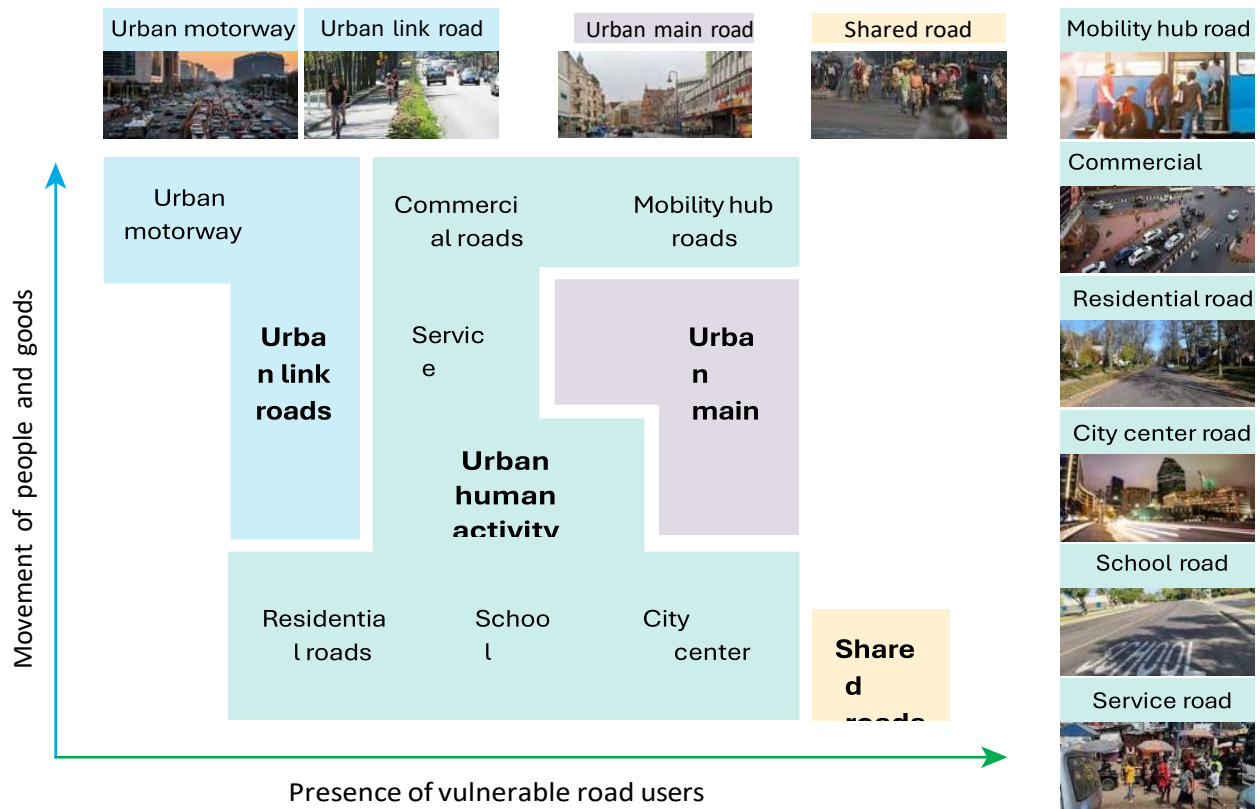


**Appendix A – ‘*Guide for Safe Streets - Managing Traffic Speeds to Save Lives and Improve Livability (2024)*’, World Bank – Pages 26 to 35 – sourced at [Guide for Safe Speeds - Managing Traffic Speeds to Save Lives.pdf \(globalroadsafetyfacility.org\)](#)**

## **2.1. Roads-for-Life framework for urban roads or road sections**

This typology covers not only cities, but other built-up areas such as city-outskirts and towns and villages. These roads or road sections have a mix of users, often many pedestrians and/or cyclists, and many intersections over short distances. In some cases, the use of the road can change throughout different times of the day. The different road types present in urban areas are shown in Figure 7.

**Figure 7. Roads-for-Life framework for selecting safe speed limits for urban roads or road sections. This figure includes a matrix of urban road types in relation to their demands and a table with corresponding recommended speeds**



| Type of road or road section and description   | Safe speed limit      |
|--|-----------------------|
| <b>Shared road</b><br>Road space where pedestrians and other vulnerable road users use the same road space as motorized vehicles; including road spaces within schools, hospitals, nursing homes or similar social infrastructure  | Max. 10kph            |
| <b>Urban human activity road/city hub</b><br>Road space where people gather, live, play and/or work on/next to the road and where people are likely to cross   | Max. 30 kph           |
| <b>Urban main road</b><br>Road space which provides mobility and connects with the wider transport network, while accommodating for a high presence of vulnerable road users, on-road activity and public life   | Max. 30 kph - 50 kph* |
| <b>Urban link road</b><br>Road space which provides mobility for people and goods between city districts/strategic centers and mitigates the impact on adjacent communities and where vulnerable road users are protected from motorized traffic (e.g., by adequate sidewalks, cycling lanes, safe and signalized pedestrian crossings) or even prohibited (i.e., access-controlled urban motorways) | Max. 50 kph - 80 kph  |

\* Speed limits higher than 30 kph only for urban main roads with safe, adequate, and attractive provision for all vulnerable road users, including sidewalks/cycling paths with an adequate width and safe and adequately spaced crossing facilities.

**A maximum speed limit of 10 kph should be applied on shared roads where pedestrians are a priority, and they and other VRUs occupy the same road space as motorized vehicles.** This includes walkable historic town centers and roads within schools, hospitals, nursing homes or any other similar social infrastructure, regardless of whether these roads are embedded in an urban or less populated setting. The needs and vulnerability of children, the elderly and persons with disabilities should be specifically considered in road design.

**Urban human activity roads/city hubs** include all roads or road sections on or next to which people gather, live, play and/or work, in cities, city outskirts, towns and villages. Urban human activity roads include:

- School roads: roads or road sections close to schools or similar infrastructure
- City center roads: roads or road sections with very high-density mixed use (e.g., high-rise residential/office buildings), downtown commercial use (e.g., shopping boulevards), and civic spaces
- Residential roads: roads or road sections which provide residential access for people of all ages and abilities, foster neighbourhood spirit and facilitate local community access (in the traditional functional road classification system, some of these roads are called “local roads”). In some cases there may be limited commercial activity mixed with residential properties.
- Commercial roads: roads or road sections which provide access by various modes of transport to shops and services
- Mobility hub roads: roads or road sections with dense activity and a high demand for all modes of transport, especially public transport
- Service roads: roads and road sections that run parallel to wider, urban main roads and provide access to markets, shops, houses, factories or other buildings along them

With their mix of users, these roads should have a maximum speed limit of **30 kph**. Safe, adequate, and accessible provisions for all VRUs, including motorized two- and three-wheelers should be provided (see BOX 2.3). If higher speeds are required, then provisions must be made to separate VRUs from motorized traffic, such as wide enough sidewalks for them to avoid any obstacles, and safe crossing facilities.

**Urban main roads** connect cities, outskirts, towns and villages with the wider transport network. VRUs are present but there is also significant motorized traffic and demand for movement of people and goods to support businesses. The traditional functional road classification system labels some of these roads “collectors” or “arterial roads”. For urban main roads with adequate sidewalks as well as a limited demand for crossing and/or adequate crossing facilities, a maximum speed limit of **50 kph** may be allowed. Where vulnerable road users cross or walk along the road and safe infrastructure provisions are lacking, a maximum speed limit of **30 kph** should be used.



#### Quick tip for practitioners

To have better acceptance, speed limit changes should start where the strategic impact of a speed reduction is high. In this context, school areas are often ideal, as these areas have some of the most vulnerable road users. It is very hard for local stakeholders as well as the general public to not support protection of school children by limiting speeds. Strive to ensure the school zone is not too small and that access roads also maintain



**Urban link roads** provide mobility for people and goods between city districts and strategic centers and mitigate the impacts of road traffic on adjacent communities. In the traditional functional road classification system these roads are often called “arterial roads”, “highways” or “urban motorways”. For divided urban link roads where pedestrians and cyclists are not present or expected, a maximum speed limit of **60 kph** should be used. Where medians are provided, **70 kph** is a possibility. At intersections and junctions with roundabouts, raised intersections or other provisions to prevent collisions, a maximum speed limit of **50 kph** should be set.

**For access-controlled urban link roads (e.g., urban motorways)**, where VRUs are prohibited and directed to separate attractive alternate facilities (e.g., urban motorways or expressways) a maximum speed limit of **80 kph** is possible. In urban contexts, higher speeds are not recommended even with adequate infrastructure, due to noise, air pollution and traffic flow considerations. Where road quality is not good or where controlled access cannot be guaranteed (e.g., due to a lack of enforcement) lower speed limits should be applied, even if the road is categorized as an access-controlled urban link road.



### Box 2.3. Speed management for motorcycles in urban areas

Motorcyclists are amongst the most vulnerable on our roads. Riders can reach high speeds and are not protected by the vehicle structure during or following an impact, so there is great potential for serious injury. Thus, the percentage of road crash deaths caused by motorcycles in low-income countries (39%) and middle-income countries (34%) is relatively high (Yousif et. al., 2020).

Safe speeds for motorcyclists are still the subject of research. However, guidance from studies like Jurewicz et. al (2016) suggest that speed limits needed to protect pedestrians should apply to cyclists and motorcyclists until more specific evidence is assessed.

Valderrama et. al (2023) identified that in an urban setting motorcycle safety requires speed management measures along corridors rather than just at hotspots or intersections.

To protect motorcyclists and reduce speed along corridors, cities should install cameras that correctly capture a motorcycle's license plate in the necessary direction (with images captured from the rear of the motorcycle). Average-speed enforcement over a corridor (rather than at point locations) is also key for curbing compensating behaviors. In Bogotá, speed cameras helped reduce overall fatalities by 21%, although riders and drivers only lowered speeds in camera locations.

#### Sources:

Jurewicz, C., Sobhani, A., Woolley, J., Dutschke, J. and Corben, B. 2016. *Exploration of vehicle impact speed–injury severity relationships for application in safer road design*. Transportation Research Procedia 14. 4247-4256.

Valderrama, S.L., Palacios, M.S., Botello, V.P., Perez-Barbosa, D., Arrieta, J.V., Kisner, J. and Adiazola-Steil, C. 2023. *On Speed Management, Public Health, and Risky Behaviors: Examining the Side Effects of Automated Speed-Enforcement Cameras on Traffic Crashes in Bogotá, Colombia*. Transportation Research Record.

Yousif, M., Sadullah, A. and Kassim, K. 2020. *A review of behavioural issues contribution to motorcycle safety*. IATSS Research. 44 (2). 142-154.

## 2.2. Roads-for-Life framework for rural roads or road sections

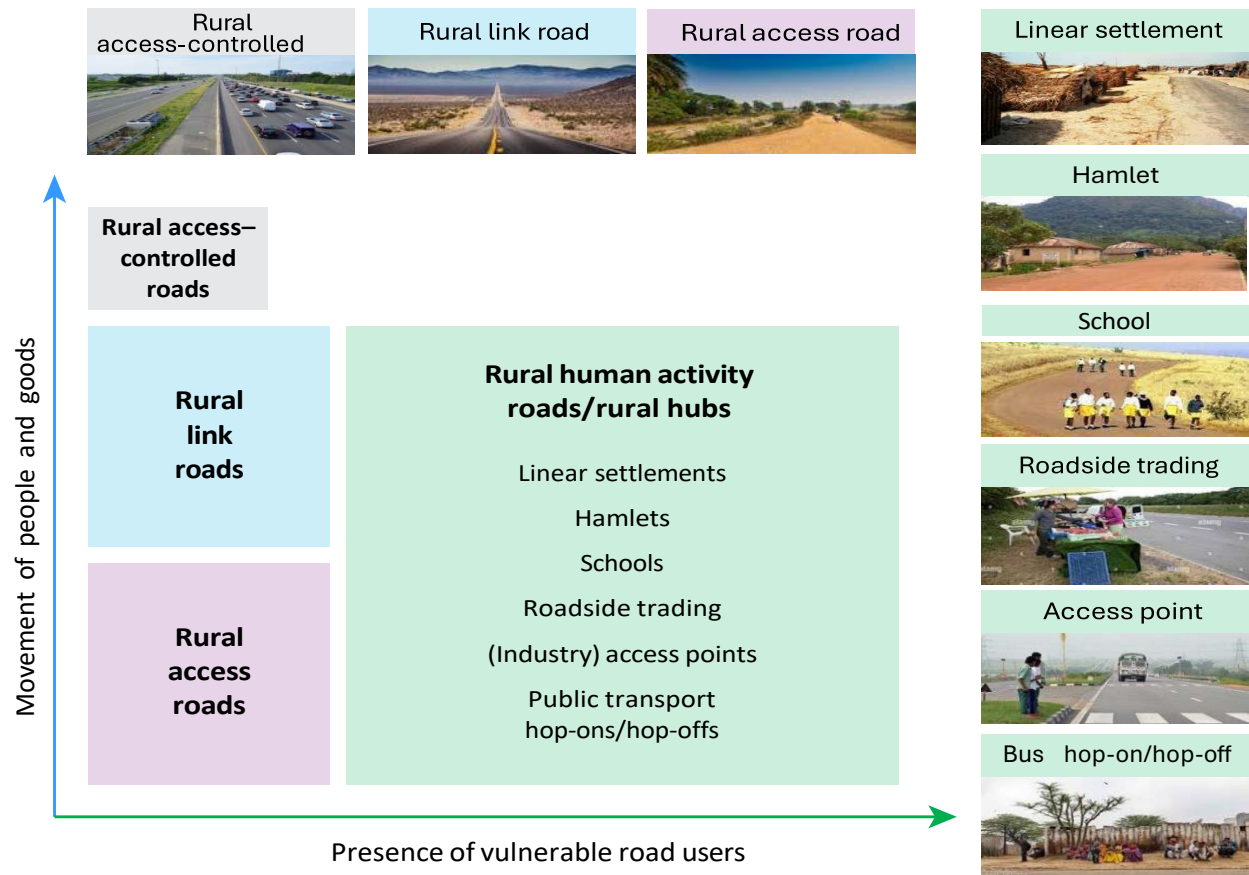
**Roads or road sections in rural areas include major and minor roads outside cities, city outskirts, towns, or villages.** These roads connect urban areas to the surrounding regions for the movement of people and goods, and link smaller rural settlements and their residents to markets, workplaces, schools, places of worship and other key destinations. Compared to urban roads, rural roads are usually characterized by long stretches followed by curves and intersections and may include dips and crests. Severe and fatal crashes are disproportionately common on these roads due to inappropriately high speeds combined with a lack of safe infrastructure.<sup>51</sup> These roads are often poorly maintained, with no physical separation of lanes, and mixed traffic without a dedicated infrastructure for each type of road user.

In Figure 8 the different road types present in rural areas are shown.

<sup>51</sup> IIHS (Insurance Institute for Highway Safety). 2023. *Fatality Facts 2021*. <https://www.iihs.org/topics/fatality-statistics/detail/urban-rural-comparison>



**Figure 8. Roads-for-Life framework for selecting safe speed limits for rural roads or road sections. This figure includes a matrix of rural road types in relation to their demands and a table with corresponding recommended speeds**



| Type of road or road section and description   | Safe speed limit      |
|--|-----------------------|
| <b>Rural human activity road/rural hub</b>   |                       |
| Road space in a rural area where people gather, live, play and/or work on/next to the road or cross it to reach adjacent land-uses (e.g., linear settlements, hamlets, schools, roadside trading, (industry) access points, public transport hop-ons/hop-offs) | Max. 30kph            |
| <b>Rural access road</b>   |                       |
| Road space in a rural area which provides access to residential or industrial activity and supports these activities   | Max. 50 kph - 70 kph* |
| <b>Rural link road</b>   |                       |
| Road space in a rural area which provides the link between rural access roads and rural access-controlled roads  | Max. 70 kph - 80 kph  |
| <b>Rural access-controlled road</b>  |                       |
| Road space with access control where vulnerable road users are prohibited  | Max. 100 kph          |

\* Speed limits higher than 50 kph only for rural roads with no or very limited built-up development, good visibility, no sharp curves and roadside protection as well as safe, adequate, and attractive provision for vulnerable road users (if present), including sidewalks/cycling paths with an adequate width and safe and adequately spaced crossing facilities

Rural roads tend to be perceived as remote, low-density areas that should allow higher speeds, when in reality, some rural areas are home to numerous VRUs who require the same consideration as those in cities. Speed levels should be set to prioritize their safety. Rural roads in LMICs are particularly likely to have stretches where large numbers of VRUs are active in or next to the road, with no separation from motorized traffic.

In this context, **rural human activity roads/rural hubs** are roads or road sections, where people gather, live, play, work and/or cross due to adjacent land-use such as linear settlements, hamlets, schools, places of work or worship, or public transport stops. These are high-risk areas for which a maximum speed limit of **30 kph** is necessary. If higher speeds are needed, adequate separation of road users is required.

**Rural access roads** provide access to residential or industrial activity in rural areas. These are primarily poorer quality roads in sparsely populated lower traffic areas that are not designed for higher-speed travel. In some cases, they will be unsurfaced (e.g., dirt roads, or roads with a gravel overlay). They are often owned by local authorities, connect different communities and provide market access to farms and farmland. In the traditional functional road classification system, some of these roads are called “rural local roads”. For low quality rural access roads with unprotected roadside obstacles or hazards such as trees or poles, sharp curves, low visibility, steep grades or poor surface quality as well as frequent at-grade intersections or junctions, a maximum speed limit of **50 kph** should be provided.

The traffic composition on unpaved or low-quality roads tends to vary from private vehicles to agricultural machinery and animal-drawn carriages. Poor maintenance can compromise the structural integrity of these roads, and uneven road surfaces can damage vehicles and cargo, but these conditions can also enhance safety by encouraging drivers to slow down.

Some rural access roads pass through smaller villages and linear settlements with sporadic roadside developments where pedestrians, cyclists, and motorists stop and start. In such situations, a maximum speed limit of 50 kph is possible, but where more VRUs are present even lower speeds (e.g., **30 kph**) might still be required.

**For rural access roads** with adequate protection from roadside hazards but no median or barriers between opposing traffic flows, a maximum speed limit of **70 kph** is possible. However, at intersections and junctions, speeds should be reduced to **50 kph** to ensure safety. This can be achieved by using infrastructure solutions such as roundabouts.

**Rural link roads** connect significant rural towns and villages and may also link rural access roads to rural access-controlled roads. In the traditional functional road classification system, some of these roads are categorized as “rural collectors”, “highways” or “arterial roads”. These are two-lane or multilane roads with high-quality infrastructure, adequate protection from roadside hazards, facilities at intersections or junctions (such as roundabouts), but no median or barriers between opposing traffic flows - a maximum speed limit of **70 kph** is possible.

Higher speeds may be allowed on rural link roads at sparsely populated locations in remote or natural areas with a median or barrier between opposing traffic flows and protection from roadside hazards. **Maximum speed limits of 80 kph** may be set where such protection is provided to minimize the likelihood and severity of head-on crashes. Speeds still need to be lowered and managed at intersections, where impact speeds above 50 kph are not typically survivable.

**Rural access-controlled roads** are high-speed roads (usually motorways) with a maximum speed limit of **100 kph**. Traditional functional road classification systems refer to some of these roads as “interstates” or “arterial roads”. Access-controlled roads restrict motor vehicles, sometimes requiring legally binding minimum speeds. Pedestrians, cyclists, slow-moving vehicles and public transport are prohibited, and given safe, attractive, alternative routes to follow. Grade-separated intersections and interchanges are required. These intersections have ramps long enough for acceleration and deceleration to allow continuous vehicular flow. Vehicles traveling different directions are physically separated (e.g., by median barriers). Roadside shoulders, emergency lanes or clear zones, which are places where drivers can pull off, must be free from fixed objects or shielded with adequate safety barriers.

Whether a maximum speed limit of 100 kph is “safe” can depend on vehicle quality and compliance with laws such as those requiring seatbelts and child restraints or prohibiting slow-moving pedestrians, cyclists, or human- or animal-powered carriages. Where some of these conditions are not met, or other hazards are present, much lower speed limits are needed. One hazard to consider is the placement of public transport, bus or minibus stops. These vehicles often stop in places that force passengers to walk along or cross busy, high-speed traffic lanes. These stops must be moved off the access-controlled roads to routes where safe stopping and boarding is possible.

Most importantly the safety of the passengers must be considered in the planning process.