EVIDENCE-BASED INTERVENTION TALKING POINTS
PEDESTRIAN FACILITIES

What we mean by it[1]

- **Pedestrian footpaths**: paths that are dedicated to pedestrians and physically separated from motorized traffic.
    - Curb extensions extend the footpath to physically and visually narrow the width of the roadway and create safer and shorter pedestrian crossing.
- **Pedestrian crossings**: road crossing points that give legal priority to pedestrians. Examples of pedestrian crossings include:
    - **At-grade crossings** are provided at the same level as the street.
    - **Raised crossings** are slightly elevated above the level of the rest of the road. The raised section slows down vehicle speed and increases the visibility of pedestrians.
    - **Signalized crossings** have traffic signals that alert pedestrians when it is safe to cross the street.
    - **Midblock crossings** are located between intersections. They are built where it appears too far away or inconvenient for pedestrians to walk to cross at the intersection. Midblock crossings usually have a median or refuge island to provide a safe place for pedestrians to cross one direction of vehicular travel at a time. They can be at-grade or raised.
    - **Pedestrian underpasses, pedestrian overpasses, and footbridges (grade-separated crossings)*** are situated above or below the street, allowing pedestrians to cross without coming into contact with motor vehicles.
    - **Refuge islands** are areas designed for pedestrians to stop in the middle of the street before finishing crossing the full width of the street.

** Grade-separated crossings should only be used as a last option.[2] According to studies, many pedestrians will not use grade-separated crossings if they can cross at street level in roughly the same amount of time without walking considerably further.[3] Grade-separated pedestrian crossings are expensive*

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[1] Our definition is based on the following sources:
Turner, B., Job, S., & Mitra, S. (2021). Guide for Road Safety Interventions: Evidence of What Works and What Does Not Work. World Bank, Washington, DC., USA.
Sharpin, A.B., Adriazola-Steil, C., Luke, N., Job, S., Obelheiro, M., Bhatt, A., Liu, D., Imamoglu, T., Welle, B., & Lleras, N. (2021). Low-Speed Zone Guide. Bloomberg Philanthropies.
Global Designing Cities Initiative. (2016). Global Street Design Guide. Island Press, February, 426.
World Health Organization. (2013). Pedestrian safety: a road safety manual for decision-makers and practitioners. Geneva, Switzerland, 288(17), 2212.

[2] Vergel-Tovar, E., López, S., Lleras, N., Hidalgo, D., Rincón, M., Orjuela, S., & Vega, J. (2020). Examining the relationship between road safety outcomes and the built environment in Bogotá, Colombia. Journal of Road Safety, 31(3), 33–47. https://doi.org/10.33492/jrs-d-20-00254.

[3] Zegeer, C.V., Seiderman, C., Lagerwey, P., Cynecki, M., Ronkin, M., & Schneide, R. (2002). Pedestrian facilities users guide. Providing safety and mobility. FHWA-RD-01-102, March, 164.
Vergel-Tovar, E., López, S., Lleras, N., Hidalgo, D., Rincón, M., Orjuela, S., & Vega, J. (2020). Examining the relationship between road safety outcomes and the built environment in Bogotá, Colombia. Journal of Road Safety, 31(3), 33–47. https://doi.org/10.33492/jrs-d-20-00254

in comparison to other crossing solutions.[4] Furthermore, they allow motorists to drive at higher speeds. They are most feasible and appropriate in cases where pedestrians must cross high-speed, high-volume roads such as freeways and arterials[5] or where a large number of pedestrians will benefit.[6]

Where we need it

Areas where pedestrians need to cross or walk along the road. In practice, this would include residential areas, villages, markets, retirement villages, school zones, healthcare and hospital precincts, around places of worship, university hubs, public transport hubs and major train station zones, city centers, and central business districts (CBD).

and/or

Areas where deaths or serious injuries occur from road crashes among pedestrians.

Key asks

- Design and install pedestrian facilities that meet pedestrians' safety, comfort, and accessibility;
- Design and install pedestrian footpaths of adequate width, in good condition, and free from obstructions that restrict pedestrian use (e.g., parked vehicles, signs, traders, utility poles);
- Design and install crossing points for pedestrians, both at and between intersections, that are raised and that give pedestrians legal right of way;
- Design and install signalized crossing points that provide sufficient time for pedestrians to fully cross the road;
- Install rumble strips, raised platforms, or speed humps to warn drivers to slow down and stop in time at pedestrian crossing points.

ITDP. (2019). Pedestrian Bridges Make Cities Less Walkable. Why Do Cities Keep Building Them? https://www.itdp.org/2019/10/01/pedestrian-bridges-make-cities-less-walkable-why-do-cities-keep-building-them/
Washington State Department of Transportation. (1997). Pedestrian Facilities Guidebook Incorporating Pedestrians into Washington's Transportations System. *Otak, Olympia, Washington, September, 248.*

[4] Washington State Department of Transportation. (1997). Pedestrian Facilities Guidebook Incorporating Pedestrians into Washington's Transportations System. *Otak, Olympia, Washington, September, 248.*

[5] Zegeer, C.V., Seiderman, C., Lagerwey, P., Cynecki, M., Ronkin, M., & Schneide, R. (2002). Pedestrian facilities users guide. Providing safety and mobility. FHWA-RD-01-102, March, 164.

[6] Washington State Department of Transportation. (1997). Pedestrian Facilities Guidebook Incorporating Pedestrians into Washington's Transportations System. *Otak, Olympia, Washington, September, 248.*

Why we need it

Linkage to key global road safety documents

The extensive linkage between pedestrian facilities and the recommendations set out in existing key global road safety documents give more weight as to why this intervention ought to be implemented. Governments are able to demonstrate that they are putting recommended best practice into real practice when they implement the pedestrian facilities.

Implementing pedestrian facilities achieves, supports, and/or promotes the implementation of:

- 3 recommended actions in the Global Plan;
- 3 of the Global Road Safety Performance Targets;
- 12 statements in the Stockholm Declaration;
- 8 recommendations of the Academic Expert Group of the 3rd Ministerial Conference on Global Road Safety;
- 12 interventions across 4 components in the Save LIVES package;
- 13 commitments in A/RES/76/294, the Political Declaration of the High-Level Meeting on Improving Global Road Safety.

To reduce deaths and injuries

Pedestrian facilities help countries achieve the Global Plan target

The Global Plan for the Decade of Action for Road Safety 2021–2030 (Global Plan)[7] sets a target to reduce road traffic deaths and injuries by 50% by 2030. Achieving this target requires implementation of evidence-based interventions that are known to reduce road traffic deaths and injuries. Pedestrian facilities are one such evidence-based intervention.

Pedestrian facilities resolve the high level and likelihood of pedestrian death and serious injury

Globally pedestrians represent 23% of all traffic related deaths.[8]

There is a 73% chance of a pedestrian dying if hit by a car traveling at 65 km/h and a 40% chance of dying at 50 km/h, as opposed to a 13% chance at 30 km/h (Figure 1).[9]

The higher a vehicle's travel speed, the more difficult it is for the driver to predict or detect potential conflicts on the road due to reduced levels of peripheral awareness[10] and the longer it takes for the vehicle to stop (Figure 1). This increases the probability that the vehicle will hit a pedestrian and that the pedestrian is severely injured or killed.

[7] World Health Organization. (2021). Global Plan for the Decade of Action for Road Safety 2021-2030.
[8] World Health Organization. (2018). Global status report on road safety 2018. Geneva.
[9] Sharpin, A.B, Adriazola-Steil, C., Job, S., et al. (2021). Low-Speed Zone Guide. World Resources Institute and The Global Road Safety Facility.
[10] Global Road Safety Facility. (2023). Speed Management Hub - Frequently Asked Questions, Note 8.2.

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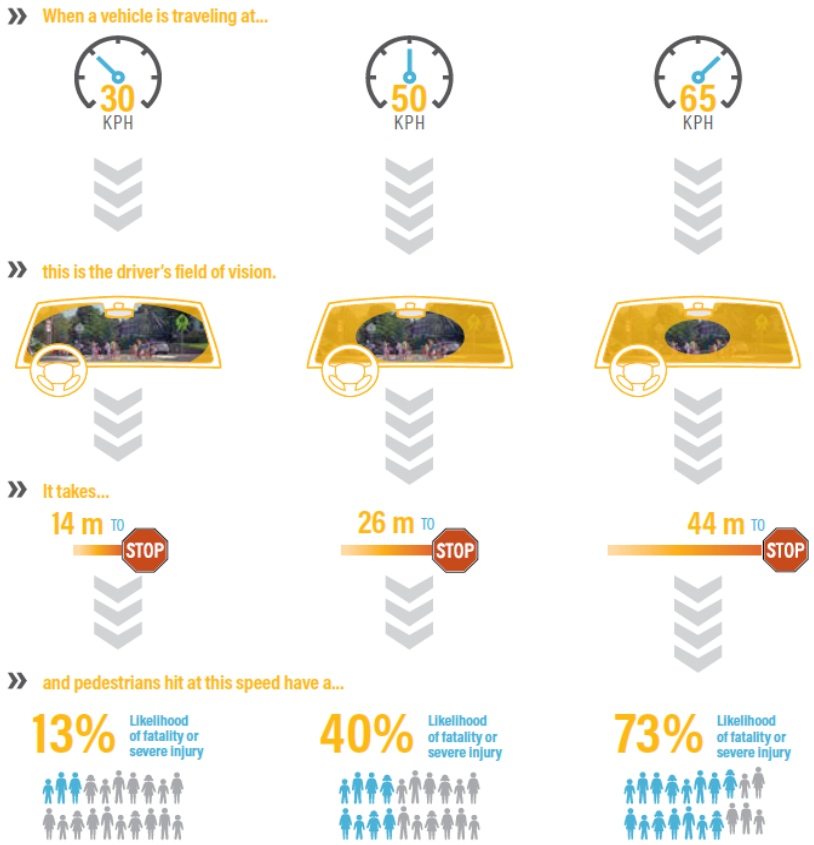

Figure 1: Vehicle and Pedestrian Collision Speed and Survival (Percentage)[11]

Source: World Resources Institute and Global Road Safety Facility reproduced under Creative Commons Attribution 4.0 International Licence)

Most pedestrian crashes occur when pedestrians are crossing the road[12]

Intersections are particularly dangerous for pedestrians as they include a large number of pedestrian-vehicle conflict points. Uncontrolled intersections (intersections without signs or traffic lights to indicate the right of way) worsen the situation, as pedestrians may face oncoming vehicles traveling at high speeds that are not required to stop or yield.[13]

Road designs often do not consider the safety, convenience, and behavioral patterns of pedestrians

Pedestrians are often not provided with a safe and frequent crossing point or given the right of way. This means that they are left to signal their intent to cross by standing in the roadway, thereby increasing their exposure to a potential collision, which may result in death or injury.[14]

While signalized intersections are generally safer than uncontrolled intersections, pedestrians still face potential dangers. For example, drivers do not give the right of way to pedestrians and start turning while pedestrians are still crossing or before they start crossing. Pedestrians may also be obscured from the driver's line of sight. Finally, allocated crossing times may not be long enough for some users and/or the width of the road to be crossed.

[11] Sharpin, A.B, Adriazola-Steil, C., Job, S., et al. (2021). Low-Speed Zone Guide. World Resources Institute and The Global Road Safety Facility.
[12] World Health Organization. (2013). Pedestrian safety: A road safety manual for decision-makers and practitioners. WHO, Geneva.
[13] World Health Organization. (2013). Pedestrian safety: A road safety manual for decision-makers and practitioners. WHO, Geneva.
[14] World Health Organization. (2013). Pedestrian safety: A road safety manual for decision-makers and practitioners. WHO, Geneva.

If it takes a pedestrian more than three minutes to walk to a crossing, or if the distances between crossing points are over 200m, they may decide to cross along a more direct, but unsafe route.[15]

Grade-separated crossings, such as pedestrian underpasses, pedestrian overpasses, and footbridges, enable pedestrians to cross separately from vehicle traffic, but they allow motorists to drive at higher speeds, and many pedestrians will not use them if they can cross at street level (i.e., at-grade) in roughly the same amount of time.[16] For example, an observational study in India found that 85–95% of pedestrians continue to cross at-grade even when pedestrian bridges are available.[17]

Frequent, at-grade, and raised crossing points for pedestrians, where they have the right of way, promote pedestrians to take the safe route

Raised intersections, raised crossings, and raised mid-block crossings can reduce pedestrian crashes by 45%[18] by reducing vehicle travel speeds, improving visibility of pedestrians, and encouraging drivers to yield to pedestrians at the crossing.

Raised midblock crossings between intersections can allow pedestrians to cross in convenient locations where distances between marked crossings are too long for pedestrians.[19]

Grade-separated crossings are appropriate in cases where pedestrians must cross roadways, such as freeways and high-speed, high-volume arterials, or in areas where a large number of pedestrians will benefit.[20]

Signalized crossings, where drivers are required to give priority to pedestrians, are particularly needed where vehicle speeds are above 30 km/h.[21] All signalized crossings need ample time for pedestrians to cross at walking speed.

Footpaths can prevent pedestrian crashes

Providing footpaths can help prevent up to 60% of crashes involving pedestrians walking along a road.[22] Vehicle-pedestrian collisions are 1.5 to two times more likely to occur on roadways without footpaths.[23] For pedestrians to be able to use the footpaths, they must be of adequate width, in good condition, and free from obstructions that restrict their use (e.g., parked vehicles, signs, traders, utility poles). [24]

To implement a Safe System approach

The implementation of pedestrian facilities demonstrates the adoption of the Safe System approach. The Safe System approach is a human-centric approach which dictates the design, use and operation of our road transport system to protect the human road users.[25]

A Safe System approach means any road safety intervention ought to ensure that the impact speed remains below the threshold likely to result in death or serious injury in the event of a crash. The human body, without physical protection,

[15] Global Designing Cities Initiative. (2016). Pedestrian Crossing - Global Street Design Guide. Island Press; 2nd None ed. edition.
[16] Zegeer, C.V., Seiderman, C., Lagerwey, P., Cynecki, M., Ronkin, M., & Schneide, R. (2002). Pedestrian facilities users guide. Providing safety and mobility. U.S. Department of Transportation, Federal Highway Administration, FHWA-RD-01-102.
[17] Institute for Transportation & Development Policy. (2019). Pedestrian Bridges Make Cities Less Walkable. Why do Cities Keep Building Them?
[18] Zegeer, C.V., Nabors, D., Lagerwey, P. (2013). Raised Pedestrian Crossings - Pedestrian Safety Guide and Countermeasure Selection System. U.S. Department of Transportation, Federal Highway Administration.
[19] Aparadian, R. & Alam, B.M. (2017). A Study of Effectiveness of Midblock Pedestrian Crossings; Analyzing a Selection of High-Visibility Warning Signs. Interdisciplinary Journal of Signage and Wayfinding;1 (2).
[20] Otak. (1997). Pedestrian Facilities Guidebook - Incorporating Pedestrians Into Washington's Transportation System. Washington State Department of Transportation.
[21] Global Designing Cities Initiative. (2016). Pedestrian Crossing - Global Street Design Guide. Island Press; 2nd None ed. edition
[22] Turner, B., Job, S. & Mitra, S. (2021). Guide for Road Safety Interventions: Evidence of What Works and What Does Not Work. Washington, DC., USA: World Bank.
[23] Knoblauch, R.L., Tustin, B.H., Smith, S.A., & Pietrucha, M.T. (1988). Investigation of Exposure Based Pedestrian Accident Areas: Crosswalks, Sidewalks, Local Streets and Major Arterials. Federal Highway Administration, McLean, VA. Office of Research, Development, and Technology.
[24] Global Designing Cities Initiative. (2016). Pedestrian Crossing - Global Street Design Guide. Island Press; 2nd None ed. edition.
[25] World Road Association. (2019). The Safe System Approach - Road Safety Manual: A Manual for Practitioners and Decision Makers on Implementing Safe System Infrastructure.

is not built to withstand impact forces greater than approximately 30 km/h.[26] Road infrastructure designs that cater to and protect pedestrians from vehicle speed demonstrate a human-centric approach.

History shows that countries that have adopted the Safe System approach implement evidence-based interventions, such as pedestrian zones, and tend to have the lowest rates of fatality per population and the fastest rates of reduction in fatality numbers.[27]

For economic benefits

Pedestrian facilities reduce costs for government, individuals, and businesses

Pedestrian facilities save lives and reduce the severity of crash injuries, thereby reducing economic costs and positively contributing to a country's economic growth. The economic costs related to injury and loss of life from traffic crashes include money needed to treat injuries, loss of hours worked, vehicle repair costs, insurance or third-party costs, and costs of traffic congestion caused by a crash.

Pedestrian facilities can contribute to increasing GDP

A World Bank study highlighted that halving road crash deaths and injuries could generate additional flows of income, with increases in GDP per capita over 24 years as large as 7.1% in Tanzania, 7.2% in the Philippines, 14% in India, 15% in China, and 22.2% in Thailand.[28]

Pedestrian facilities can improve local economies

Infrastructure enhancements that improve walking conditions tend to increase property values and rents, attract new businesses, and increase local economic activity.[29]

For co-benefits

Pedestrian facilities benefit everyone

We are all pedestrians at some point in our travels, regardless of the mode of transport used for the majority of our journey. We walk to work or to school, to take the bus or rail, or after parking the car.[30]

Pedestrian facilities promote improved health, environment, and equity outcomes

Walking provides affordable, basic transport and is a healthier and a more environmentally friendly mode of mobility than motorized transport.

Pedestrian facilities that improve walkability (safety, comfort, and accessibility) are a crucial step in creating sustainable and equitable transportation systems.[31]

The improvement of walking environments contributes to urban renewal, local economic growth, social cohesion, and air quality, and reduces the harmful effects of traffic noise.[32]

[26] International Transport Forum. (2008), Towards Zero: Ambitious Road Safety Targets and the Safe System Approach, OECD Publishing, Paris.
[27] https://www.wri.org/research/sustainable-and-safe-vision-and-guidance-zero-road-deaths.
[28] World Bank. (2017). The High Toll of Traffic Injuries: Unacceptable and Preventable. World Bank.
[29] Tolley, R. (2011), Good For Busine$$ - The Benefits Of Making Streets More Walking And Cycling Friendly, Discussion paper, Heart Foundation South Australia.
[30] Ministry of Housing and Urban Affairs India and ITDP. (2019). Complete Streets Implementation Workbook.
[31] Institute for Transportation & Development Policy. (2018). Pedestrians First, Tools For a Walkable City. 1st ed. New York: ITDP.
[32] World Health Organization. (2013). Pedestrian safety: A road safety manual for decision-makers and practitioners. WHO, Geneva.

Successful implementations

Puebla, Mexico: 69% decrease in road crashes including pedestrian crashes from improved footpaths and crossings

In Puebla, the Mobility Secretariat implemented low-cost infrastructure interventions in a school environment: widening pedestrian footpaths; installing bollards and horizontal signs, which reduced the length of a pedestrian crossing thereby reducing pedestrians' exposure time crossing the road; and restructuring the parking area. A post-intervention evaluation showed a 69% decrease in road crashes overall, with the majority of this reduction being in crashes between pedestrians and vehicles.[33]

Fortaleza, Brazil: 35% reduction in road crash deaths from widened footpaths, raised crossings, pedestrian ramps and other traffic calming measures

In Fortaleza, 50% of children traveling to a major public pediatric facility had to travel on a road that was congested with vehicles. Pedestrian footpaths were widened and raised crossings, speed humps, gateway treatments, lane and curve narrowing, and pedestrian ramps were installed. This resulted in a 42% reduction in the speed of vehicles, 67% reduction in crossing distance, and 86% reduction in pedestrians walking on the road. These interventions were part of the city efforts to improve road safety conditions, which also included enforcement, urban redesign, mass media campaigns, and improved data collection and analysis. All these efforts have resulted in a 35% reduction in road crash deaths since 2011.[34]

Ho Chi Minh, Vietnam: 42% fatality and serious injury estimated reduction from pedestrian refuge islands, crossings and footbridges

In Ho Chi Minh City, the local administration implemented over 300 road safety engineering measures across the city, including 157 refuge islands, 11 raised pedestrian crossings, eight footbridges, and 11 bus stops. These interventions are estimated to reduce fatalities and serious injuries by 42% from pre-intervention levels according to iRAP assessments.[35]

Paris, France: zero traffic fatalities on the Boulevard de Magenta from creating pedestrian-oriented environment

In Paris, France, the Boulevard de Magenta was one of the first projects of a program launched in the early 2000s for the widening of footpaths, construction of secure cycling lanes, tree planting, and a new dedicated bus lane protected by barriers. These interventions created a more attractive and pedestrian-oriented environment and a space that supports businesses. In the four years following the transformation, there were zero traffic fatalities. Additionally, the change decreased congestion and pollution.[36]

Oslo, Norway: 41% decrease in fatal or serious injury risk among pedestrians from improved crossings and footpaths and lower speed limits

In 2015, Oslo committed to reducing road crashes and prioritizing the safety of pedestrians and cyclists. It implemented intersection improvements, for example, highly visible crosswalk markings on the road, increased the standard width of footpaths, and lowered speed limits. Between 2014 and 2018, they achieved a 41% decrease in the risk of fatal or serious injury for pedestrians, 47% decrease for cyclists, and 32% decrease for drivers on a trip-by-trip basis. No vulnerable road users were killed in 2019.[37]

[33] ITDP. (2020). Analysis of road conflicts: methodology and results in the school environment of BINE, Puebla.
[34] Martins, P.E. (2018). Fortaleza Cares: Prioritizing Safer Access to Albert Sabin Children's Hospital. Global Designing Cities Initiative.
[35] GRSF/World Bank. (2020). Global Road Safety Facility: Leveraging Global Road Safety Successes. Washington, DC., USA. World Bank.
[36] P. 280-281, Global Designing Cities Initiative. (2016). Global Street Design Guide. Island Press, February.
[37] Hartmann, A. & Abel, S. (2020). How Oslo Achieved Zero Pedestrian and Bicycle Fatalities, and How Others Can Apply What Worked. TheCityFix produced by WRI Ross Center for Sustainable Cities.

Amersham Road, United Kingdom: **fatal and serious crashes reduced from 12 to one from improved crossings, nighttime visibility and lower speed limits**

Low-cost local safety schemes introduced on A404 Amersham Road showed a reduction in fatal and serious crashes from 12 to one between September 2007 and December 2010. The schemes involved improving pedestrian crossings along a segment where pedestrians were particularly at risk, reducing the speed limit in populated areas, improving the road markings, and high friction surface treatments that help reduce crashes, injuries, and fatalities associated with road friction in wet and snowy conditions. New streetlights and retro-reflective pavement markings were also installed to increase visibility at night.[38]

Sao Paulo, Brazil: **Shortening crossings, curb extensions, and a roundabout led to 32% reduction in travel speeds***

A major vehicle-dominated intersection in the Santana neighborhood in Sao Paulo, Brazil was redesigned with temporary interventions **in September 2017**. Pedestrian spaces around this intersection were expanded by shortening the crossings and creating curb extensions and a roundabout using materials that are low-cost, flexible and easy to install and reposition. They were a result of a collaboration between the local authorities and civil society where the city officials engaged civil society stakeholders to brainstorm and develop ideas. After an evaluation showing 82% of road users wanted the interventions to be made permanent, they were made permanent in June 2018. This led to a 32% reduction in travel speeds, and 89% of pedestrians and 72% of drivers reporting feeling safer at the intersection. These results **led to similar redesigns in other neighborhoods and school zones** in Sao Paulo. [39]

**Any travel speed reduction achieved via traffic calming measures has death and injury reduction benefits. In principle, a 1% reduction in average speed results in an approximate 2% decrease in injury crash frequency[40], a 3% decrease in severe crash frequency, and a 4% decrease in fatal crash frequency. Furthermore, 10 km/h reduction in a speed limit could be expected to produce around a 15–20% reduction in injury crashes, and up to around a 40% reduction in pedestrian fatal and serious injuries. [41]*

[38] iRAP. (n.d.). Case Study: Britain's Most Improved Road – EuroRAP Performance Tracking - A404 Amersham, England.
[39] ITDP. (2020). From Pilot to permanent; how to scale tactical urbanism using lessons from the global south.
[40] OECD/International Transport Forum. (2018). Speed and crash risk. ITF (International Transport Forum).
[41] Turner, B., Job, S., & Mitra, S. (2021). Guide for Road Safety Interventions: Evidence of What Works and What Does Not Work. World Bank, Washington, DC., USA.
Elvik, R.(2009). The power model of the relationship between speed and road safety. Update and new analyses. Institute of Transportation Economics. TOI Report 1034/2009.
Mitra, S., Job, S., Han, S., & Eom, K. (2021). Do Speed Limit Reductions Help Road Safety? Do Speed Limit Reductions Help Road Safety?, June.
OECD/International Transport Forum. (2018). Speed and crash risk. ITF (International Transport Forum).

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How to implement it

The following guidance documents can support governments in the design and implementation of pedestrian facilities:

- *Low-Speed Zone Guide* developed by the Global Road Safety Facility (World Bank) and the World Resources Institute;[42]
- *Global Street Design Guide* developed by the Global Designing Cities Initiative;[43]
- *Road Safety Toolkit* developed by the International Road Assessment Programme (iRAP).[44]
- Streets for Walking & Cycling Guide developed by UN-Habitat and ITDP;[45]
- Non Motorized Transport Policy developed by Corporation of Chennai;[46]
- The Street Design Manual for Urban Areas in Kenya developed by the Ministry of Roads and Transport Kenya in partnership with ITDP and UN-Habitat[47]
- The Tactical Urbanist's Guide to getting it done by Street Plans[48] provides guidance on how to implement tactical urbanism strategies for pedestrian facilities. Prior to full implementation, low-cost, flexible, and easy to install materials may be used to temporarily install pedestrian facilities and traffic calming measures - a strategy called 'tactical urbanism'[49]. This enables people to experience street design changes that can otherwise be difficult to conceptualize and provides an opportunity for government to gather data and feedback evaluating the impact of these interventions, making a stronger case for future modification and permanent implementation.

[42] Sharpin, A.B, Adriazola-Steil, C., Job, S., et al. (2021). Low-Speed Zone Guide. World Resources Institute and The Global Road Safety Facility.
[43] Global Designing Cities Initiative. (2016). Global Street Design. Island Press; 2nd None ed. edition.
[44] International Road Assessment Programme, iRAP. (2022). The Road Safety Toolkit.
[45] Kost C, Mwaura N, Jani A, Van Eyken C. (2018). Streets for walking & cycling Designing for safety, accessibility, and comfort in African cities. UN Habitat and ITDP
[46] Corporation of Chennai. (2014). Non motorized transport policy. Corporation of Chennai
[47] Ministry of Roads and Transport Kenya, ITDP, UN-Habitat. (2022). The Street Design Manual for Urban Areas in Kenya. Ministry of Roads and Transport Kenya, ITDP, UN-Habitat
[48] Street Plans. Tactical Urbanist's Guide to getting it done
[49] ITDP. (2020). From Pilot to permanent; how to scale tactical urbanism using lessons from the global south.