Traffic Conflict Technique (TCT) Toolkit

A guide to quickly evaluate road safety interventions

The TCT is an evidence-based approach used to evaluate the impact of road safety interventions to prevent crashes, injuries, and deaths.

Overview of TCT

TCT is a simple, low-cost method of proactively collecting observational data to evaluate the safety of intersections and stretches of roadways before and after a road safety improvement is made.

TCTs can help decision makers select and evaluate the most effective strategies for improving road safety and preventing injuries. TCTs involve counting and studying traffic conflicts and are particularly helpful in locations where data are scarce.

About the TCT Toolkit

The Toolkit:

- is a comprehensive guide designed for anyone interested in improving road safety
- describes five different methods previously developed by road safety experts to evaluate the impact of a road safety intervention by collecting and analyzing traffic conflict data
- focuses on preventing crashes and injuries among children on their way to and from school

Using the TCT Toolkit in school zones

- Globally, road traffic injuries have now become the leading cause of death among people aged 5 to 29 years.[1]
- Each day over 500 children aged 5 to 19 years die as a result of injuries sustained from a road traffic crash,[2] and millions more are injured.[3]

Since children regularly travel within school zones, the Toolkit specifically focuses on traffic conflicts between student pedestrians and cyclists and cars, buses, motorized 2- and 3-wheelers, etc. occurring in and around school zones in low- and middle-income countries. These types of traffic conflicts are referred to as pedestrian-vehicle conflicts.

What is a traffic conflict?

A traffic conflict occurs when two or more road users are at risk of colliding if their movements do not change.

Why are TCTs important?

TCTs can help determine whether the intervention is effective in improving road safety by collecting pre-intervention and post-intervention traffic conflict data.

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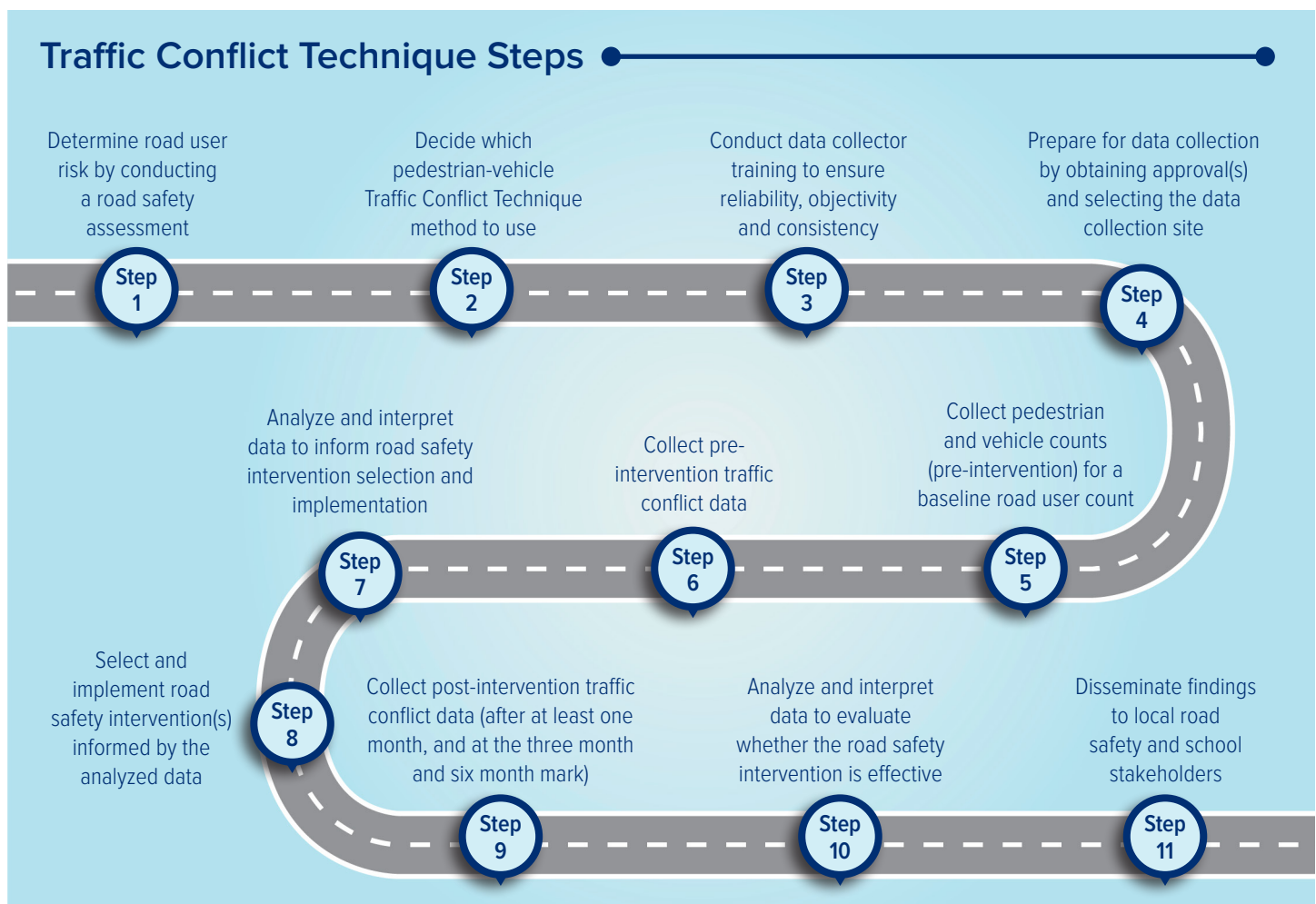
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Steps involved in TCT

The process begins with assessing existing road user risk and then progresses to collecting and analyzing traffic conflict data to inform the selection and implementation of the road safety intervention(s). Using the pedestrian-vehicle data collection methods, traffic conflict data are collected both before (pre-intervention) and after (post-intervention) the implementation of the road safety intervention(s). Comparing the pre- and post-intervention data is useful to evaluate whether the intervention is effective in reducing traffic conflicts, and thus, reducing potential crashes, injuries and deaths.

Dar es Salaam, Tanzania

Traffic Conflict Technique Steps

Step 1 — Determine road user risk by conducting a road safety assessment

Step 2 — Decide which pedestrian-vehicle Traffic Conflict Technique method to use

Step 3 — Conduct data collector training to ensure reliability, objectivity and consistency

Step 4 — Prepare for data collection by obtaining approval(s) and selecting the data collection site

Step 5 — Collect pedestrian and vehicle counts (pre-intervention) for a baseline road user count

Step 6 — Collect pre-intervention traffic conflict data

Step 7 — Analyze and interpret data to inform road safety intervention selection and implementation

Step 8 — Select and implement road safety intervention(s) informed by the analyzed data

Step 9 — Collect post-intervention traffic conflict data (after at least one month, and at the three month and six month mark)

Step 10 — Analyze and interpret data to evaluate whether the road safety intervention is effective

Step 11 — Disseminate findings to local road safety and school stakeholders

For more information

Funding to develop the TCT Toolkit was made possible by the FIA Foundation via the National Foundation for the Centers for Disease Control and Prevention (CDC Foundation). Download the TCT Toolkit to learn more about how to evaluate the impact of road safety interventions.

1 World Health Organization. (2018a). Global status report on road safety 2018. Retrieved from https://www.who.int/violence_injury_prevention/road_safety_status/2018/en/

2 Safe Kids Worldwide. (2019). Global road safety facts for children: Safe Kids Worldwide. Retrieved from https://www.safekids.org/global-road-safety-facts-children-safe-kids-worldwide

3 Peden, M., Oyegbite, K., Ozanne-Smith, J., Adnan A Hyde, Branche, C., Rahman, A. F., . . . Bartolomeos, K. (2008). World report on child injury prevention. World Health Organization and UNICEF. http://whqlibdoc.who.int/publications/2008/9789241563574_eng.pdf?ua=1