

Vision Zero for Youth: Making streets safer one school zone at a time

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Introduction 1



This report addresses one of the most tragic and preventable health issues affecting youth in cities around the world: road traffic deaths and injuries. Every day, more than 500 children die because of a traffic collision, and tens of thousands are injured.¹ Unfortunately, 92% of these incidents occur in low-and middle-income countries, many of them in Latin America. This health problem can only be addressed through a combination of infrastructure interventions, sound traffic regulations and their enforcement, and education and communication strategies. All these components should be integrated in a comprehensive policy framework that facilitates the planning, monitoring, and evaluation of road safety actions supported by effective coordination of institutions involved in road management and health.

Vision Zero incorporates these components into a framework of public policy that guides the action of public and private stakeholders in cities like New York, Stockholm, and Los Angeles. The government of Mexico City joined the movement in 2015 and became the first in the developing world to adopt the Vision Zero policy framework. After three years, the framework has led to some policy successes, including new traffic regulations, and a comprehensive action plan developed in partnership with civil society and the private sector.

Nonetheless, many of the road safety actions taken by the government under the Vision Zero framework are being contested by the public in Mexico City. Some of the contested measures have included speed humps and sidewalk extensions, reduction of city speed limits, and automatic ticketing. These actions have changed activity and movement on the street in many areas of Mexico City and favored a more balanced environment for all street users, especially pedestrians and cyclists, whose needs have often been ignored in street design. Unfortunately, car users have reacted negatively to the affected changes in their driving habits, which has often spoken louder than the prevention of loss of life.

If top-down measures from the government to save lives under the Vision Zero framework are not enough, what about community-led actions from the ground-up?

The Institute for Transportation and Development Policy (ITDP) proposes that Vision Zero for Youth can save lives and increase public support for road safety action from the ground-up throughout Mexico City, Mexico, and Latin America. Vision Zero for Youth applies the principles of Vision Zero to school zones and other places where children and youth walk and bicycle. By implementing preventative actions in areas of risk in elementary and middle schools throughout Mexico City, this strategy can reduce opportunities for conflicts on the road involving pedestrians and make streets safer one school zone at a time.

Vision Zero for Youth can also help communicate to the public and play a unique role building community support for further road safety action. The initiative connects those vulnerable to road risks to impactful actions and creates on-the-ground advocates for a road safety agenda.

Road safety actions can be communicated through clear and compelling messages related to saving children's lives to help contextualize their implementation and help them become more socially acceptable.

In this report, ITDP, with the support of the FIA Foundation, presents the experience of a pilot project introducing Vision Zero for Youth in Mexico City during the 2017-2018 school year. This collaboration was led by ITDP, the school community of Secundaria 4 Moisés Sáenz, a public school located in the central borough of Cuauhtemoc, and key partners from the private sector and government. The report disseminates the lessons from the project, promotes the expansion of Vision Zero for Youth in Mexico City, and contributes to its replicability in other areas.

1.1

Contents of the report

NO.	SECTION	CONTENT
1	Introduction	<ul style="list-style-type: none">• Road safety and youth• Objectives and structure of the report
2	The context for Vision Zero for Youth in Mexico City	<ul style="list-style-type: none">• The context in Mexico City regarding youth, mobility and road safety policy
3	A sound and replicable strategy for safe school zones	<ul style="list-style-type: none">• Strategy and phases of the VZY project• Description of the VZY project in Mexico City and its incremental strategy• Phases of the project
4	ITDP's Methodology and Evaluation for Change	<ul style="list-style-type: none">• School zone selection• Road assessment• Intervention• Evaluation
5	Implementation in the School Zone: Working with the Pilot School	<ul style="list-style-type: none">• The pilot project is presented together with its main reference framework
6	Vision Zero for Youth in Mexico and beyond: Learnings and replicability	<ul style="list-style-type: none">• The learnings derived from the pilot project and its potential for replicability in school zones beyond Mexico City

1.2

The report and its objectives

The overall purpose of this report is to support the reduction of deaths and injuries to children from road collisions long term throughout Mexico City, Mexico, and Latin America. To achieve this goal, this report aims to increase the number of school communities implementing road safety actions, especially under the Vision Zero for Youth framework. ITDP's pilot project in Mexico City with the public school, Secundaria No. 4 Moisés Sáenz, serves as an example of positive initial success in reducing road risks and increasing community support. This report details the strategy, methodology, implementation, and reactions of the pilot project including the detailed analysis and diagnostics, engagement of key actors, and innovative communication strategies.

The Context for Vision Zero for Youth in Mexico City

2



2.1

Youth and mobility in Mexico City

In Latin America and the Caribbean and Mexico specifically, most children and young people walk on a daily basis, particularly on their journeys to and from school. This mobility pattern is highly encouraging in comparison to the use of motorized vehicles. Walking is good for the environment, produces no greenhouse gas emissions or air pollution, and is associated with numerous health benefits, which is especially important in Mexico where decreasing physical activity is leading to increasing rates of obesity and diabetes for children.

Nevertheless, in most cities, where infrastructure, regulation and culture have benefited motorized transport and encouraged high vehicle speeds, people on foot, and young people in particular, are exposed to higher risks. In Mexico, road traffic deaths and injuries are the most common cause of death among children ages 5 to 9. They are also the second most common cause among adolescents and young people ages 10 to 20². Pedestrians represent 45-48% of total road traffic deaths at the national level. In addition, most children in Mexico get to school by walking. In 2015, approximately 57% of children and adolescents ages 3 to 17 who attended school commuted by walking.³ At the national level, walking is the most common means of transportation for that age group, followed by public transportation (26.5%), private motorized vehicles (15.8%), school transportation (1.9%) and cycling (1.5%). Road safety is an issue faced by vulnerable populations who travel daily in the streets and must be urgently addressed to maximize the sustainability and health benefits associated with walking and cycling.

Besides being an urgent problem of public health, road traffic deaths and injuries are also an issue of social equity. Studies show that urban areas with lower income levels have higher frequencies of road collisions.⁴ This is also true in Mexico City. As illustrated by maps below, its 16 boroughs vary in urban inequality⁵ (Map 2) and percentage of trips to school by walking (Map 1). Yet, both are higher in peripheral boroughs where social marginalization is high or very high, and 39-51% of trips to school are done by walking.

² Secretariado Técnico del Consejo Nacional para la Prevención de Accidentes (2015). *Perfil Estatal Distrito Federal, 2013*. Mexico: Secretaría de Salud, ST-CONAPRA. Retrieved from: http://www.conapra.salud.gob.mx/Interior/Documentos/Observatorio/Perfiles/9_Dist_Fed.pdf

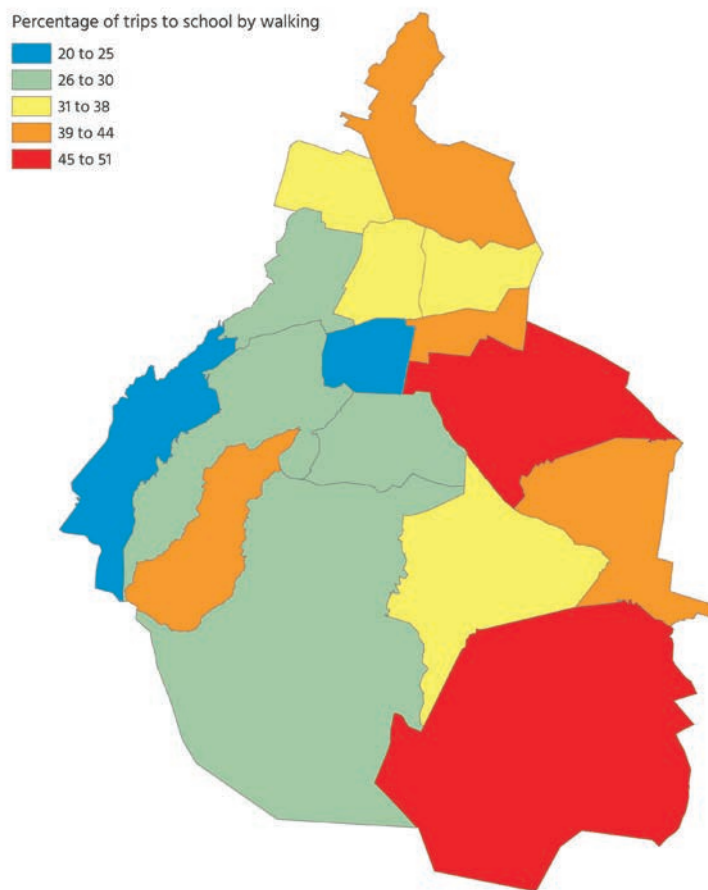
³ Instituto Nacional de Estadística y Geografía (n.d.). *Encuesta intercensal 2015*. Retrieved from: <http://www.beta.inegi.org.mx/proyectos/enchogares/especiales/intercensal/>

⁴ Pérez-Núñez et al. (2014). El estado de las lesiones causadas por el tránsito en México: evidencias para fortalecer la estrategia mexicana de seguridad vial. *Cad. Saúde Pública*, 30(5): 911-925. <http://dx.doi.org/10.1590/0102-311X00026113>

⁵ The “urban marginalization index” has here been used to account for inequalities. The Mexican National Institute of Statistics and Geography considers that marginalized communities are those characterized by high social vulnerability. The marginalization index takes into account four interrelated dimensions: (1) education; (2) housing; (3) income; (4) spatial location.

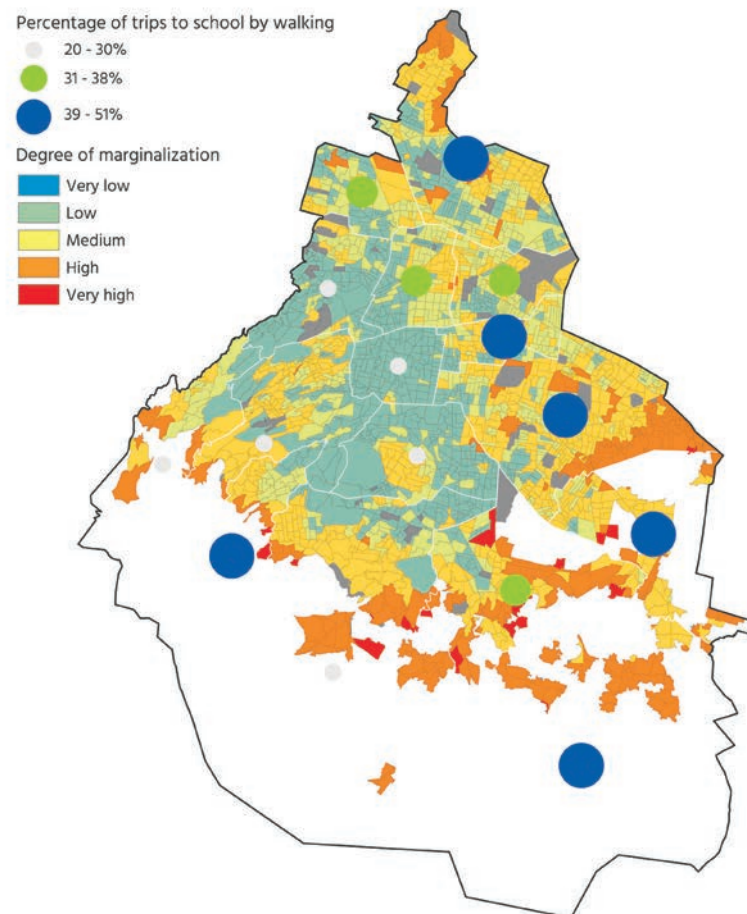
Map 1.
Percentage of trips to school by walking in the boroughs of Mexico City, 2015

Own elaboration, adapted from the Census survey 2015, National Institute of Statistics and Geography.



Map 2.
Degrees of urban marginalization by Basic Geostatistical Areas, 2010, and percentage of trips to school by walking in the boroughs of Mexico City, 2015

Own elaboration, adapted from the Population and housing census 2010 and the Census survey 2015, National Institute of Statistics and Geography.



Boroughs with High and Very High Marginalization include Milpa Alta, Iztapalapa, Magdalena Contreras, Tláhuac, Iztacalco and Gustavo A. Madero

2.2

Road safety policy in Mexico City

In 2015, Mexico City adopted Visión Cero CDMX, proposing an array of actions aimed at reaching zero road traffic deaths and serious injuries. It is based on the principle that no loss of life is acceptable and emphasizes a shared responsibility among the state, private sector and civil society in the preservation of human life. It recognizes that human beings make mistakes and that collisions are inevitable. A road system in which collisions do not result in deaths and serious injuries is urgently needed.

As part of its Vision Zero efforts, Mexico City created the Road Safety Comprehensive Program, or Programa integral de seguridad vial 2016-2018.⁶ This road safety program is based on the principles of Vision Zero and the five pillars of the Decade of Action for Road Safety 2011-2020⁷ of the United Nations to which Mexico committed. The program provides an assessment of road safety in the city and proposes a series of systemic actions in five strategic areas:

- 1) Road safety management
- 2) Safer roads and mobility
- 3) Safer vehicles
- 4) Safer road users
- 5) Post-crash response

On safe roads and mobility, Mexico City established a short-term target to improving the safety of all road users. Within this , and in close collaboration with ITDP, Mexico City's Ministry of Mobility developed a program called Llega Segura or Arrive Safely which addresses interventions in the school environment. This report will also help inform this strategy.

⁶ Gobierno de la Ciudad de México (2017). *Programa de mediano plazo "Programa Integral de Seguridad Vial" 2016-2018 para la Ciudad de México*. Retrieved from http://www.semovi.cdmx.gob.mx/storage/app/media/PISVI_Low.pdf

⁷ World Health Organization (2011). *Decade of Action for Road Safety 2011-2020*. Retrieved from http://www.who.int/violence_injury_prevention/publications/road_traffic/saving_millions_lives_en.pdf

A Sound and Replicable Strategy for Safe School Zones

3



3.1

Road safety through the lens of youth

ITDP and the FIA Foundation aim to drastically reduce traffic related injuries among young people. ITDP aims to further road safety in Mexico City through the lens of a safe journey to school and school zones. The school zone is defined here as the set of circumstances and neighboring elements to the entrance of a school, including the volumes of people going to the school and the road infrastructure around it. ITDP has framed its approach to Vision Zero for Youth based on the four pillars of Vision Zero⁸:

1) Safe road and urban design. In areas with high concentrations of young people, such as school zones, the design of the street has to indicate that children have the priority and make drivers reduce their speed. This urban and road design can promote safe behaviour among road users and the school community.

2) Strict law enforcement. To discourage risky behaviour and ensure that road users comply with transit norms, authorities have to strictly enforce the law. School zones can be designated as priority zones where traffic violations are prohibited. These measures can be monitored to assess their impact on the population.

3) Education and awareness programs. Road safety campaigns are key instruments for the promotion of a culture of mobility that favors safe, efficient and sustainable transit in the streets. Children can be educated through road safety curriculum and involving schools a culture of safe mobility.

4) Road safety management. To improve road safety in school zones requires the effective coordination of public agencies in charge of road safety such as public works, police, health, justice, etc. and quality road safety information for decision-making. The education sector and other relevant authorities have to coordinate to identify the main risks, implement actions to reduce them, and evaluate their impact over time.

The project aims to transform the road infrastructure around all schools, raise awareness about road risks and its solutions, improve traffic law enforcement in school zones, and foster the capacities of the authorities to plan, implement, evaluate and coordinate road safety actions. In this sense, Vision Zero for Youth does not compete with Vision Zero actions already in place. Instead, it serves as a magnifying glass on: **the school zone.**

3.2

Incremental implementation for reducing road risks in school zones

Improving road safety for the youth in any city requires the implementation of safe zones around all schools. This starts with public kindergartens, elementary and middle schools as daily destinations for young walkers-potentially hundreds of school zones. This is a significant process that requires considerable technical capacities and financial resources, supported by strong political will. Many previous Vision Zero and Vision Zero for Youth examples are from higher income cities in Northern Europe and the United States. In the context of Latin America and developing countries, if resources are scarce, an incremental approach can move progress forward. ITDP provides the following recommendations:

- **Technical capacities are often gained with experience.** Although there is a growing body of research related to safe routes to school,⁹ the public and private actors involved in road safety and mobility in Mexico City are still new to the subject. The capacity-building and lessons from pilots are critical for the planning, implementation and evaluation of a city-wide safe school zones strategy.

⁸ These pillars are road design, law enforcement, culture of mobility and road safety management. For further information: Leal, A. and Vadillo, C. (2015). *Visión Cero: Estrategia integral de seguridad vial en las ciudades*. Mexico City: Institute for Transportation and Development Policy. Retrieved from: <http://mexico.itdp.org/wp-content/uploads/vision-cero2.pdf>

⁹ Safe Routes to School Online Guide (n.d.). Retrieved from: <http://guide.saferoutesinfo.org/>
Fundación Gonzalo Rodríguez (2012). Estudio Observacional del Entorno de los Centros Educativos y de la forma de desplazamiento de los niños. Retrieved from: [http://www.gonzalorodriguez.org/data/paginas/Informe_CSE_FGR\(2011a\)_contexto.pdf](http://www.gonzalorodriguez.org/data/paginas/Informe_CSE_FGR(2011a)_contexto.pdf)
Safe Kids Worldwide (2016). *Alarming Dangers in School Zones*. Washington D.C.: Safe Kids Worldwide. Retrieved from: https://www.safekids.org/sites/default/files/alarming_dangers_in_school_zones.pdf
Dirección General de Tráfico (2013). *Camino Escolar Paso a Paso*. Retrieved from: http://www.dgt.es/PEVI/contenidos/Externos/recursos/infancia/camino_escolar/camino_escolar_Paso_a_Paso.pdf

- **Political will must be built from both top-down and bottom-up advocacy strategies.** There is a large body of experts advocating for road safety, but lack of involvement by on-the-ground advocates, like school communities. Pilot projects can close this gap by raising awareness in strategic school communities and generating on-the-ground advocates.
- **Financial resources become available once the technical and political aspects are solved.** The funds for safe streets for pedestrians exist, but the government has different priorities for allocating them.¹⁰ Therefore, the capacities and political will derived from pilot projects can foster the reallocation of public spending, from car-oriented projects to road safety and pedestrian infrastructure.

3.3 Phases of the project

Safe school zones can become the new normal in Mexico City. These school zones would reduce road risks through a combination of measures related to road design, law enforcement and culture of mobility. To get there, with the support of the FIA Foundation, ITDP designed a project that will set the stage for a city-wide safe routes to school strategy. The project is divided in four phases that combine research, capacity building and communications activities, as shown in Table 2.

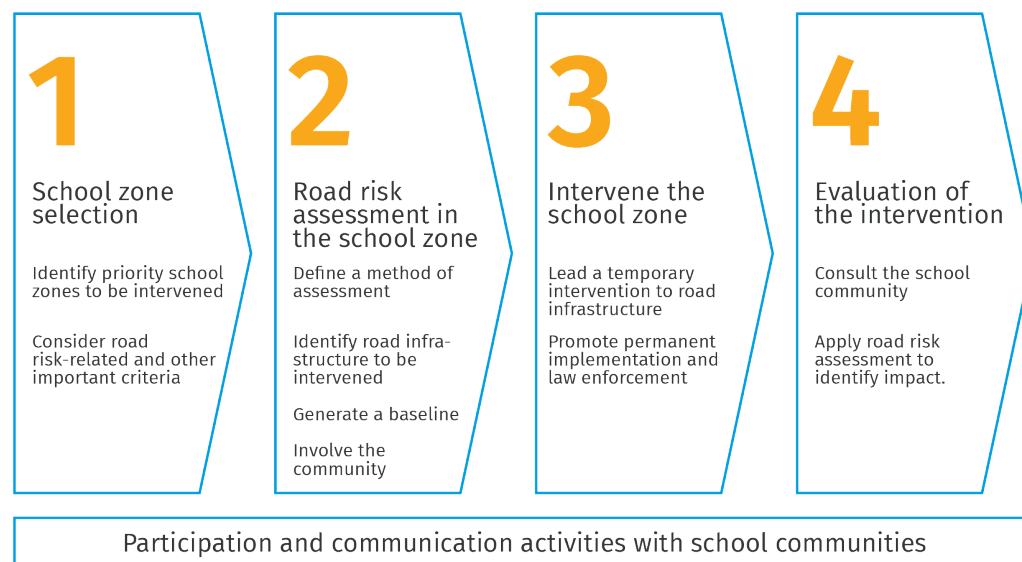
Table 2.
Phases of the Vision Zero
for Youth project

NO.	PHASE	KEY ELEMENTS
1	Planning	<ul style="list-style-type: none"> • Analyse national and international safe routes to school best practices • Set a roadmap for the project • Identify potential schools for the pilot project • Identify and approach potential partners from the public and private sectors
2	Pilot in 1 school zone	<ul style="list-style-type: none"> • Approach potential schools and select one for in-depth work • Work with the school community and the institutional partners in the design and implementation of a safe school zone • Communicate the activities to the public • Report findings and lessons learnt
3	Pilot expansion to 5 schools	<ul style="list-style-type: none"> • Use the findings and lessons learnt from phase one to work with authorities and the communities of five schools in the development of safe school zones • Communicate the activities to the public and add partners • Analyze the experience to identify takeaways and develop tools and recommendations to guide a city-wide safe routes to school policy
4	Replicability	<ul style="list-style-type: none"> • Work with authorities and other partners in the implementation of a sound city-wide safe routes to school strategy



This section presents the methodology used by ITDP to select a pilot school, assess the risks, implement changes, and evaluate impacts.

Figure 1.
Steps of the methodology



4.1 School zone selection

ITDP used a methodology for selecting a school zone based on several criteria related to road risk as follows:¹¹

- **Primary and middle-schools.** Basic education in Mexico covers most children ages 5 to 15. ITDP evaluated primary and middle-schools given that road traffic collisions are the first cause of death among children and adolescents in that age range.¹²
- **Public education.** In Mexico, a majority of the school population in public institutions commute using public transportation or walking. This travel pattern is less common in private schools.
- **Schools with high enrollment and attendance.** ITDP sought schools with high enrollment and attendance increases the impact of the intervention. In Mexico, the school day is divided into both morning and evening shifts, and the selected pilot school had both.
- **Proximity to dangerous crossings.** The impact can be greater if the schools are closer to crossings with high concentration of crashes and fatalities. If such data is not available other risk-related criteria, such as speeds, high volumes of traffic, or high concentration of primary and middle-schools can be used.¹³
- **Close to or accessible through primary roads.** Road risk is greater on primary roads because of their heavy usage and high speeds.
- **Modal share of students.** Identify the schools with high percentages of students who commute by walking, cycling or using public transportation.
- **Identification of inequality measures in census or equivalent.** As shown in maps 1 and 2 (section 2.1), there is a direct correlation between inequality, road risk and children walking to schools.

¹¹ In the case of Mexico City, the action "2.13 Implement the programme 'Arrive safely'" of the PISVI defines the following selection criteria: (1) location on primary road with heavy vehicle traffic; (2) difficult access of children when arriving by foot. The criteria defined by ITDP are therefore consistent with those chosen by the city, although more comprehensive than the latter.

¹² Pérez-Núñez et al. (2014). El estado de las lesiones causadas por el tránsito en México: evidencias para fortalecer la estrategia mexicana de seguridad vial. Cad. Saúde Pública, 30(5): 911-925. <http://dx.doi.org/10.1590/0102-311X00026113>

¹³ IDB (to be published). Guía de intervenciones de bajo y alto impacto para mejorar la seguridad vial en ciudades mexicanas..

4.2

Road risk assessment in the school zone

ITDP considered a road risk assessment based on three main functions: (1) identify elements of the road infrastructure that need intervention; (2) define a baseline for evaluating the intervention and (3) involve the community and raise awareness about road risk.

The evaluation can be made with various methods, such as:

- **Road safety analysis.** This is a systematic review of the school zone and the roads around it. It allows for identification of infrastructure elements that may contribute to collisions and place pedestrians at risk, as well as the measures that could be implemented to improve safety in the area. If there is an analysis methodology already in use in the city and/or country it can be adapted to the school zone, otherwise international references may be used.¹⁴
- **School zone analysis based on workshops with the school community.** Identify the paths and routes taken by students and parents to access the school, which can then be narrowed to target the dangerous spots along the routes. An example of this method is given in section 5.
- **Conflict analysis.** This identifies environmental and infrastructure factors that cause conflicts, or near misses, among road users, with an emphasis on conflicts involving pedestrians and vehicles. It is therefore possible to identify the frequency and severity of those conflicts. A conflict is an event in which two or more road users approach one another in such a way that a collision is imminent if their movements remain unchanged; in other words, a conflict does not necessarily culminate in a collision, but indicates the spots where these will most likely occur. For that reason, contrarily to the **reactive** approach of the school zone analysis method, conflict analysis takes on a **preventive** approach which allows for the collection of a larger and more detailed sets of information.

4.3

Intervention of the school zone

ITDP used an intervention methodology that encompassed both changes to road infrastructure and law enforcement strategies applied in the school zone. While the active participation of the government is required for the implementation of temporary and permanent improvements in the school zone, these can be triggered by small-scale actions led by the school community.

- **Temporary intervention to road infrastructure.** The findings of the road risk assessment are used to design a temporary intervention to the road infrastructure of the school zone. It is recommended that the intervention be prepared hand in hand with the school community to ensure active engagement. Public sector stakeholders should be invited to take part in the temporary intervention, so that it may later be permanently implemented. Similarly, a communications strategy should be developed to reach a wider audience. Media and communications are paramount in initial interventions, when momentum for citywide interventions has yet to be built.
- **Permanent intervention to road infrastructure.** The successful temporary intervention, if well-documented and sound in technical terms, may provide sufficient evidence justifying the action of the public sector, towards the permanent implementation of the road infrastructure improvements.
- **Law enforcement.** If the intervention is not sufficient to ensure safety, or if traffic violations and risk behaviours such as speeding are observed in the school zone, law enforcement strategies may be proposed to public stakeholders, together with the school community. These typically consist of greater traffic police presence and stronger enforcement, and may take different forms depending on the local context.

4.4

Evaluation of the intervention

After the project's implementation, it is important to listen to and receive feedback on the achieved results from parents and teachers, as they access the school on a daily basis. Experts may then evaluate if changes in the project are needed before the final redesign project is permanently implemented.

A similar exercise may be applied again to identify the positive impacts on the intervention. These may be shared with the school community to raise awareness on the significance of road safety in school zones, especially if the public sector shows little willingness to take part to the project. These assessments should also inform the evaluations of road safety policies.

4.5

Intervention of the school zone

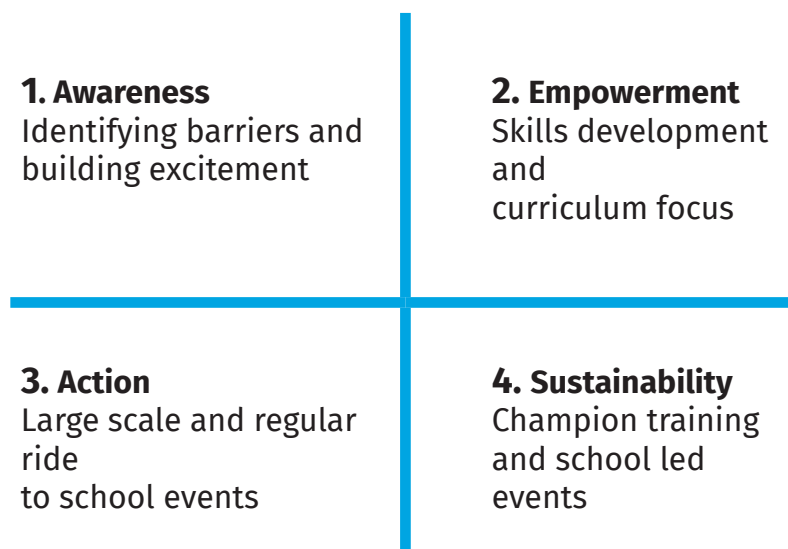
In addition to these phases, ITDP used a participatory process throughout the implementation. The process was informed by methodologies of co-design and behaviour change developed by Sustrans, a civil society organization based in the United Kingdom. For greater clarity on the background of these methodologies are presented here.

ITDP applied the **behaviour change model** developed by Sustrans¹⁵ to increase awareness about road safety and trigger change in attitudes towards mobility among the school community. The method is flexible, simple and structured, and is comprised of four basic steps that ensure the sustainability of the project.

1. **Awareness.** In this step, barriers to change are identified and excitement is built within the school community. For this pilot project, awareness means gaining an understanding of the barriers to moving safely in the trips to and from the school. Some key aspects include recruiting champions -such as a leading school director- and organizing consultations and workshops with professors and parents.
2. **Empowerment.** Conducting workshops and other activities with the school community generates empowerment and the necessary skills and knowledge that catalyze behaviour changes. In the Secundaria 4 case, the area surrounding the school was analyzed to identify critical spots.
3. **Action.** Action is taken by implementing the project on a larger scale and having regular events in which the community at large takes part, such as "Ride to school" or "Walking to school" days.
4. **Sustainability.** The sustainability of the project is ensured by having champions trained to design and organize their own events over time in the school.

Figure 2.
Sustrans' behaviour change
model in school
communities

Source: Sustrans (2016)



The street co-design model, also developed by Sustrans and applied in the pilot project, was key to making the project sustainable, as it makes the school community part of the change and gives them tools to contribute to making streets safer, along with the experts involved. This method helps strengthen the four steps afore-mentioned by favoring a more active, satisfied and unified school community. In this sense, the “empowerment” step of the previous behaviour change model is key, as it includes co-design strategies directly implemented with the school community.

1. **Co-discover.** The members of school community analyze and identify themselves the main problems related to road safety, such as inadequate street design and infrastructure.
2. **Co-development.** Knowing the road safety problems and finding the opportunities for improvement in the school zone make the community contribute to the development of the project.
3. **Co-design.** Experts and the school community establish a street redesign project, based on the community vision and its everyday experience in the streets.
4. **Co-implementation.** By using public participation tools such as tactical urbanism, the redesign project co-defined by the community is brought outside, in the street.

Figure 3.
Sustrans' street co-design model

Source: Adapted from
Annette Jezierska, 2017
[PowerPoint slides]



4.6 Tactical Urbanism

Tactical urbanism refers to the set of techniques and tools used to create an environment that prioritizes pedestrian safety, in a temporary, collaborative and inexpensive way.¹⁶ Through the redesign of the street space with paint or movable traffic barriers that make some parts of the street more visible, tactical urbanism temporarily generates a safer environment to observe and analyze behaviour change of road users.

This technique helps to evaluate the street, new designs and/or projects that aim to improve people's quality of life, through a collaborative process that involves neighbors, experts and public authorities. It ideally aims to turn the temporary intervention into a permanent change of the space and its infrastructure, in order to provide greater safety to all road users.

¹⁶ Steffens, K. (2013). Urbanismo Táctico 3. Casos Latinoamericanos. Creative Commons Ciudad Emergente.

Implementation in the School Zone: Working with the Pilot School

5



5.1

The selection of “Secundaria 4 Moisés Sáenz”

The school zone around the Secundaria No. 4 “Moisés Sáenz” was selected for the pilot project based on the following criteria:

1. It is a prestigious **public school** that has the potential to stand out as a model to be replicated in other schools;
2. It has both **morning and evening shifts**, which allows to magnify the positive impact generated in the school zone;
3. It is **accessible through a primary road** with high vehicle speeds and heavy traffic flow, there are numerous points of conflict for the children who walk to school in the zone. Moreover, the state of the infrastructure allows for the recovery of public space and the redesign of the road, and may therefore have a high impact on the safety of the school community.
4. The **enthusiasm shown by the students and faculty** for the project was considered paramount for the success of this first pilot.

5.2

Co-designing an intervention

ITDP worked with the school community to design a road safety intervention that incorporated the needs of school community and addressed road risks.¹⁷ This included several meetings and workshops with the parents, teachers and students. When working with the students, the exercises helped the students to understand the diverse challenges of improving road safety in their school zone, while promoting creativity and project based learning. It also raised their expectations in the street intervention in which they would subsequently play an active role.

At the beginning of the project and the 2017-2018 school year, ITDP held several talks explaining the road safety issue in Mexico City and Mexico, the impact on young people, the need for changes to the infrastructure in school zones, and the potential role of the students in the project. **Over a thousand parents** participated to learn more about the initiative.

Road safety talks with parents of the Secundaria No. 4 “Moisés Sáenz”, September 2017.

Credits: Clara Vadillo Quesada



Second, ITDP, also **worked with the school faculty** to encourage the full commitment of teachers to road safety in the school zone. Through a series of meetings, ITDP taught them basic road safety and together adapted these concepts into the curriculum for the school year, specifically architectural design, graphic design, and arts & crafts workshops that students attend twice a week.

Working session
with the faculty to
adapt road safety
into the curriculum,
October 2017.

Credits: Marie-Ève
Assunção



Then, together with the teachers, ITDP helped facilitate the integration of road safety principles into the workshops. The goal of the road safety workshops with the students were to raise awareness about road safety issues and promote behavior change, as well as prepare a tactical urbanism intervention as part of the street redesign. During the first workshop, ITDP and the teachers shared road safety concepts and the context in Mexico City. The aim was to raise awareness on safe behaviours that pedestrians should adopt when traveling through the city the risks that other road users -mainly automobile drivers- generate in the streets. Students were then able to analyze their school zone and identified conflict spots and unsafe areas on in their way to school.

The workshops adapted road safety into to the curriculum:

- **Architectural design:** The workshop had students redesign the neighboring Jaime Torres Bodet street. The program was divided into three units: (1) street composition, infrastructure and other basic concepts; (2) analysis of the current state and functioning of the street; (3) definition of the redesign of the street, review of its dimensions, analysis of the turning circles and the impacts that traffic calming measures could have in the school zone.¹⁸ At the end of the workshops the students had developed blueprints for the redesign of the street that they presented in a “Road Safety Fair” that happened on the day of the intervention.

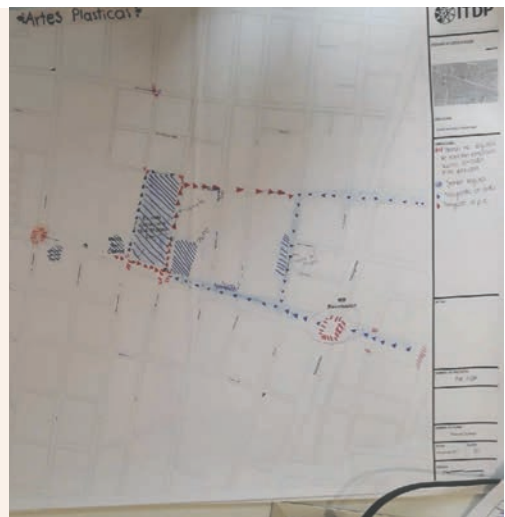
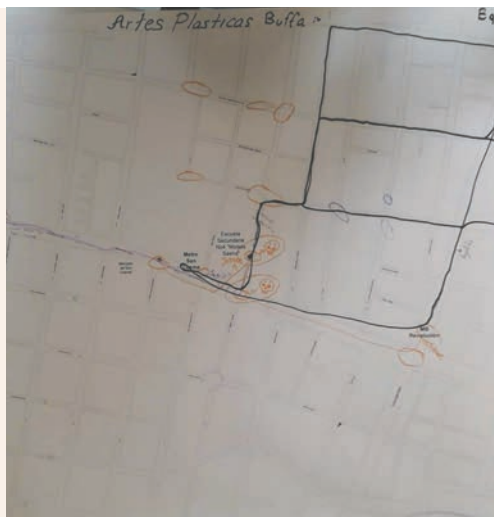
Students from the architecture design workshop co-design the streets around their school.

Credits: Brenda Martínez



Plans of the school zone analysis drawn by students of the Secundaria No. 4 "Moisés Sáenz".

Credits: Sonia Medina Cardona



- **Arts & crafts workshop:** The goal of the workshop was to teach the students about safe infrastructure, especially during street crossings, and use low cost interventions to make the street safer for pedestrians and cyclists. The students designed and created traffic barriers to be used in the tactical urbanism intervention as a traffic calming element and used local materials, crates and buckets, to designate on-street parking spots. Students presented their traffic barriers at a Road Safety Fair the day of the intervention.

Students from the physical design workshop make traffic barriers with buckets.

Credits: Brenda Martínez



- **Graphic design:** Students got directly involved in promoting awareness of road safety issues by elaborating posters with key messages related to road safety and the pillars of Vision Zero. Their posters were presented at the Road Safety Fair and displayed in the streets surrounding the school.

Students from the graphic design workshop make posters with key messages related to road safety.

Credits: Brenda Martínez



5.3 Tactical urbanism intervention

ITDP implemented a tactical urbanism intervention on November 22nd, 2017. The goal was demonstrate the need for modifying the infrastructure and redesigning the street, follow the reflections of students on road safety, and promote the permanent implementation of the redesign project by authorities.

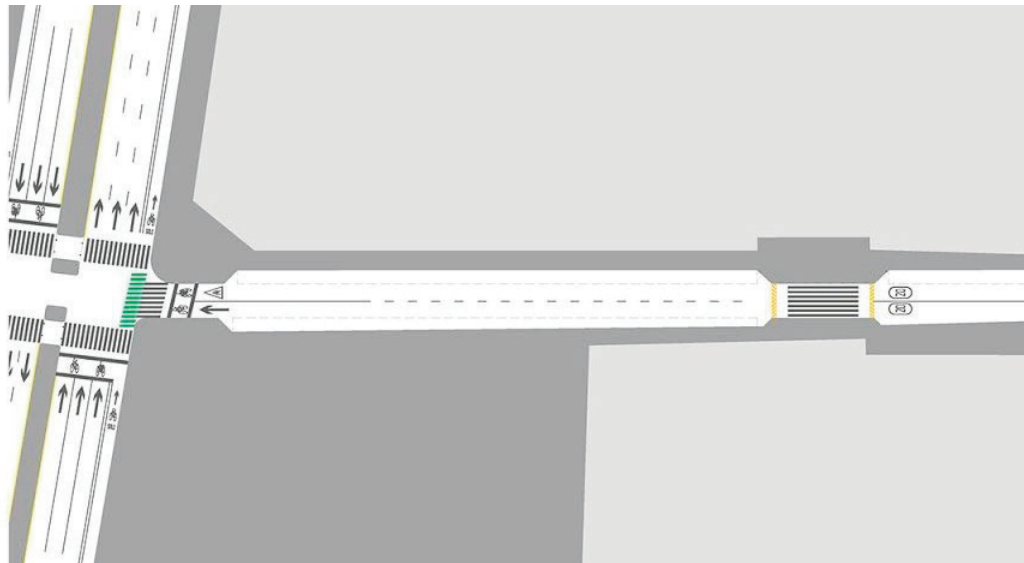
The project consisted of a spatial adaptation of the two main streets through which the school community accesses the Secundaria No. 4 Moisés Sáenz and two streets parallel to Jaime Torres Bodet. The redesign included narrowing the street by two lanes' width to reduce vehicle speeds, installing speed humps, building cycling infrastructure, enlarging sidewalks, and reducing the width of the street that pedestrians had to cross.

ITDP designed its tactical urbanism intervention, with the students (Figure 4). The tactical urbanism intervention was comprised of three elements derived from the students' workshops:

1. Installation of buckets -representing bollards- to delineate the new geometry of the street;
2. Painting of the road and increasing of the pedestrian surface, following the new street geometry;
3. Placement of posters with messages by students that related to three of the four pillars of Vision Zero: law enforcement, culture of mobility, road design and infrastructure.

Figure 4.
Concept project for the
tactical urbanism
intervention in the school
zone of Secundaria No. 4
"Moisés Sáenz"

Source: ITDP



Installation of buckets as
traffic calming traffic
barriers.

Credits: ITDP Mexico



Painting of the street.

Credits: Patricio Ruiz



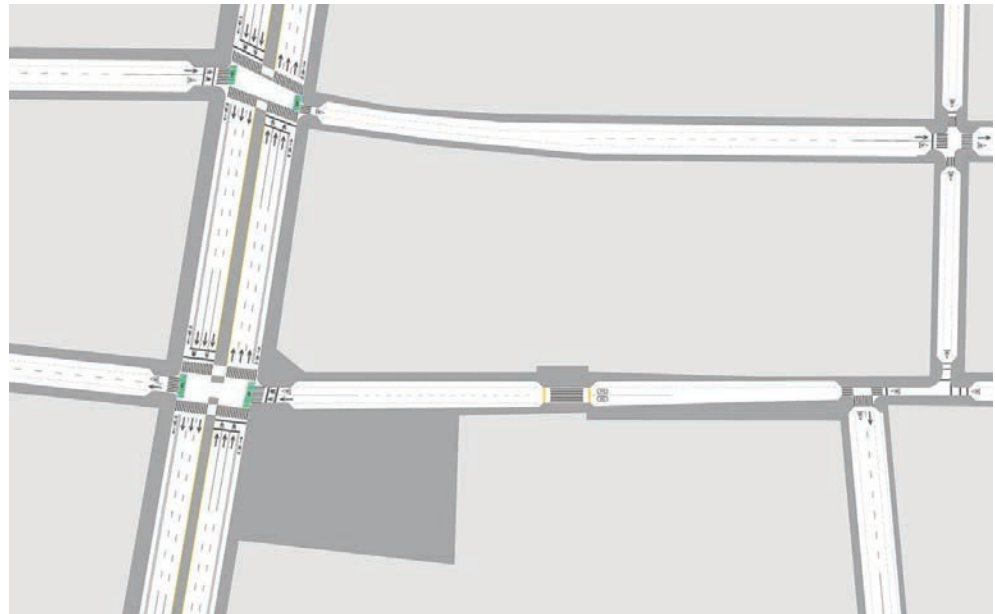
Placement of posters with road safety messages.

Credits: ITDP Mexico

Based on the observations made during the tactical urbanism interventions, the project was reviewed and improved, until a final project encompassing other streets and intersections in the school zone was agreed upon (Figure 4). The project was given to local authorities or other city agencies that would be responsible for its execution and permanent implementation.

Figure 5.
Final project of the
redesign of the Secundaria
No. 4 “Moisés Sáenz” school
zone

Source: ITDP



In the weeks that followed the tactical urbanism intervention, the director of the school was worried that the paint would not suffice to ensure safety in the area and that momentum for public intervention would be lost. She therefore urged public authorities to turn the school zone project permanent, and installed the temporary traffic barriers made by students in the street every day while waiting for the construction. Later on, retractable bollards were installed by the Urban Management Agency of the city government in Jaime Torres Bodet street, making the temporary intervention permanent. This infrastructure now extends pedestrian space in between the crossing and the sidewalk, thereby providing greater protection to the school community.

Safe infrastructure
implemented by the city
government in the
Secundaria No. 4 “Moisés
Sáenz” school zone

Credits: Eugenia Lucas
Valerio



In a session led after the tactical urbanism intervention, a talk was led mainly with parents, and in particular with the parents of students with whom co-design workshops were held. At the end, parents were able to comment on the project and its evolution in the street. Positive comments were given, as parents experienced and witnessed good results and improved safety, particularly in front of the school's main entrance. However, they pointed out the need to have more parents involved in the process.

Feedback session with parents.

Credits: ITDP



5.4 Monitoring and evaluation

Once the project is permanently implemented, it is necessary to regularly monitor and evaluate the school zone. In the pilot project, a road safety inspection was applied before and after the intervention to assess road risk.

The crossing in front of the main entrance to the school was evaluated, using the road safety inspection guide developed by ITDP.¹⁹

In the analysis made before the implementation, the crossing presented problems such as: (1) long crossing distance, (2) large corner radius which encourages high vehicle speeds while turning, conflicting with pedestrian movements, (3) parked buses and fences too close to the crossing, reducing mutual visibility between motorists and pedestrians, (4) no protection elements for pedestrians waiting to cross.

The implementation of the project made the crossing safer for the school community. The ex-post analysis brought evidence that some of these problems were solved through specific measures, including: (1) reduced crossing distance by the corner extension, (2) small corner radius reducing drivers turning speeds, (3) reducing parking spaces at intersection, improving road users' visibility, (4) increased pedestrian space by curve extensions and better protection by retractable bollards.

¹⁹ IDB (2018). Guía de intervenciones de bajo costo y alto impacto para mejorar la seguridad vial en ciudades mexicanas. Retrieved from: XXX

Figure 6.
School zone analysis before
and after the project's
implementation

Source: ITDP



Significant improvement remains to be done in the school zone, including the maintenance of marked pedestrian crossings which, as shown in Figure 6, are hardly perceivable at street-level. With the intervention, the crossing in front of the school's main entrance was painted again and made more visible; however, further improvements in the rest of the school zone are still being demanded to the authorities by the school community and ITDP.

Although the methodology used to assess road risk informed the intervention and proved to be useful to identify improvements in road infrastructure, it showed to have limited use in assessing impact. Therefore, in future interventions the methodology will be complemented by traffic conflict analysis, to identify a baseline and an ex-post assessment.

5.5 Next steps

5.5.1 The "Secundaria 4 Moisés Sáenz"

As emphasized by the behaviour change model of Sustrans, sustainability is key to build on the changes brought in the school during the awareness, empowerment and action steps. Several activities will take place to ensure the sustainability of the project and to keep building awareness and empower the school community and city road safety stakeholders.

Walk and Bike to School Day. Following the pilot project, Secundaria 4 Moisés Sáenz now has the tools and knowledge necessary to implement several road safety activities independently. In the fall of 2018, they will organize its first Walk and Bike to School Day. This activity, organized in schools around the world every year in October, will draw the attention of more parents, teachers and neighbors to the dangerous walking conditions faced by children on a daily basis. Students will gather and walk and cycle together to school on the day to draw public attention to the number of students who commute daily to school by walking and the need for quality infrastructure that permanently provides them with safe and walkable routes.

Integration of road safety activities in the school curriculum. The meetings held with teachers during the pilot project provided them with knowledge to introduce new material and contents in the school curriculum. Therefore, the Secundaria 4 Moisés Sáenz can integrate specialized activities in the academic program. Later on, it will be important that these activities are part of the academic program of each school in the city.

Permanent implementation of the safe street redesign project in the school zone. The installment of temporary materials based on the street redesign project has been well received by the school community and neighbors in the past months. It has already prompted the introduction of low cost permanent interventions in one corner of the school. The discussion with the borough authority and the city government is ongoing and should lead to the implementation of more robust infrastructure changes in the whole school zone.

5.5.2 After the completion of the pilot project, the goal of Vision Zero for Youth now is to impact other priority schools in Mexico City and lead authorities to implement safe school zones all around the city. The pilot project constituted an excellent opportunity for ITDP to derive lessons from it and to improve the methodology to be applied in other schools.

Mexico City

Implement the project in four other schools. Following the behaviour change and street co-design models of Sustrans, Vision Zero for Youth will be implemented in four schools of Mexico City to increase awareness about road safety in other boroughs. These schools will be selected in areas characterized by high levels of social marginalization and inequality.

Hold a simultaneous Walk and Bike to School Day. The Walk and Bike to School Day will be simultaneously held in the different schools as part of Vision Zero for Youth. Secundaria 4 Moisés Sáenz will serve as a role model for the new schools, whose activity will be supported by ITDP. The participation of multiple schools in this activity will contribute to making the Walk and Bike to School Day a larger and more visible event for citizens and stakeholders throughout Mexico City.

Crosswalk design contest. Infrastructure is a fundamental element of road safety in school zones. Crosswalks are critical as pedestrians are much more exposed to vehicles when crossing the street. Recently, crosswalk art has flourished to make signage more visible and draw the attention of drivers to yield to pedestrians. In 2018, Mexico City was designed as a World Design Capital. A crosswalk design contest will be held in collaboration with Design Week Mexico to stress the urgency of implementing safe and quality infrastructure in school zones and their access points.

Public policy. Vision Zero for Youth draws public attention to the need for long-term changes to street design in school zones throughout Mexico City. These changes will only be possible with a consistent public policy. ITDP will continuously contribute to Mexico City's Arrive Safely program and emphasize the urgency of its implementation in every school zone in the city.

Vision Zero for Youth in Mexico and Beyond: Learnings and Replicability

6



The execution of the pilot project Secundaria 4 Moisés Sáenz in Mexico City taught several valuable lessons. Emphasizing the active participation of the school community was key for the success and sustainability of the project. The collaborative design of the project has the potential to make the community more active and committed to road safety, and turn it into a key participant of the transformation of its own school zone. This, may produce on-the-ground advocates with solid ties to local politics that can turn road safety into an urgent issue to be solved by government action.

Involving school communities can be the cornerstone that brings forward policy change when there is not enough awareness or political will around road safety issues. This does not mean that ITDP's process as modeled here is always needed, but they can be very useful in certain contexts.

However, when there is sufficient momentum the process, can reduce road risk in school zones. Its replication citywide have the potential to drastically reduce road traffic deaths and injuries, making Vision Zero for Youth a key strategy to transform the way children and all people interact in their city streets.



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