1) to make recommendations for replicating *Ciclovía* programs in other places; 2) to identify factors that can be key to maintaining a program in the future; and 3) to understand the specific conditions of each context. For example, the interest and political commitment of a specific public official might have been especially important in the case of implementing one program, while the community might have played the critical role in proposing the need and mobilizing support in the case of another. This information is useful for determining which factors to consider when starting up a program in a similar context, or evaluating strengths prior to beginning. If a community is actively advocating bicycle use, this is a factor that can and should be used in the program's favor.

Requirements

Before beginning, specialized personnel who will conduct semi-structured interviews and analyze these should have been hired, since this will be the main research method used. They should have backgrounds in the fields of psychology, social sciences, marketing, or public health.

What are the steps?

Step 1: Conduct a literature review: Different information sources should be reviewed to obtain a general overview of the program and its history, and to identify key stakeholders in the process. These sources will vary from program to program, and include a wide range of documents: legislation, decrees, regulations, newspaper or magazine articles, radio or television programs, academic research, etc.

Step 2: Develop interview guides: Examples of guides to use in interviews with different stakeholders are presented below. Guide 1 was adapted from the one used by the Network for Physical Activity Policy Analysis¹⁵ (<http://prc.slu.edu/paprn.htm>), and the others were used in the case study of the *Ciclovía* of Bogotá.

 **Appendix 36** - Guide 1: Policymakers, government representatives, program administrators
<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/evaluation2.html>

 **Appendix 37** - Guide 2: Program participants
<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/evaluation2.html>





Appendix 38 - Guide 3: Operational staff: guides, community service workers

<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/evaluation2.html>



Appendix 39 - Guide 4: Vendors

<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/evaluation2.html>

Step 3: Contact key informants: It is recommended that contacts be developed with “key informants”—people who can provide detailed information about a particular topic or issue because of their knowledge and/or experience. In this case, informants could be program participants, representatives from different governmental sectors, program administrators, representatives of activist groups, operational staff, or volunteers. It is also suggested that the “snowball technique” be used in developing these contacts, which means asking each person interviewed to recommend others who might provide information about the topic in question, and in this way continue recruiting additional informants.

How many people should be interviewed? In this case, the goal should be “information saturation.” In other words, interviews with informants should continue until reaching the point where no new information is obtained or no new analytical categories are generated.

Step 4: Conduct the interviews: Interviews should be recorded and later transcribed. It is important to insure the confidentiality of information and fully respect the privacy of the people interviewed.

Step 5: Analyze the information: A “framework analysis” should be employed, which is described in the following reference:

Ritchie J. & Spencer L. (2001): Qualitative Data Analysis for Applied Policy Research. En: Bryman & Burges Analyzing Qualitative Data. Routledge London.

Additional references may be found in Section 6: References, or on the web page in the section on Evaluation/ Academic Articles (<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/academicArticles.html>).

For more information, please contact Adriana Díaz del Castillo: addiaz@uniandes.edu.co



3.3. Network Analysis

What is it?

A network analysis identifies all of the possible actors that could be involved in developing and implementing a *Ciclovía* program, and then explores and describes their possible relationships.

Why is it done?

To better understand the relationships that exist and that should exist between each of the institutions, organizations and other groupings that are involved in the process of developing and implementing a *Ciclovía* program. Once you know how the network functions, it is possible to fine-tune already existing relationships.

This tool is used to respond to a series of questions that will arise from the moment a *Ciclovía* program is created: Which organizations should be involved when an action is undertaken to generate a *Ciclovía* program? Which organizations or institutions are most suited to specific actions needed for developing a *Ciclovía* program? What type of relationships should be fostered with each of these organizations, and how? How should contacts be developed with organizations involved in the *Ciclovía* program?

Requirements

- The questionnaire is adapted to the particular cultural context.
- Personnel have skills for working with specialized software.
- Access to specialized software for network analysis, such as Ucinet, Pajek and R.

What are the steps?

Step 1. Review of secondary sources: A bibliographic review should be carried out initially, which will help to identify some of the main actors involved in some way with the *Ciclovía* program, or that fulfill some other relevant function. Actors can be individuals, institutions or organizations. The review could include documents about the history of *Ciclovía* programs, the websites of cyclist organizations or foundations, information from government institutions whose goals overlap with those of *Ciclovía* programs, and blogs related to cycling or *Ciclovía* programs.

Step 2. Identify other actors or stakeholders: One of the most common techniques used in this type of analysis is called the “snowball.” This technique assumes that different actors or group members are all interconnected, and that they know one another either personally or by reputation. Thus, already identified stakeholders are asked to describe other actors who could influence a *Ciclovía* program. This helps to guide the search for new informants, until the most important actors for a *Ciclovía* program have been identified. Other techniques can be used, such as asking key actors or the person in charge of the *Ciclovía* program to identify most of the other actors who are or will be involved with the program.



Step 3. Develop information collection instruments: The next step is designing a structured interview questionnaire¹⁶.

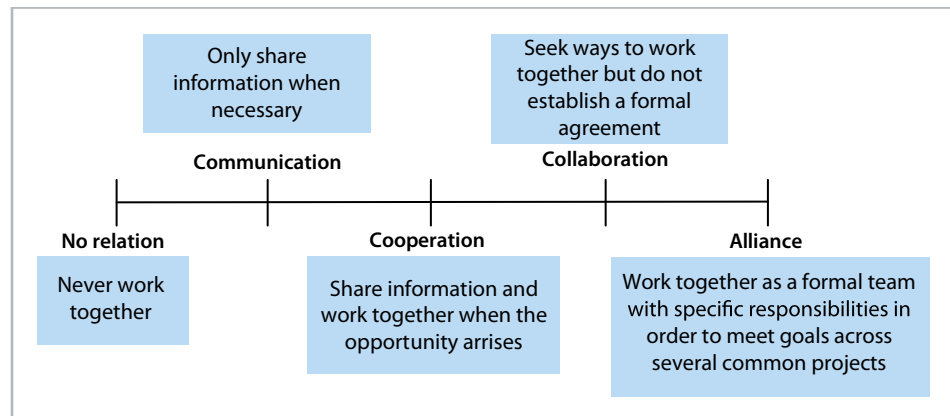


Appendix 40 - Questionnaire used for evaluating the Ciclovía of Bogotá's network

<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/evaluation3.html>

Key concepts that should be included in the questionnaire:

a. Relationship and integration: This defines the type of relationship or association, which is classified according to the following categories:



b. Contact: Contact between actors can be measured either qualitatively (none, little, some, high, very high) or quantitatively (daily, weekly, monthly, annually).

c. Importance: This is the perceived relevance of relationships between each of the actors.

Step 4: Fill out questionnaires: The questionnaire can be filled out in person, on the telephone, or via electronic mail.

Step 5. Analyze the information: In this step, the existing inter-organizational connections between a *Ciclovía* program's stakeholders are statistically analyzed, helping to visualize and evaluate these relationships as part of an organizational structure.



The stages of this analysis are detailed below:

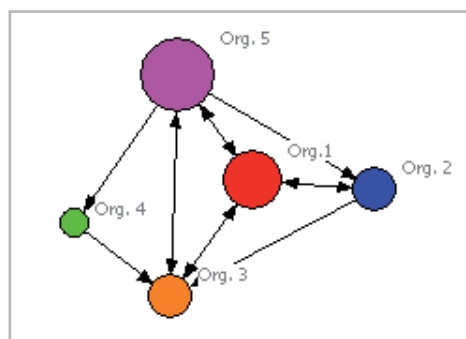
a. Visualize the network: Using specialized software (Ucinet, Pajek or R), create a visual diagram of the stakeholders involved (which are represented as nodes) and the relationships between them (which are represented as interconnected lines). The software will generate a graphic of the structured network.

b. Descriptive analysis: Here, the network's properties are analyzed, based on the following elements:

- Degree: This is the connectivity between an actor or node and other actors.
- Density: This is the number of connections in a network, in proportion to the maximum number of connections possible.
- Centrality: This measurement indicates the links or connective pathways with other nodes, and is indicated by the size of the node.
- Centralization: This indicates the variance in centrality of all of the nodes.

To demonstrate this step, a network graphic is presented below, along with a brief interpretation.

Figure 11. Example of an organizational network



In this network, we see that the system is made up of 5 organizations. The colored circles represent actors or organizations, and they are called “nodes” or “vertices.” The color indicates the type of organization or coalition, and the size indicates its centrality. The lines or arrows indicate interactions between the nodes, which gives us information about the direction of the relationship. For instance, in the network with organization “5,” we see a relationship or link with organization “4,” but from organization “4’s” viewpoint, there is no connection with organization “5.” In contrast, organizations “1” and “5” have a mutual connection, indicating a more reciprocal relationship. We also see that organization “5” is represented by a larger node, which indicates a greater centrality with respect to the other nodes.

Additional references may be found in Section 6: References, or on the web page in the section on Evaluation/ Academic Articles (<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/academicArticles.html>).

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3.4. Six Steps for Evaluating a *Ciclovía* Program

What is it?

These are the 6 steps used in the CDC's Framework for Program Evaluation in Public Health.¹⁷ It is a simple and effective technique for examining and evaluating the process and/or results of implementing a *Ciclovía* program and its complementary activities. The main goal is improving the program by using the resulting information to identify weaknesses and strengths.

Why is it done?

- To influence policymakers and program funders, to insure sustainability.
- To build the community's skills and strengthen its commitment.
- To share the observed advantages and disadvantages with other communities.
- To demonstrate results, and thereby insure financing and sustainability.
- To reformulate strategies or redirect efforts when needed.

What are the steps?

1. Engage stakeholders and other partners.
2. Describe the program.
3. Focus the evaluation design.
4. Gather reliable evidence.
5. Justify the conclusions.
6. Assure that the evaluation's results will be incorporated into concrete actions, and share the lessons learned.

Step 1: Engage stakeholders and other partners:

What is it?

During this step, all of the people and organizations from all sectors that are either directly or indirectly involved with the *Ciclovía* program are identified.

Why is it done?

This purpose of this step is to insure an objective evaluation process that generates useful results, and avoid obtaining only biased or one-sided opinions.



What are the steps?

1. Compile a list of all current stakeholders, and do not forget to include key potential allies who still are not involved. In order to avoid any omissions, it is important to ask the following questions:

Who is involved in running the program?

For example, the *Ciclovía* program's general coordinator, the operations coordinator, personnel from other areas of the institution that is implementing the *Ciclovía* program, volunteers, community service workers, first aid guides, route chiefs, security staff, logistics staff, monitors, public assistance staff, physical activity instructors, and personnel responsible for complementary activities.

Who are the program's partners?

The police, transit authorities, municipal or city paramedic services, the fire department, civil defense, and local offices on transportation, education, planning, recreation and sports, public works, public spaces and the environment. Also, NGOs, universities, service providers, sponsors, transportation companies, the media and marketing firms, civil society organizations, chambers of commerce, and informal vendors.

Who does the program benefit or affect in some way?

All potential program participants. It is important to include all members of the communities where the routes will pass, and all nearby locations that will be affected by street closures. It is also vital to include all businesses that will be affected in some way, since they often oppose this type of program. The results of the evaluation can be used to demonstrate positive effects, or can support the joint formulation of strategies that benefit the community.

Who is responsible for making decisions about the program?

A list of all people and institutions responsible for direct decisions related to developing the *Ciclovía* program.

Step 2: Describe the program

What is it?

This is the most important step whenever a strategy is being evaluated or planned. Describing the program in detail helps illustrate its main components to the main stakeholders and allies, so that they have a similar understanding of the program.

What are the steps?

1. Identify the program stage:

- a. Planning: Has not begun.
- b. Implementation: Recently underway.
- c. Maintenance: Has been sustained over the years.



Identifying the stage of your program is very important for better focusing the evaluation process. If your program is at the planning stage, these 6 steps could be followed for determining needs, defining the scope of problems that your program can address, or cooperating and proposing realistic and effective strategies.

If your program is at the implementation or maintenance stage, the evaluation will focus on measuring the effectiveness of activities, and the fulfillment of short, medium and long-range goals. It will also determine whether the program is on the road to achieving its final objective, or whether it needs to be improved or changed in some way.

2. Define the problem

A *Ciclovía* program can help resolve many problems related to the environment, recreation, the local population's level of physical activity, the use of public space, quality of life, transport and mobility, social cohesion, etc. Therefore, it is usually associated with general benefits for the community where it is implemented. You can briefly and easily define the problem through answering the following four questions:

- What is the main problem the program will respond to?
- What is the problem's magnitude (including for nearby populations)?
- What are the problem's consequences?
- What causes the problem?

All of these indicators should be documented, exploring information and statistics from the community, city or municipality where the *Ciclovía* program is being developed in relation to the health, transportation, environment and other sectors. The more the program responds to real problems in the community, the more it will receive political and community support and be sustainable over time.

3. Developing a logic model

Now that you have defined the problem and the program's main goal, a logic model should be developed to illustrate and describe the program.

What is it?

This is an iterative descriptive tool that is used to illustrate the program's main components and provide a reference point for consultative purposes during the program's planning, implementation, and evaluation stages.

What is it used for?

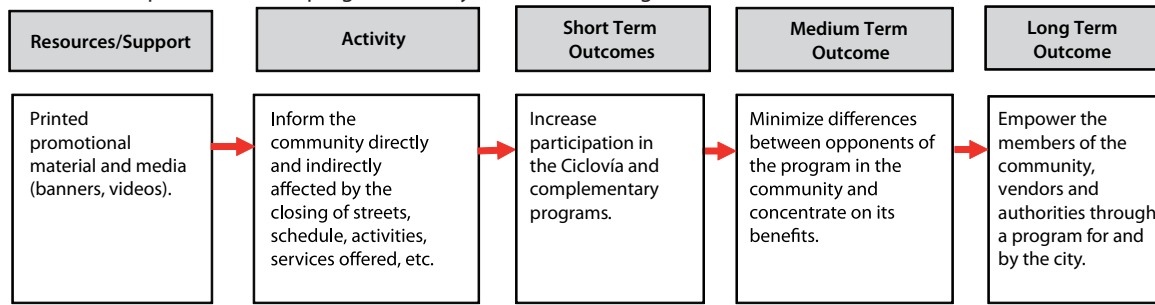
- To describe the program's main components.
- To illustrate connections between its components and the expected outcomes.
- To allow adjustments and improvements to be made while the program is underway.
- To help evaluate the program's potential effectiveness and define priorities for allocating resources.



What are the steps?

I. You can start by making a list of the program's resources, contributions and activities, and progressively ask yourself "Why?" or "What for?" and define the short, medium and long range expected outcomes, or the final goal. This approach is mainly used when you want to describe an already existing program, in other words a program that is already being implemented or maintained but that does not utilize a logic model.

Table 6. Example of a *Ciclovía* program activity described in a logic model.



* Note the 'logical' connection between each component shown by the arrows. For example, depending on the available resources, I can plan activities. Then, I can plan desired outcomes that are achievable and realistic based on the resources and activities.

II. You can also begin with the expected outcomes and work backwards, defining the activities that will be needed to attain a given result through asking "Why?" and then defining the resources that will be needed. This approach is more commonly used by programs during the planning stage, and insures that planned activities are consistent and respond to the expected outcomes.

III. Do the same exercise for each resource or activity until all program components have been covered and you have produced a detailed description of the same. Once this logic model has been produced, you can consult with it at any point to evaluate progress and make any pertinent changes.

Step 3: Focus the evaluation design

What does this mean?

This is the process of identifying the evaluation's purpose and the main ways it will be used, and formulating the most suitable questions.

Why is it done?

To insure concrete, clear and useful results.



What are the steps?

1. 1. Define the evaluation's purpose and uses

- Answer the following question: What are the main purposes of your evaluation?
Example: To obtain information, to improve the program, and to evaluate the program's impact.
- Specify all of the possible uses for the evaluation's results, based on each purpose (be as specific as possible).
Example:

Table 7. The purpose of the evaluation and ways its results can be used.

Purpose	Use of Results
Obtain information	To evaluate the community's interest and expectations vis-à-vis a <i>Ciclovía</i> program, and to use this information for planning or restructuring a program.
Improve a program	To supervise implementation of a <i>Ciclovía</i> program and other complementary actions, and to use the results for identifying aspects that need to be improved or modified (staff, outreach, safety, etc.).
Evaluate a program's effects	Measure the extent to which performance indicators are met, and use these results for seeking additional financing.

2. Define the evaluation questions

Ask the main stakeholders what they want or need to know about:

- The characteristics of the routes.
- Complementary activities.
- The program's initial, medium and long-term results.
- Program participants.
- The program's large-scale effects on organizations or communities.
- External factors influencing the program.
- Other aspects.

Please note: It is important to remember that questions—and consequently the evaluation's outcomes—may vary depending upon a program's stage of development or the time it has been underway. Programs whose implementation has only been underway for short periods of time can be evaluated, as can the outcomes of programs in the maintenance stage. Processes and results can also be evaluated at the same time.



Examples of questions used for evaluating processes:

- What are we doing? When? Where? How frequently?
- Is the program offering what had been planned? If not, why has it changed?
- Are any external factors affecting the program's contributions or activities?
- Is the program on schedule and using resources as planned?
- Which aspects are working well and why?
- Which aspects are not working well and why?
- Are we reaching the entire target population?

Examples of questions used for evaluating outcomes:

- What have we accomplished? Did we achieve our planned outcomes? Why or why not?
- What has changed due to our actions?
- What can we learn from key stakeholders who dropped out of the program?
- How costly was the program in comparison to other physical activity programs?
- Is the program as effective or more effective than other similar programs?
- Which aspects functioned well? Which aspects didn't function well?
- Did the program produce any unexpected outcomes?

Step 4: Gather reliable evidence

What does this mean?

Insuring that the data compiled in response to the evaluation questions and the feedback from all stakeholders is reliable and relevant.

Why is it done?

To define specific indicators that will answer the evaluation questions.

What are the steps?

- Organize the evaluation questions in a 3-column table that includes the following sections:

Evaluation questions	Indicators	Information sources
----------------------	------------	---------------------

Define indicators and the sources of information that correspond to each question included in the evaluation.



Where will the information come from?

The information sources for program evaluations include people, documents, observations and existing databases. To insure its credibility, it is important to compile information from more than one source whenever possible, and to utilize sources considered reliable by the main stakeholders.

-People (Program participants, staff, the general public, community leaders, and funders).

-Documents: Proposal presentations, press releases and bulletins, publicity and educational materials, quarterly reports, medical records, administrative records, lists of program attendance, evaluations of resources and needs, and the reports of national, state or local governments.

-Observations

- Direct observation of people engaged in physical activities.
- Direct observation of play and recreation in communities (SOPARC).
- Indirect observation through video cameras or infrared sensors.

-Existing information

- State and National Behavioral Risk Factor Surveillance Systems.
- National or state systems.
- National Health and Nutrition Survey (ENSIN).
- National Health Interview Survey.
- School physical fitness tests.
- Crime reports.
- University surveys.
- Telephone directories.
- Socio-demographic data from the community or city.

Example:

Table 8. Questions, indicators and information sources.

Evaluation questions	Indicators	Information sources
How does the community participate in the program's implementation?	<ul style="list-style-type: none">• Number of volunteers.• Number of training sessions for volunteers.• Total time volunteers spend working.• Description of volunteer activities.• Number of street vendors and bicycle workshops per event.	<ul style="list-style-type: none">• Administrative records.• Logs of volunteer activities.• Interview with key informants.

Evaluation questions	Indicators	Information sources
What impact is the program having in the community?	<ul style="list-style-type: none"> • Number of participants in the routes per event. • Number of residents in the area of the city and/or community where the program is implemented. • Number of participants in complementary activities per event. • Characteristics of participants: gender, age, race, socio-economic status. • Level of physical activity among Ciclovía participants during previous 7 days. • Participants' standard of living. • Social capital level. • Noise levels. • Emissions levels. 	<ul style="list-style-type: none"> • Participation logs (refer to section on Evaluation Tools for reliable instruments or methods for counting participants). • Structured interviews with Ciclovía participants, which include socio-economic data. • Interviews with key informants. • International Physical Activity Questionnaire (IPAQ).¹⁸ • WHO Quality of Life Scale. • Social capital scale. • Measurements of noise levels. • Measurements of reductions in breathable particles (PM₁₀ CO NO_x)
What is the program's cost-benefit relationship? (See 3.7: Cost-benefit analysis of public health savings, by physical activity)	<ul style="list-style-type: none"> • Overall program budget (operational and equipment costs). • Program budget by event (operational and equipment costs). • Funds allocated by private sponsors. • Number of hired staff and volunteers. • Participants per event. 	<ul style="list-style-type: none"> • Administrative records. • Participation logs.

THE MOST IMPORTANT INDICATORS FOR CICLOVÍA PROGRAMS

It is important to keep records of the following indicators, some of which are basic and others more complex, from the moment the *Ciclovía* program starts up. This will make it easier to monitor and evaluate the program's progress. In addition, a comparison group (control group) that is not affected by the *Ciclovía* program should also be monitored to help evaluate the program's effectiveness.

*Remember that interesting data can be obtained from analyzing the situation "before" and "after" implementing a program, or from comparing places "with" or "without" the program, which can help to justify the program's interventions.

Table 9. Evaluation indicators for *Ciclovía* programs.

Indicators	
Exact length	The exact length of the routes in kilometers.
Schedule	Days of the week and hours when the program operates.
Participants per event	Number of participants per event.
Demographic characteristics of the participants and communities where the program is implemented	Gender, race, age, socio-economic status, mobility data (public transport, private cars, permanent bike lanes, etc.), and access to parks by the program's beneficiaries. *It is important to obtain detailed information about the beneficiary population and record it for future use.
Human resources	Number of hired staff. Number of volunteers. Strategic allies (police, health sector, etc.).
Resources and budget	It is a good idea to have an exact estimate of the Ciclovía program's budget in order to develop precise budget indicators and know the cost per event. *It is important to include complementary programs or activities that are financed with the same budget resources.
Complementary activities	Records of all activities, including the number of activities, their frequency, number of participants, and a description.
Communications strategies	Records of the strategies used, the quantity of promotional materials produced, the amount of media coverage, and the frequency of these.
Services	It is important to document services provided to the community (using permanent records): security, public restrooms, first aid, etc.
Street vendors	Number of street vendors per event, if an organized strategy is used. Valuable information about the economic benefits of Ciclovía programs can be obtained from surveying vendors.
Physical activity levels	The IPAQ can be used to assess levels of physical activity.
Quality of life indicators	Quality of life can be evaluated through using the WHO's QOL instrument.
Social capital	Scales that evaluate social capital before and after the program's implementation can be used.
Safety	The perceived safety and the number of reported accidents can be evaluated.
Air quality	Air quality indicators can be measured before and after the program's implementation.
Noise pollution	Noise pollution can be measured before and after the program's implementation.

Step 5: Justify the Conclusions

What does this mean?

Analyzing and interpreting the information obtained, comparing outcomes with performance indicators.

Why is it done?

To reach conclusions based on the information obtained.

What are the steps?

1. Analyze the data

Enter the data into a computer (for example using EpiInfo, a free database that can be downloaded online from <http://www.cdc.gov/epiinfo>, or a spreadsheet program such as Microsoft Excel).

Verify that the entered data contains no errors.

- Design a table with the data (for instance, calculate the number of participants, the percentage of participants carrying out the recommended amount of physical activity, etc.).
- Organize the data into categories (such as by community, race or ethnic group, income level, or level of physical fitness).
- Make comparisons (such as differences in tests before and after participating in the program, or between a control community and a community with a Ciclovía program).
- Present the data in a clear and simple format.

2. Interpret the results

- What do the numbers, frequencies, average rates and statistical results really tell us about the program?
- Are the results what you expected? If not, why do you think they were different?
- Are there any other explanations for the results?
- How can your results be compared with other similar programs?
- What are some of the limitations of evaluations (possible biases, generalization of results, reliability, validity)? To what extent does the evaluation reflect on the entire program's successes or failures?
- If you used several indicators to answer the same evaluation question, were the results similar?
- Will other people interpret the findings in a similar and/or suitable manner?

Step 6: Assure that Lessons Learned are shared and put into practice

What does this mean?

When the evaluation's recommendations and reports are prepared, these should be shared with the main stakeholders and general public, and should be monitored to make sure they are put into practice.

Why is it done?

To insure that the evaluation results are utilized, and to avoid simply filing away another report without learning from it and making constructive changes.

What are the steps?

1. Compile a list of individuals and groups that should know about the results or recommendations

Examples: Program staff and personnel from the institution implementing the program, state legislators, municipal councils, health department officials, business owners, transit safety and planning authorities, community organizations and programs, support groups, academics and researchers, local police departments, non-profit service and health organizations, private enterprises, etc.

2. Decide how the information will be disseminated or publicized

Remember that each target group is different, and therefore the information should be communicated in different ways. For example, a manuscript or scientific report should be used with academic researchers, a flier or press article with community members, an oral presentation or a clear and brief summary of findings and needs with politicians or potential sponsors, etc.

3. Define the channels of communications to be used

Examples: Email lists, websites, community forums, the media (television, radio or newspapers), personal contacts, electronic distribution lists, organizational newsletters, etc.

4. Decide how to monitor the way results are disseminated, in order to:

- Remind the main stakeholders and general public about the desired uses of the evaluation results.
- Insure that lessons learned are actually considered (rather than disregarded) when a complex program is being implemented or when policy decisions are being made.
- Avoid any misuse of results by insuring that the answers to questions that were the evaluation's main focus are not taken out of context.

Additional references may be found in Section 6: References, or on the web page in the section on Evaluation/ Academic Articles (<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/academicArticles.html>).

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3.5. Estimating Physical Activity Levels In A *Ciclovía* Program

What does this mean?

Carrying out an epidemiological study that uses a direct observation method, to estimate physical activity levels in a *Ciclovía* program.

Why is it done?

This type of study lets you estimate how much the *Ciclovía* program contributes to meeting the daily physical activity requirements defined by the CDC.¹⁹ It is a useful tool for objectively assessing the program's benefits in terms of promoting health and preventing illness. In addition, the information derived from this type of study can be used to promote the program among municipal institutions.

What are the steps?

Step 1. Basic definitions: Before starting, clearly define some basic concepts that will be used in the study.

1. MET:

The metabolic equivalent of task (MET) is a useful measurement for describing the energy cost of specific physical activities. It is obtained by dividing the energy cost of a specific activity by the energy cost while at rest.

For example, an activity with a value of 5 METs requires five times more energy than is needed when at rest.

2. MET minutes:

MET-minutes are obtained by multiplying an activity's MET level by the time (in minutes) that it was performed.

For example, if a 5-MET activity is carried out for 30 minutes, it has a value of 150 MET-minutes of physical activity ($5 \times 30 = 150$).

3. Intensity levels of different physical activities:

The intensity of physical activities is classified as light, moderate or vigorous. These classifications are based on the energy spent during the activity, according to its MET. For adults, activities have the following classifications:²⁰



Table 10. Intensity levels of physical activities.

LIGHT	MODERATE	VIGOROUS
< 3 METs	3 -6 METs	> 6 METs
Walking at < 5km/hr	Walking at a moderate pace (5 to 7km/hr)	Walking at 8 km/hr
Riding a bicycle at 12 km/hr	Riding a bicycle at 15 km/hr	Riding a bicycle at more than 16km/hr
		Jogging or running
		Skating at a fast pace
Stretching	Aerobics	High impact aerobics
Walking while holding a small child's hand	Walking while holding a child in your arms	
	Going down steps	
Non-dynamic yoga	Dynamic yoga	Karate, judo, tae kwon do
	Walking the dog	
	Gymnastics	Jumping rope
	Ballroom dancing	Professional dancing
	Competitive ping pong	Tennis (singles)
	Tennis (doubles)	Competitive sports

Fuente: Barbara e. Ainsworth. Compendium of Physical Activities: an update of activity codes and MET intensities.

Physical activity recommendations: The US Department of Health and Human Services recommends engaging in at least 150 minutes of moderate physical activity per week.¹⁹ Studies have shown that this frequency and level of physical activity can improve health and reduce the risk of cardio-vascular diseases, Type 2 Diabetes, some types of cancer, osteoporosis and depression.¹⁹

Step 2: Define activities: Define which *Ciclovía* activities are going to be observed, and specify each of their intensity levels.






THE CASE OF BOGOTÁ: Activities observed in the Ciclovía program

Two guides are assigned to each counting station to observe and evaluate the following activities:

Table 11. Recommended activities in Bogotá.

Activity	METs	Intensity
Cycling	5.5	Moderate
Jogging	8	Vigorous
Other activities (skating, skateboarding, scooters, high speed wheelchairs, and tricycles)	4.5	Moderada
Walking	4	Moderate

Step 3: Information collection: Any of the following counting methods can be used to collect information:

Counting Instruments	SOPARC counter	Manual counter (MC)	Paper and pencil (PP)
			
Description	<ul style="list-style-type: none"> • (System for observing play and recreation in communities) • This tool is used for direct observation in recreational areas where physical activities are carried out. 	<ul style="list-style-type: none"> • This tool is commonly used for counting heads of cattle. It is held in one hand, and the index finger and thumb are used for counting. 	<ul style="list-style-type: none"> • This is the tool traditionally used for counting participants in Ciclovía programs.
Advantages	<ul style="list-style-type: none"> • It allows you to observe and count four activities simultaneously. • It has a defined protocol, which means its results are replicable. 	<ul style="list-style-type: none"> • Its cost is medium range. • It has a defined protocol, which means its results are replicable. • It does not require special training for proper use. 	<ul style="list-style-type: none"> • It allows four categories of activity to be simultaneously observed and counted. • It is low cost. • It does not require special training for proper use.
Disadvantages	<ul style="list-style-type: none"> • Its cost is high (US\$126).²¹ • It requires training for proper use. 	<ul style="list-style-type: none"> • Its useful life is short. • It allows one category to be observed and counted per counter. One observer can use two counters simultaneously, which limits them to observing and counting just two activities at the same time. 	<ul style="list-style-type: none"> • Visibility in the target area is lost when registering information on the paper
Human resources needed for information collection	<ul style="list-style-type: none"> • Requires 1 person for counting 4 activities. • One person can count the flow in both directions (south-north and north-south). 	<ul style="list-style-type: none"> • Requires 2 people for counting 4 activities. • One person can count the flow in only one direction. • 4 people are needed to count the flow in both directions. 	<ul style="list-style-type: none"> • Requires 1 person for counting 4 activities. • One person can count the flow in only one direction. • 2 people are needed to count the flow in both directions.

Data should initially be collected to validate and verify the reliability of the instruments. Later, data will be obtained from counts for analysis purposes.



THE CASE OF BOGOTÁ: Counting in target areas

A target area for observation needs to be defined for conducting counts. The Ciclovía of Bogotá defines its target areas according to counting points that were previously used by the District Institute on Recreation and Sports (IDRD), along the entire Ciclovía route. Given the reliability and validity of the paper and pencil counting method, its use is recommended for routine counts in the Ciclovía of Bogotá program.

If available, information from prior studies concerning the types of activities carried out in the *Ciclovía* program (on foot, bicycle or wheels) and the average time spent on each activity is helpful. This information can assist the eventual analysis.

The information collection process:

1. Train the staff selected to do the count.

The number of people and their specific tasks should be designated according to the counting method used. In the case of Bogotá, eight people were used at each counting point. Two of them were responsible for the SOPARC counters, 4 for the MCs, and 2 used the PP method. Two sets of data were obtained from each counting method used, and for each of the categories.

2. After categorizing the volume of participants registered at each point, randomly select two counting points. These should be points with the highest number of participants at the peak hour. The reliability and validity of the instruments should be evaluated at these sites. Reliability refers to the extent to which an instrument provides similar measurements under different but identical conditions, in other words its replicability. Validity, on the other hand, refers to the degree to which a measurement taken with an instrument is consistent with the measurement of an instrument considered the “gold standard.”

3. Evaluate the two points on two different Sundays, conducting simultaneous 15-minute measurements for a total of two measurements of Ciclovía activities each hour (from 7 am to 2 pm). Counting is done by marking the SOPARC counter every time a person passes by point “x” doing one of the activities listed in Table 11. In addition, carry out manual counts and the paper and pen method currently used by the Ciclovía of Bogotá during the same time periods.

4. Enter the information into a database. Then, create a table on a spreadsheet that contains the collected information, which should be organized into a matrix like this one:



Table 12. Example of matrix with collected data.

Method:	SOPARC				
Count #	1				
Location:	Parque nacional				
Description of location: In front of the aerobics stand, along the seventh route.		Riding a bicycle	Running	Walking	Other
Start time	Evaluator 1	573	16	77	12
10:30					
End time	Evaluator 2	573	18	82	11
10:45					
OBSERVATIONS:					

How is the form filled out?

1. First, enter the number of the count, a description of the location, the start time of the count, the evaluator number, and the observation method used for counting.
2. Next, enter the number of individuals that each observer counted for each of the categories (activities). Finally enter the end time of the count, and any observations.
3. The order of counts and the hour they take place is important. Each count should be numbered in order to later correlate digital data with any filmed recordings of counting activities, if these take place.
4. Tabulate the data in a simple Excel spreadsheet. Each physical activity is classified by category and the count method. The total numbers obtained from the counts will be organized in a matrix so that data about the program can be further analyzed. For example:

Bicycle:Soparc1	Bicycle:ManualCounter1	Bicycle:Paper1
403	403	399
522	523	508
195	199	566
573	566	564
491	492	492

The following items are coded in each column's heading:

- First: the category of activity being observed.
- Second: the count method used.
- Third: the count number.

Step 4: Data analysis: Use the Spearman Correlation Coefficient—or the intra-class coefficient (ICC)—non-parametric reliability test to evaluate statistical reliability. This test determines the general concordance between two or more methods of measurement or observation (For more information: <http://estadistico.com/dic.html?p=4583>).

What should be calculated?

Once the data has been collected, you will be able to calculate how many MET-minutes the *Ciclovía* program contributes to meeting physical activity recommendations. A MET value is assigned to each activity (see Table 11: Recommended Activities), based on the average time period participants spend on the *Ciclovía* route, which has been calculated on the basis of previous surveys. An example of a *Ciclovía* de Bogotá survey may be found in Table 13.

Table 13. Time period participating in the *Ciclovía* of Bogotá program.

Participation Time	Total	Type of Participant					
		Walking		Cycling		Other wheeled device	
Less than 1 hour	70481 5.0%	47720	7.1%	21129	3.3%	1632	2.0%
Between one and two hours	373458 26.7%	225214	33.6%	127906	19.8%	20338	24.4%
Between two and three hours	388821 27.8%	176301	26.3%	183086	28.3%	29434	35.5%
More than three hours	567513 40.5%	220993	33.0%	314655	48.6%	31865	38.3%
Total	1400273 100%	670228	100%	646776	100%	83269	100%

Source: Universidad Nacional de Colombia, School of Science, Department of Statistics. Recreational and Sports Programs. 2005 Evaluation. December 2005.

For example, if a person spends an average of three hours cycling at a rate of 5.5 METS on the *Ciclovía* route, the program has contributed 990 MET-minutes ($5.5 \times 180 = 990$). The advantage of using a spreadsheet is that it uses simple formulas to make calculations:

MET	Duration of activity	MET-minutes
4 (walking)	60 minutes	240

Table 14. Example of a physical activity's MET-minute contribution, by the amount of time spent on a *Ciclovía* of Bogotá route.

Activity/Time	< 1 hour	1-2 hours	2-3 hours	>3 hours
WALKING	≤ 240	240 - 480	480 - 720	≥720
CYCLING	≤ 330	330 - 660	660 - 990	≥990
USING ANOTHER WHEELED DEVICE	≤360	360 - 720	720 - 1080	≥1080

Source: Cardona AM, Medina P, Sarmiento OL, Akira A, Zarama R. Adaptación y validación del método de observación directa SOPARC para estimar la contribución de actividad física en el contexto de la *Ciclovía* de Bogotá.



Additional references may be found in Section 6: References, or on the web page in the section on Evaluation/ Academic Articles (<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/academicArticles.html>).

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3.6. Participant Count

What is it?

Counting the participants in a Ciclovía program, by making estimates and predictions.

Why is it done?

This information is an indicator of the impact that a program is having in a municipality or city. It is useful for making comparisons between different times of the year, or with other programs. The information is also helpful for analyzing the costs vs. benefits.

Requirements

This type of study is based on the following assumptions:

- Participants are dispersed randomly along the route; therefore, density (i.e., the number of people in a specific area) is the same throughout the entire route (the distance between two counting points).
- The entry and exit of people does not cause any significant change in estimates during a 15-minutes count.
- The length of routes is sufficient to insure that people are not counted more than two times during a counting period.
- A typical speed is assigned to each activity: cycling (10km/h), running (5km/h), walking (2.5km/h), and others (such as wheelchairs, tricycles, scooters, skateboards, and skates) (7.5km/h).
- A double-count error caused by a person who decides to go back is not significant.
- The distance of the Ciclovía route is known.

Tools needed:

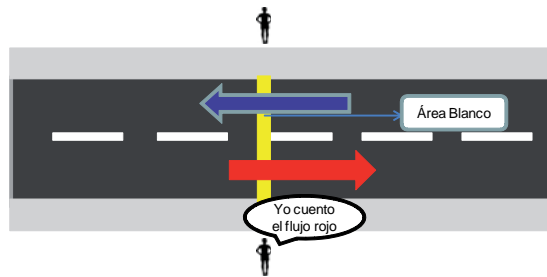
- Paper and pencil
- Chronometer
- Counting form
- Calculator or spreadsheet (Excel)

What are the steps?

Step 1:

Select the counting points: A distance of 2.5km between counting points is recommended. In case insufficient staff is available for this distance, a good way to determine the length of route segments counted is to divide the Ciclovía's total distance by half of the number of people available for the counting task. Two people are then assigned at every repetition of this distance along the route. For example, Bogotá's Ciclovía has a length of 121 km, and 32 guides are available for doing counts. Therefore, a counting point is set up every 6.7 km, with a total of 16 counting points.





Define the counting time: Conducting counts at each event during the first 15 minutes of each program hour (for example, 7:00 to 7:15) and the second half of each program hour (for example, 7:30 to 7:45) is recommended. This is done in order to know how people are distributed during the event. In Bogotá, a 15-minute count is done during the peak hour of each event.

Step 2:

Describe the counting protocol: Once the counting times and the distance between counting points have been defined, two people will be responsible for counting at each point. The two people stand across from each other on the road and each counts the flow in one direction. A specific point should be selected, and only the people passing by that point are counted. Also, the four types of described activities need to be differentiated in the count: cyclists, runners, walkers, and others (wheelchairs, tricycles, scooters, skateboards and skates).

Step 3:

Estimate the number of people per route segment: The following is a valid formula for predicting the number of people per route segment during the 15 minutes observed:

$$N = 4X \sum_i \left(\frac{n_i}{v_i} \right)$$

Where

X = the length of the route segment,

n_i = the total number of participants per route segment, by activity, and

v_i = is the speed assigned to each activity in km/h.

Warning: This formula is only valid for a 15-minute count.

Example:

Suppose that two people were assigned to count the participants in a Ciclovía program from 11:00 to 11:15 am.

The result was:

	Cyclists	Skaters	Walkers
North-South	115	10	20
South-North	160	6	28

In this example, the counting points were located at 2.5 km intervals. The number of participants in the 2.5 km route segment that was counted was obtained using the following formula:

$$N = 4X \sum_i \frac{n_i}{v_i} = 4 * 2.5Km * \left(\frac{115+160}{10Km/h} + \frac{10+6}{5Km/h} + \frac{20+28}{2.5Km/h} \right) = 500 \text{ People}$$



Step 4:

Repeat the previous calculation for all counting points selected.

Step 5:

Estimate the number of people during one hour: The number of people in the Ciclovía during one hour is obtained using the following formula:

$$M = \sum_j N_j$$

Where

N_j = the number of people at each point (calculated in the previous step)

\sum_j = the sum of N_j

M = estimate of the total number of people when the count is made.

Example:

In this example, we demonstrate how steps 4 and 5 are implemented. N_j is the estimate of the number of participants in each route segment after completing steps 1-3. We obtain the total number of participants during one hour by adding up the number of participants at each point:

Point	Direction	Cyclists	Skaters	Walkers	Nj
1	North-South	115	10	20	499
	South-North	160	6	28	
2	North-South	131	2	24	551
	South-North	152	10	37	
3	North-South	185	7	17	495
	South-North	152	8	15	
4	North-South	97	5	15	330
	South-North	121	1	10	
5	North-South	115	7	76	755
	South-North	126	6	46	
6	North-South	129	5	15	402
	South-North	127	4	17	
7	North-South	225	20	25	699
	South-North	206	24	20	
8	North-South	19	2	1	74
	South-North	29	1	4	
9	North-South	56	5	25	326
	South-North	70	5	20	
10	North-South	27	0	15	130
	South-North	27	0	4	
11	North-South	35	0	37	376
	South-North	33	0	40	
12	North-South	54	1	23	348
	South-North	62	1	34	



Point	Direction	Cyclists	Skaters	Walkers	Nj
13	North-South	58	0	53	527
	South-North	63	1	48	
14	North-South	43	0	7	133
	South-North	34	0	7	
15	North-South	237	5	41	688
	South-North	201	6	16	
16	North-South	170	4	32	692
	South-North	122	10	61	
M=Total Participants					7025

Step 6:

Estimate of the maximum number of participants during the entire event: The following formula gives us an estimate of the maximum number of people during an event:

$$P_{max} = K * M$$

Where

K= the duration (in hours) of a Ciclovía program.

M= an estimate of the total number of participants when the count is made.

Example:

The following formula gives us the maximum number of participants that could have taken part in a Ciclovía event:

$$P_{max} = K * M = 7 * 7025 = 49175 \text{ People}$$

Additional references may be found in Section 6: References, or on the web page in the section on Evaluation/ Academic Articles (<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/academicArticles.html>).

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3.7. Cost-Benefit Analysis of Public Health Savings Attributable to the Physical Activity of *Ciclovía* Participants.

What is this?

An estimate of the economic benefits generated as a result of the physical activities carried out by *Ciclovía* participants, and a comparison of these with the costs of running and using the program.

Why is it done?

This analysis helps visualize the relationship between money invested in a *Ciclovía* program and the economic (health) benefits resulting from the program. This allows us to assess the magnitude of the costs incurred by the program, and the economic benefits generated per activity.²⁷⁻³¹ If the benefits are greater than the costs, the analysis helps justify the program's viability in monetary terms. If the opposite is true, the analysis can help detect problems such as low attendance and/or time spent in *Ciclovía* activities, or areas that have higher participation.

What information is needed?

This type of analysis requires the following information:

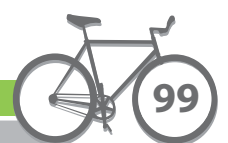
Statistical data about the program:

- Average number of people attending each event.
- The *Ciclovía* program's length (km).
- The average time spent on different activities (cyclists, walkers and skaters).

Program costs:

- Operational costs: This includes employee salaries, logistics support, services from other institutions, rentals, etc.
- Equipment costs (logistics): This includes employee uniforms, equipment and materials (barricades, barrier tape, lane dividers, first aid kits, etc.), and any other tangible items needed to implement the program.
- Equipment costs (participants): This includes the cost of uniforms used by *Ciclovía* participants, depending upon the activity. Usually it is the cost of a bicycle, a pair of skates, and a helmet.

Direct health benefits from physical activity: This data corresponds to the difference between the average annual health costs for a physically inactive person vs. the average costs for a physically active person in the country where the study is conducted.



Once the information is obtained, the Cost/Benefit relationship is calculated in order to evaluate economic performance in terms of each physical activity's preventive health benefit. This analysis should be carried out by specialized personnel, preferably with training in economics or engineering.

Additional references may be found in Section 6: References, or on the web page in the section on Evaluation/ Academic Articles (<http://cicloviarecreativa.uniandes.edu.co/english/advocacy/academicArticles.html>).

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4. TOOLS FOR PROMOTING A CICLOVÍA PROGRAM

Promoting a community program like the Ciclovía is essential to its sustainability. The word used by international agencies to describe this process is “advocacy.” The World Health Organization defines advocacy as the combination of individual and social actions aimed at securing political commitments, policy support, social acceptance, and support for obtaining an objective or for a concrete health program (WHO, 1995). For the public health community, promoting programs such as the Ciclovías—which have the potential to positively impact public health—is above all a social action.

The following tools for promoting a Ciclovía program are available on the web page:

4.1. Informative Brochures

4.2. Academic Articles

- Cavill N & Davis A. Cycling and health. What’s the evidence? Cycling England.
- Cervero, Robert, Sarmiento, Olga L., Jacoby, Enrique, Gomez, Luis Fernando and Neiman, Andrea. ‘Influences of Built Environments on Walking and Cycling: Lessons from Bogotá,’ International Journal of Sustainable Transportation, 3:4,203 -226. 2009.
- Ciudad Humana. Informe Final sobre CAP “Conocimientos, actitudes y prácticas sobre las intervenciones en el espacio público en Bogotá.” 2004.
- Gómez LF, Mateus JC, Cabrera G. Leisure-time physical activity among women in a neighbourhood in Bogotá, Colombia: prevalence and socio-demographic correlates. *Cad Saude Publica*. 2004 Jul-Aug;20(4):1103-9. Epub 2004 Jul 29.
- Gómez L, Sarmiento OL, Lucumí D, Espinosa G, Forero R. Prevalence and Factors Associated with Walking and Bicycling for Transport Among Young Adults in Two Low-Income Localities of Bogotá, Colombia. *Journal of Physical Activity and Health* 2005, 2, 445-459.
- Gómez LF, Duperly J., Lucumí DI, Gámez R, Venegas AS. Nivel de actividad física global en la población adulta de Bogotá (Colombia). Prevalencia y factores asociados. *Gac Sanit* v.19 n.3 Barcelona May-June. 2005.
- Hoehner CM, Soares J, Parra D, Ribeiro IC, Joshu CE, Pratt M, Legetic BD, Carvalho D, Victor Matsudo VR, Ramos LR, Simões EJ, Brownson RC. Intervenciones en Actividad Física en América Latina Revisión Sistemática de la Literatura.
- Montezuma, R. Promoción de modos de vida activos y espacios urbanos saludables: la transformación cultural y espacial de Bogotá, Colombia.
- Pan-American Health Organization. Regional Strategy and Plan of Action on an Integrated Approach to the Prevention and Promotion of Chronic Disease. Washington, 2007.
- Parra D, Gomez LF, Pratt M, Sarmiento OL, Mosquera J and Triche E. Policy and Built Environment Changes in Bogotá and their Importance in Health Promotion Indoor and Built Environments. 2007; 16; 344.
- Sarmiento OL, Behrentz, E. La ciclovía: un espacio sin ruido y sin contaminación, *Nota Uniandina* 52-54. August 2008.



4.3. Presentations

Some useful links

- United Ciclovías of the Americas: <http://www.cicloviasunidas.org>
- Rafapana: <http://www.rafapana.org/>
- Physical Activity Policy Research Network: <http://prc.slu.edu/paprn.htm>
- YouTube "World Health Day 2010": <http://www.youtube.com/whd2010>
- WHO (World Health Organization) web page: <http://www.who.int/world-health-day/2010/en/>
- Walk and Bike for Life: <http://walkandbikeforlife.org/>
- Proyecto Vía RecreActiva: Arquitectura y Patrimonio para Todos
http://www.albertina.com.mx/02_difusion_3.html
http://www.albertina.com.mx/02_difusion_3.html
http://www.albertina.com.mx/02_difusion_7.html
http://www.albertina.com.mx/02_difusion_8.html
http://www.albertina.com.mx/productos_8.html
http://www.albertina.com.mx/productos_7.html
- Promoting physical activity across the globe: <http://www.cdc.gov/Features/CollaboratingCenter/>



5. GLOSSARY

Physical activity

Any voluntary movement produced by muscular-skeletal contractions, which results in the expenditure of energy that increases the basal metabolic rate. Physical activity can be classified in several ways, including by type, intensity and purpose.

Permanent bike lane

This is a permanent lane designated for bicycle circulation, located on a sidewalk, road shoulder, or a separated vehicular lane, which is duly identified and whose main use is for transportation purposes.

Ciclovía (Car Free Sunday)

The temporary closure of streets to motorized transport, so they are available to local residents for use as a safe and free space for recreational and sports activities.

Vehicular flow

The rate or frequency of vehicle traffic at a specific point or section of a road, during a specific period of time.

Rush hour

When there is the highest concentration of traffic.

Off-peak hour

When there is the lowest concentration of traffic.

Urban furniture

All of the objects and installations used to support citizen services. In the case of a *Ciclovía* program, the objects that restrict or permit the circulation of participants (i.e., barricades for closing streets and intersections) and installations that provide basic services (i.e., water stations).

Direct observation

A research technique where the investigator has direct contact with the elements or characters in which the phenomenon being investigated is present, and whose results are considered statistically original data.

Pavement

An artificial surface made up of one or more materials that are placed over a natural or leveled terrain, in order to increase its durability and assist the circulation of people or vehicles.

Prevalence

In epidemiology, the proportion of the total population under study that suffers from a particular illness or condition.

Geographic Information System (GIS)

An integrated hardware, software and geographic data system designed to capture, store, manipulate, analyze and send geographically referenced information, in all of its forms, for use in resolving complex planning and management problems.



6. ABBREVIATIONS

CDC

Centers for Disease Control and Prevention

CUA

United Ciclovías of the Americas

IPAQ

International Physical Activity Questionnaire

NGO

Non-Governmental Organization

PAHO

Pan-American Health Organization

SOPARC

System for Observing Play and Recreation in Communities



7. REFERENCES

- (1) Alcaldía Mayor de Bogotá. Ciclovía Programme: a carnival on the streets of Bogota every sunday and holiday. 1-4. 1998. Bogotá.
- (2) Sarmiento O.L., Torres, A, Jacoby, E, Pratt M, Schmid T, Stierling G, Fernández D, Merrel, J, Díaz del Castillo, A., and Parra, J. Ciclovías Recreativas de las Américas. Un Programa de Salud Pública. 1-4. 2009. Bogotá.
- (3) Red de Ciclovías Unidas de las Américas. Ciclovía recreativa: concepto.
Available at: http://www.cicloviasunidas.org/?page_id=2. Last retrieved: 18-3-2009
- (4) Sarmiento O.L., Torres, A, Jacoby, E, Pratt M, Schmid T, and Stierling G. The Ciclovía-recreativa: a mass recreational program with public health potential. 2009.
- (5) Red de Ciclovías Unidas de las Américas. Presentación.
Available at: http://www.cicloviasunidas.org/?page_id=5. Last retrieved: 18-3-2009
- (6) Barriga, L. Cómo implementar las ciclorecreovias para un estilo de vida activo. 2008.
- (7) Sarmiento O.L., Behrentz E. La ciclovía, un espacio sin ruido. Nota Uniandina. 2008.
- (8) Red de Ciclovías Unidas de las Américas. Declaración de Bogotá.
Available at: http://www.cicloviasunidas.org/?page_id=4. Last retrieved: 18-3-2009
- (9) Red de Ciclovías Unidas de las Américas. Iniciativas.
Available at: http://cicloviasunidas.org/iniciativas/guadalajara/?page_id=14. Last retrieved: 14-10-2009
- (10) <[04] Authors, primary>. <[03] Title, primary>. <[14] Authors, secondary>.
<http://www.tierramerica.net/2001/0624/particulo.shtml>. Last retrieved: 14-10-2009
- (11) Concejo Municipal del Deporte de Guadalajara. Vía RecreActiva. Concepto.
Available at: http://www.fomentodeportivo.gob.mx/concepto_via.php. Last retrieved: 14-10-2009
- (12) Concejo Municipal del Deporte de Guadalajara. Vía RecreActiva Guadalajara llega a 180 mil asistentes.
Available at: <http://www.fomentodeportivo.gob.mx/notas.php?id=279>. Last retrieved: 14-10-2009
- (13) Start, D and Hovland, I. Tools for policy impact. A handbook for researchers. 1-64. 2004. London, Overseas Development Institute.
- (14) Dick, B. Stakeholder analysis.
Available at: <http://www.scu.edu.au/schools/gcm/ar/arp/stake.html>. Last retrieved: 6-4-0009
- (15) Eyler,A; Brownson,R.C.; Evenson,K.R.; Levinger,D.; Maddock,J.E.; Pluto,D.; Troped,P.J.; Schmid T; Carnoske,C. Policy influences on community trails development .
Available at: <http://prc.slu.edu/paprn.htm#1>. Last retrieved: 6-4-0009



- (16) Craig C, Marshall A, Sjostrom M et al. International physical activity questionnaire: 12-country reliability and validity. *Med Sci Sports Exerc.* 2003;35:1381-1395.
- (17) Departamento de Salud y Asistencia Pública de los Estados Unidos. Manual de evaluación de la actividad física. Atlanta: 2006.
- (18) International Physical Activity Questionnaire.
Available at: <http://www.ipaq.ki.se/ipaq.htm>. Last retrieved: 14-10-2009
- (19) US Department of Health and Human Services. Physical Activity Guidelines for Americans. 2008.
- (20) US Department of Health and Human Services; Public Health Service; Centers for Disease Control and Prevention; National Center for Chronic Disease Prevention and Health Promotion; Division of Nutrition and Physical Activity.
Available at:
www.cdc.gov/nccdphp/dnpa/physical/pdf/PA_Intensity_table_2_1.pdf. Last retrieved: 20-4-2009
- (21) The Denominator Company, Inc. Price List. 2006. Woodbury, Connecticut, Estados Unidos.
- (22) Land Transport New Zealand. Cycle counting in New Zealand. 2008.
- (23) Schneider, R, Arnold, L, and Ragland, D. Alameda County Pedestrian and Bicycle Counting Project. 2008. Berkeley Traffic Safety Center.
- (24) Macbeth, AG. Automatic bicycle counting.
Available at:
www.ipenz.org.nz/ipenztg/papers/2002_pdf/34_MacBeth.pdf . Last retrieved: 14-10-0009
- (25) Chagas, M., Greene-Roesel R, Arnold, L, Ragland, DR. Pedestrian Counting Methods at Intersections: a Comparative Study.
Available at: <http://repositories.cdlib.org/its/tsc/UCB-TSC-TR-2007-3/>. Last retrieved: 14-10-0009
- (26) Atlanta Bicycle Coalition. Let me count the ways: ABC plans bicycle counts.
Available at:
<http://www.atlantabike.org/content/Let-me-count-ways-ABC-plans-bicycle-counts>.
Last retrieved: 14-10-0009
- (27) Lobelo F, Pate R, Parra D, Duperly J, Pratt M. Carga de Mortalidad Asociada a la Inactividad Física en Bogotá. *Rev Salud Pública.* 2006;8:28-41.



- (28) Buis, J and Wittink, R. Economic Significance of Cycling. A study to illustrate the costs and benefits of cycling policy. 2000. The Hague, VNG uitgeverij.
- (29) Gaylord R, D'Andria LJ. Simulating Society: A Mathematical Toolkit for Modeling Socioeconomic Behavior. Springerlink; 1998.
- (30) Pratt M, Macera C, Wang G. Higher Direct Medical Costs Associated With Physical Inactivity. The Physician and Sports Magazine. 2000;28.
- (31) Wang G, Macera C, Scudder-Soucie B, Schmid T, Pratt M, Buchner D. A Cost Benefit Analysis of Physical Activity using Bike/Pedestrian Trails. Health Promot Pract. 2005;6:174.





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