Change for Good Roads

An intersectoral approach to urban road safety

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Parachute
**Vision
Zero**

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BACKGROUND

Road safety is a major public health concern in Canada and should be prioritized. More than 1,000 people lose their lives to road crashes annually and 18 times that number require hospitalization for their injuries (Parachute, 2021). An estimated 73 per cent of injury collisions, 75 per cent of pedestrian deaths and 56 per cent of cyclist fatalities in Canada happen in urban locations (Transport Canada, 2021; Transport Canada, 2011; Statistics Canada, 2019). Population density, traffic volume and number of intersections are some of the factors associated with the frequency of crashes in these areas (Moradi et al., 2016).

There are a range of evidence-based frameworks and interventions that guide global efforts toward safer, healthier and more sustainable roads. Initiatives such as Vision Zero, the Safe System Approach and the Decade of Action for Road Safety set targets and goals to guide us to achieve the UN's Sustainable Development Goals.

The Global Plan for the second Decade of Action for Road Safety 2021-2030 was launched Oct. 28, 2021 by the World Health Organization. This Global Plan acts as a guiding document to support the implementation of the Decade of Action, which has the ambitious target to reduce road traffic deaths and injuries by 50 per cent by 2030. These evidence-informed frameworks provide us with strategies for improved road safety, such as speed reduction measures, urban planning methods and road design solutions.

Despite the awareness around and accessibility of these interventions, there remains overall low implementation of these interventions and there are still high rates of serious road injuries and deaths globally. While there are limited Canadian data on these serious injuries and fatalities categorized by race, economic status and other critical socio-economic indicators,

research shows that people with lower income, racialized communities and other systematically disadvantaged populations are disproportionately affected (Atlantic Collaborative on Injury Prevention, n.d.).

The importance of road safety cannot be underestimated: reducing or eliminating serious road injuries and deaths has far-reaching implications beyond direct road users.

VISION ZERO

Originating in Sweden in the 1990s, "Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all." (Vision Zero Network, n.d.) Public opinion still does not prioritize the goal of zero serious injuries on the roads. Vision Zero aims to change this view and promote zero as the only acceptable number of road injuries or deaths. Many Canadian cities – including Edmonton, Toronto, Ottawa, Montreal and Vancouver – have adopted Vision Zero and put efforts into implementing necessary policy and other measures to achieve the Vision Zero goal. The implementation of this globally supported harm reduction framework is an important step toward achieving safer urban roads.

Improving road safety contributes to a "road safety dividend", or a surplus of positive outcomes that contribute to global health and well-being. Road safety improves when we reduce motor vehicle traffic through strategies such as improved access to public transit, dedicated bike infrastructure, walkable and more connected neighbourhoods and slower, more controlled traffic: all these provide other benefits

SUSTAINABLE DEVELOPMENT GOALS

In 2015, the United Nations adopted the 17 Sustainable Development Goals (SDGs), which set clear guidelines for a sustainable future, with specific deadlines that are to be met by 2030 (United Nations, 2015). The SDGs provide a clear set of overarching goals to achieve as we work to create safe, active, healthy and sustainable urban roads.

Seven of the 17 goals in some way influence urban road safety. (See a full list of the targets in Appendix 1.) Some of these goals have a clear-cut connection to urban road safety; however, our roundtable discussions made it clear that equity and equality are deeply connected to this issue and that road safety is a highly complex issue that goes well beyond the design of roads and the immediate circumstances of collisions. Creating safe, healthy and sustainable urban roads will contribute to the achievement of various SDG targets included in:

Goal 3 | Good Health and Well-being
Goal 5 | Gender Equality
Goal 10 | Reduce Inequalities

Goal 11 | Sustainable Cities and Communities
Goal 13 | Climate Action
Goal 16 | Peace, Justice and Strong Institution

References to the SDGS that are directly related to certain recommendations have been identified throughout this report.

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to communities. For instance, changing our urban built environments and encouraging walking for transportation positively impacts physical activity, mental health, chronic disease, and injury (Farkas et al., 2019; McCormack et al., 2019). In Canada, the transportation sector is a significant contributor to greenhouse gas emissions and 53 per cent of transport emissions come from passenger vehicles, such as cars and light trucks (Government of Canada, 2020). Increases in active and multi-modal transportation in urban communities can contribute to a reduction in air pollution, greenhouse gas emissions (Mizdrak et al., 2019) and noise pollution (WHO, n.d.), which affect the overall health and well-being of communities, locally and globally. Greater walkability and active transport opportunities in urban areas can also improve economic development, with pedestrians having greater access to local businesses and enterprises (Leinberger, 2019).

Similarly, features of the built environment in urban areas can exacerbate health inequities. Limited access to public transit, green public spaces and geographic barriers to necessities such as food, housing and health care have a negative impact on largely low-income or historically disenfranchised communities (Friel et al., 2011). Engaging people who experience marginalization to participate fully in planning processes and considering equity in local built environment initiatives are critical to improving public health (Emrich, 2018).

Lack of inclusive design in the built environment for people with a disability, or older adults, makes it challenging for them to navigate urban environments successfully (Gray et al., 2012). Sex and gender differences should also be considered in built environment planning and interventions (Tcymbal et al., 2020). Using inclusive or universal design principles in the development

of the built environment ensures that everyone can navigate urban environments successfully, not only improving personal health, but also reducing social isolation, creating a deeper sense of community engagement and increasing mental health (Wood et al., 2010).

Clearly, road safety measures have a broad impact on urban communities, with a wide range of benefits ranging from economic and environmental to equity and health. While there is global alignment behind the need for improved road safety, the question remains: What is being done to improve road safety? What can we learn from existing interventions, locally and globally? And what is missing? Parachute set out to answer these questions through the Change for Good Roads initiative. Parachute chose to focus on urban roads as the context for this set of roundtable discussions for the reasons outlined above. We recognize the importance of road safety for rural roads and it is our intention that we can convene a similar process with a focus on rural roads in the future.

Parachute is uniquely positioned to lead this effort as an injury prevention organization that holds relationships across sectors, with demonstrated successes such as the multidisciplinary Parachute Vision Zero network. This network has brought together stakeholders from multiple sectors to learn about and share Vision Zero principles and access resources that support the adoption of this framework for their communities. Throughout our work in road safety and injury prevention, Parachute has prioritized building relationships and working with a wide range of organizations that have a role, a responsibility and a stake in urban road safety. The need for collective action among these organizations, and an enhanced understanding of their common interests in and impact on road safety, prompted us to convene Change for Good Roads – An intersectoral approach to urban road safety.

This initiative brought together a diverse group of organizations and individuals, providing an opportunity to:

- Identify further points of intersection and synergy
- Share knowledge and expertise
- Find potential for collaboration with one another

Parachute worked closely with Impakt, a social change organization whose mission is to help corporations and civil society organizations solve social problems. Impakt has led us through their Change for Good approach, which uses a collaborative framework and process, to build this cross-sector collective.

CHANGE FOR GOOD ROADS – AN INTERSECTORAL APPROACH TO URBAN ROAD SAFETY

Our vision: to align sectors to become a stronger voice in creating safe, active, healthy and sustainable urban roads through influencing public policy dialogue and actions across Canada.

Parachute believes that collective action is the missing link in driving positive change in urban road safety. Safe, healthy and sustainable urban roads are only possible if we treat the underlying issues as a complex problem, one that involves not only urban planning, but also public health, engineering and other sectors, and retains a focus on inclusion, equity, sustainability, community and more. It is at this intersection of interests that sustainable changes in road safety will occur. Road safety is everyone's business: different populations have different needs and priorities but the safety of our roads affects us all. It is only by coming together to take collective action that these needs and priorities can be aligned so we can continue to work toward a safer and more inclusive society.

INTERSECTIONS OF ROAD SAFETY

Road safety is everyone's business. Below is a complex, however by no means exhaustive, map of groups and organizations that have first-hand stakes in urban road safety. The importance of collective action in creating safer urban roads is made clear by the breadth, width and diversity of these stakeholders in a variety of sectors. All the organizations and individuals working in these areas have an impact on road safety and, whether they know it or not, are connected to one another around the topic of urban road safety. Change for Good Roads strives to identify the ways these sectors can align to each other to pursue safe, active, healthy and sustainable urban roads.

Not all the sectors represented here were able to attend this round of the roundtables but, as this initiative moves forward, we intend to expand the collaborative efforts to include all these and more.

METHODOLOGY

The recommendations identified by Change for Good Roads were identified through an iterative process of consultation and roundtable discussion with experts from across the sectors connected to road safety. While evidence-based initiatives and interventions have been recommended through initiatives such as Vision Zero, the intent of these stakeholder engagements was to identify what is missing, and what more can be done, to create safe, healthy and sustainable urban roads.

The Change for Good Roads team identified a diverse group of stakeholders who represented interests across the sectors connected to road safety, including organizations, researchers and government representatives. The identified stakeholders were invited to participate in a brief consultation with the team to gather preliminary data, understand the Canadian road safety context and identify priority topic areas for discussion.

Using the information identified through research, and the expertise shared in the consultations, three roundtable discussions were established. The topics discussed were:

01 | **Safety and equity**
Exploring the importance of inclusion and equity in public urban spaces as a key component of healthy, active, and safe urban roads.

02 | **Health and sustainability**
Exploring the importance of economically, socially and environmentally sustainable cities, which contribute to the physical, mental and social well-being of their inhabitants, as a key component of healthy, active and safe urban roads.

03 | **Activity and accessibility**
Exploring the importance of active transport, mobility for all, and the accessibility of urban spaces as key components of healthy, active and safe urban roads.

Over the course of these roundtables, as well as throughout the consultations, five underlying themes emerged as areas of focus to prioritize. Recommendations from roundtable discussions analyzed by the Change for Good Roads team were aligned with one (or more) of these focus areas. After analysis, results were presented to participants and relevant stakeholders in an iterative process, allowing for ongoing feedback and discussion. While the final themes and recommendations presented are not exhaustive, they provide an initial pathway for the road safety sector to pursue to achieve healthy, active and safe urban roads across Canada.

Strategic areas of focus

The strategic areas of focus and recommendations identified by the participants in Change for Good Roads clearly show the existing overlap between sectors that work, directly or peripherally, to influence road safety. Because of this overlap, there are many points of convergence among the different focus areas. This further emphasizes the idea that urban road safety is a complex issue that requires a multi-stakeholder, cross-sectoral and collaborative approach.

Our aim in identifying these areas of focus and recommendations is to encourage unified action from across all sectors in creating safe, active, healthy and sustainable urban roads across Canada. While each of these recommendations intend to achieve a specific purpose, different sectors and stakeholders will approach them from their own perspectives, in ways that align with their mandate. We encourage the reader to reflect on how each of these recommendations can be incorporated into the work they do, and what specific actions they can take, to contribute toward safer urban roads.
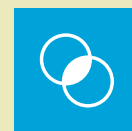
Collaborate and communicate

Change the culture of road use

Transform data practices

Champion equity and accessibility

Engage communities in co-creation

COLLABORATE AND COMMUNICATE

Participants across all the roundtables and consultations identified the need for consistent local, provincial, territorial, national and global leadership in promoting road safety, taking a collaborative cross-sectoral approach, with a shared language and messaging.

While a wide range of evidence-based solutions and interventions are available and have been used around the world and in Canada, our roundtable discussions suggested that a lack of cross-sectoral collaboration in Canada does not allow these solutions to be leveraged to their full potential. It was evident from participants

that many of the efforts and interventions from different stakeholders, from grassroots organizations and local governments to nationwide NGOs, operate separately rather than as a cohesive unit. Participants felt that through cross-sectoral collaboration, organizations and individuals would be able to strengthen their interventions and create more sustainable change toward a shared goal. Through improved connections and collaboration, stakeholders invested in road safety may be better able to benefit from existing interventions and research, without duplicating the efforts of others working toward the same goal.

RECOMMENDATIONS

Establish universal standards for safe roads

Participants also emphasized the need for stakeholders across sectors to collaborate and establish a universal set of standards for designing public and shared spaces that influence road safety, based on existing approaches such as the Safe System Approach for Road Safety, and Universal Design Principles. While there exist separate standards for certain elements of road safety planning, such as the Geometric Design Guide for Canadian Roads (TAC, 2020), they do not account for the needs of other sectors or interest groups and can therefore benefit from simultaneously addressing the needs of other road users, as well as incorporating insight from diverse stakeholders such as environmentalists or equity experts. (SDG 5.1, 10.2, 10.3)

Promote local and national buy-in

The roundtable discussions also identified the need for collaboration not just between sectors, but also between societal levels. Participants identified stakeholders at the community level as a critical element of sustainable change and emphasized the importance of community buy-in when developing research, interventions and policy. Support from communities, using a shared language around road safety, can create a demand for change that puts pressure on policy makers at local, provincial, territorial and national levels to execute relevant and sustainable interventions.

Develop a shared language

Participants identified the need for all stakeholders to share a common language and lexicon when discussing road safety. With the wide range of organizations and individuals involved in creating safer urban roads, there is a need for shared terminology to improve communication and the capacity for collaboration between sectors. As it stands, the language used by some stakeholders, such as city planners, differs dramatically from that of others, such as engineers or public health professionals, which in turn does not easily translate to the language used by communities, and so on. The development of a shared strategy for communication is critical to improving communication and collaboration between institutions and processes that are currently separate from one another and encourages and enables sharing stories of success, which can further strengthen the ultimate pursuit of the shared goal of safer roads. (SDG 11.3, 11.a)

Create a unified vision

The need for a single vision, or roadmap, on how to achieve safe, healthy and sustainable roads, was identified as a key element of improved cross-sectoral collaboration. Participants felt that uniting road safety stakeholders behind a single vision would provide leadership and guidance as well as improve communication and collaboration in pursuit of that vision.

The roundtables identified the need for cross-sectoral collaboration and strong leadership as an important element to achieving safe, healthy and sustainable roads in Canada. Through a common language, ongoing engagement and strong leadership, concerted cross-sectoral efforts can shift public opinion and improve overall capacity to reach positive and sustainable road safety outcomes.
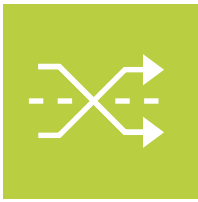
CHANGE THE CULTURE OF ROAD USE

A common theme in the Change for Good Roads roundtables was that cities across Canada are designed for the safety and convenience of cars and their drivers, while other road users are given less consideration and are made vulnerable by the built environment – including pedestrians, cyclists, people with disabilities, school children and older adults. As a result, road users outside of cars deal with inconvenient and unsafe infrastructure, exposing them unnecessarily to risk of preventable injury and death. As identified by Vision Zero, no amount of road death and serious injury should be acceptable, but culturally there is an acceptance that death on our roads is inevitable.

Participants in Change for Good Roads identified the need to shift the culture and behaviours around road safety to reduce acceptance of serious road injuries or death. Incrementally, evidence-based interventions in road safety may lead to behavioural shifts around road usage, which in turn may shift the culture of road use entirely.

RECOMMENDATIONS

Change behaviour through evidence-based interventions such as:

Lower speeds

Lower vehicle speeds decrease the chances and severity of collisions, particularly the risk of pedestrian fatalities (Hussain et al., 2019). Lower speeds also contribute to noise reduction, which has benefits for sleep disturbances and cardiovascular health (Rossi et al., 2020). Speed limits must be accompanied with appropriate design features and traffic calming measures that enforce these limits, from speed cameras to speed bumps, narrowing lanes, roundabouts and other features that prompt drivers to adjust their driving speeds. These speed reduction interventions may require road users to rethink their road use and shift their behaviours accordingly.

Safer cars

Driver distraction is a contributing factor in more than 20 per cent of fatal collisions in Canada – more than impaired driving. (Transport Canada, 2021) Participants in the roundtables suggested that interventions to reduce distracted driving, such as reducing the digital options in the cabin of a car, may be a key element of reducing road injuries and deaths, as well as changing behaviours around distracted driving. The development of cars that are safer for all users, both through construction, for example lower placement of bumpers on vehicles, and the use of technology such as collision avoidance systems, have the potential to improve overall road safety. (SDG 3.6)

Multi-modal transport

By promoting and making multiple forms of transportation available through accessible timetables (providing regular and frequent service of public transport), transport hubs (connecting different types of transportation), and necessary infrastructure, urban road users can make a shift to using alternative, safer and more environmentally friendly transport options such as walking, cycling, wheeling and public transit. (SDG 3.9, 11.2, 11.6, 11.a, 11.b)

Perceptions of safety

Research shows that low perceptions of safety can deter people from cycling or walking (Riggs, 2012). This suggests that reducing factors that may lead to roads being perceived as unsafe, such as cars driving at high speeds, insufficient time for pedestrians to cross at intersections, crossing of wide roads, or unprotected bike lanes positioned next to the car lanes, could lead to an increase in use of active transport modes. (SDG 11.2)

Shift the culture around road safety by:

Ending victim blaming and promoting accountability

The media and the public discourse often jump to questions around what the victims of motor vehicle collisions were doing that led to a crash, e.g., a pedestrian stepped out in front of the car vs a driver hit a pedestrian. A new approach to accountability for road users, particularly in the language used around collisions and responsibility, can change the culture around road safety. There is a need to talk about and use terminology focused on crash factors resulting in collisions, to educate road users in a neutral way that shifts dialogue away from victim blaming and helps everyone then make safer choices. Terminology influences how people perceive road deaths (Goddard et al., 2019) and changing language, such as framing incidents as preventable collisions rather than unpredictable "accidents", may help draw sustained and widespread public concern to the issue. (SDG 16.3, 16.7, 16.b)

Sharing success stories

Perception is affected by what we see and what we hear. Roundtable participants felt that spreading positive outcomes of evidence-based interventions and stories of success is a key element of changing the culture around road safety and communicating the myriad of positive impacts that safe, healthy, sustainable urban roads can bring.

Eliminating preventable deaths

The centrepiece of the Vision Zero philosophy is to reach zero deaths and serious injuries on the roads. As current data show, some road deaths and injuries remain acceptable to the general public (Riga, 2020). A shift in culture is necessary to change attitudes and beliefs about the acceptability of road deaths in order to eliminate road deaths. (SDG 3.6, 11.6)

Rethink who uses roads

Participants observed that the current perception is that roads are infrastructure for drivers and their vehicles, when this infrastructure should be serving the whole population. While we recognize the complexity of this challenge, changing the culture around how we design and use streets, roads and other public spaces to be more accessible and inclusive to other road users beyond drivers will improve road safety. In this spirit, changes in the built environment should not be considered an act of removing the privileges of certain segments of the population in order to give to others, but as a process of making the space serve everyone better. This represents another cultural shift in road use that will contribute to road safety. (SDG 10.3, 11.2, 11.3, 11.7, 11.b)

Changing the culture of road use and road safety is a complex goal. Change for Good Roads participants identified the use of evidence-based interventions and behavioural shifts as a primary strategy toward changing road-use behaviours. Using frameworks such as Vision Zero and the Safe System Approach and taking into consideration the SDGs – along with other research and successful programming to guide interventions – may be a fundamental step toward changing the conversation and adjusting perceptions around urban road safety.
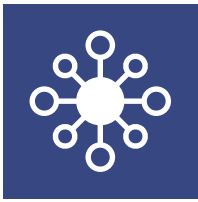
TRANSFORM DATA PRACTICES

Underlying many of the strategies for improving the safety of urban roads is the need for quality, individualized data at the local level. Participants in Change for Good Roads repeatedly emphasized the importance of sharing data and evidence to inform equitable decision-making.

Participants agreed that existing openly accessible data sources do not provide sufficiently detailed information and that data collected by individual organizations and governments are often kept separate, not shared widely and are not harmonized. Good quality data is of paramount importance to drive informed, evidence-based interventions, so stakeholders need to co-ordinate their efforts in this area. This issue is not unique to transport data.

RECOMMENDATIONS

Share data between sectors

Participants identified a gap in the capacity for cross-sector data sharing. They felt that the road safety community would benefit from a centralized and well-maintained database of road-safety-related information. This would enable, encourage and facilitate the sharing of road-safety-related data across the related sectors, as well as harmonize data collection efforts so the road safety community could make use of the available information more efficiently and effectively. These efforts should also be extended to other forms of data such as pilot project outcomes, community and individual stories, and other valuable forms of evidence. In addition to informing interventions, these could be used in communications with the public and decision makers. (SDG 16.10)

Collect more detailed data

Change for Good Roads participants found that the data currently being collected lack specificity, detail and frequency that could inform decision making, for example, racial data and contextual details surrounding the incident. Organizations and governments involved in data collection should engage with other road safety stakeholders to inform the breadth and content of their research and to ensure data are collected consistently. By collecting data that road safety stakeholders identify as necessary for informed decisions, the quality of interventions designed could be improved. (SDG 10.4, 11.3, 11.b, 16.10)

Use appropriate measures of impact

Participants felt that decision makers often measure the significance and impact of road infrastructure projects through inappropriate measures, such as funds spent or kilometres built, rather than the intended outcomes, such as change in the number of people who walk, improved safety or difference in commute times. By using more relevant and detailed measures of desired intervention outcomes, stakeholders can better shape ongoing programs and contribute to developing new interventions. (SDG 11.2, 11.3, 11.7, 11.b, 13.2, 16.10, 16.b)

Prioritize equity

One issue identified by participants is that available data are not designed to inform equitable decision making. For instance, the lack of data including racial information in Canada limits research on racial equity in road safety. Data broken down into detailed and specific categories are necessary to identify Canada's most at-risk populations and develop relevant interventions and policy to reduce road incidents in a more targeted way. (SDG 5.1, 10.2, 10.3, 10.4, 11.7, 11.b, 16.3, 16.10, 16.b)

The foundation of evidence-based interventions is quality data. Individual organizations spend additional, and often strained, resources engaging in independent data collection and research in a field that is very widely researched by the multitude of stakeholders actively involved in road-safety-related work. Enhanced data collection strategies, shared language, harmonized collection methods and co-ordinated data sharing are essential to improving road safety through evidence-based interventions.
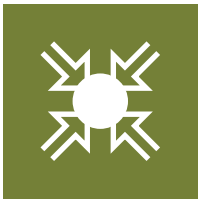
CHAMPION EQUITY AND ACCESSIBILITY

Many of the issues identified by Change for Good Roads participants were rooted in the idea that our current society, in many aspects, is built on systems that inherently exclude certain populations. Participants felt that the existing systems governing or intersecting with road safety are not inclusive of a wide variety of disadvantaged populations, and not only communities traditionally underserved, such as racialized populations. In the context of road safety, road users outside of cars are also considered disadvantaged and vulnerable.

To ensure that roads and other public spaces are equitable for everyone, stakeholders involved in road safety should focus on strategies to uncover, identify, acknowledge and address the inequities in our current systems. Participants made recommendations surrounding accessibility in urban design and the built environment, collaboration with communities and facilitation of interest group involvement in planning and design. These should reduce systemic barriers to safe roads for everyone.

RECOMMENDATIONS

Redefine accessibility

While accessibility was acknowledged as a key underlying element of urban road safety, participants further emphasized the importance of redefining accessibility to be as inclusive of as many groups as possible. For urban roads to be truly accessible, they must be inclusive, safe and usable for all. While traditionally accessibility refers to people with differing levels of mobility or disability, road safety experts emphasized that this must be extended to include gender, cultural backgrounds, socioeconomic status, geographies, as well as a variety of other factors that can make road users vulnerable. Participants suggested that true accessibility would be achieved when all road users have the choice to use our built environment safely and easily. (SDG 5.1, 5.5, 10.2, 10.3, 10.4, 11.2, 11.3, 11.7, 11.a, 11.b, 16.7, 16.b)

Design roads for everyone

To address equity issues in road safety, it is important that interventions are designed to make spaces safer for everyone, rather than making incremental improvements to address the needs of certain populations. Participants identified the Safe System Approach to interventions as one useful existing tool for safe urban road design, as well as the ongoing incorporation of Universal Design Principles. Using evidence-based interventions that prioritize safety for all presents a starting point for collaborative intervention that can improve the well-being of all road users. (SDG 3.6, 5.1, 9.4, 10.2, 10.3, 10.4, 11.2, 11.3, 11.7, 11.b)

Equity in the built environment

Other systemic issues identified were inequities in the way roads, cities and public spaces are built; the ways in which traffic laws are enforced in different communities; and the safety and services urban spaces provide. Higher-income neighbourhoods tend to receive a disproportionate amount of service delivery regarding road safety interventions, such as more speed humps, exacerbating existing inequities through the built environment (Fecht, 2012; Rothman et al., 2020). Such inequalities in the design and construction of urban spaces should be addressed through the collaborative efforts of a wide range of stakeholders, aiming for the equitable distribution of resources. By including not only the diverse voices of experts, but also the voices of the community at the table, program planners, policy makers and community organizers may be able to create a more equitable distribution of infrastructure-based resources. (SDG 5.1, 9.1, 10.2, 10.3, 10.4, 11.2, 11.3, 11.7, 11.b, 16.7, 16.b)

## Remove bureaucratic barriers to change

Participants in Change for Good Roads identified significant challenges for communities in initiating changes to their own built environment, rooted in bureaucratic barriers. Grassroots initiatives may never reach the implementation phase due to obstacles imposed by public and private organizations responsible for infrastructure and urban design, while highly funded and lobbied projects may face less public and political negotiation. Knowledge of how to use existing systems to create change often requires a champion knowledgeable in areas such as policy and bureaucracy. Reducing or eliminating these barriers would allow communities to have more direct intervention in the different uses of their space. (SDG 11.3, 11.7, 16.7, 16.10)

Make the healthy choice the easy choice

The roundtables identified the need to make sure that modes of active transportation and public transportation are accessible to all road users. For certain populations or communities, active or public transit may be the less safe or accessible option, based on structural inequities in the built environment, as well as gender, socio-economic, geographic or cultural barriers. By ensuring that these forms of transport are safer, faster and more convenient, urban areas can improve the health and well-being of their cities and the safety of their most vulnerable populations. (SDG 3.6, 3.9, 9.4, 10.2, 11.2, 11.6, 11.a, 11.b, 13.2, 13.3)

To address the systemic barriers to equitable urban road safety, stakeholders involved in urban road policy and programming must focus on ensuring that improvements to infrastructure are equitable, inclusive and empowering for communities in need. This requires that involved stakeholders identify, acknowledge and address inequalities appropriately.
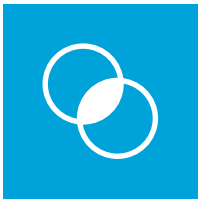
ENGAGE COMMUNITIES IN CO-CREATION

Participants in the roundtables emphasized the need for all voices to be heard as a part of any road safety strategy or action, with an emphasis on making sure individuals and community members have their needs identified and included in an iterative manner, providing value for all those involved in the ongoing intervention. It's important there is ongoing and meaningful engagement of all stakeholders who will influence, or be influenced by, any projects or interventions.

A priority for participants was the need to rethink the strategies and techniques currently in place to involve community members in road safety planning processes. The most common engagement strategies may not be accessible to all, particularly the most vulnerable members of a community, with current strategies not adequately taking into account disabilities, socio-economic status, gender and geographic barriers that may prevent stakeholders from attending. These recommendations identify strategies for addressing these barriers to meaningful community engagement with road safety.

RECOMMENDATIONS

### Prioritize co-creation over consultation

Participants emphasized the need for community involvement at the earliest stages of interventions. Through early engagement and co-creation, road safety professionals can prioritize community needs, improving ongoing engagement and sustainability of programming. Professionals involved in urban planning have important and necessary skills to ensure the viability and feasibility of interventions. Combined with community involvement in strategic thinking, real needs can be met in a relevant and sustainable manner. (SDG 5.5, 10.2, 11.3 16.7)

Emphasize safety

The roundtables identified that engaging communities by identifying what elements of interventions are most important to them is a critical element of buy-in, sustainability, and ultimately successful outcomes. The participants identified safety as a topic that resonates with the general public, over other potential program or policy outcomes. To increase and maintain community engagement with interventions relating to roads and other built infrastructure, the most important and relatable program outcome for implementers to express to communities is personal and public safety. (SDG 3.6, 11.2)

Enable meaningful and ongoing community engagement

For local stakeholder engagement to bring value to their community, and to future interventions, implementers need to involve community members in a systematic and meaningful manner, making sure that everyone has a seat at the table. This means that strategies for encouraging involvement need to be relevant to the key populations, clearly stated and culturally appropriate. Consultations need to be structured in an accessible manner, providing an appropriate forum for community members to be involved. Participants in the roundtables emphasized the importance of identifying the priority issues of the local community, ensuring they are well informed about the implementations and outcomes of the project in question. It is also critical for implementers to have a clear structure for ongoing community feedback and active participation. (SDG 5.5, 10.2, 10.3, 10.4, 11.2, 11.3, 11.7, 11.b, 13.3, 16.7, 16.10)
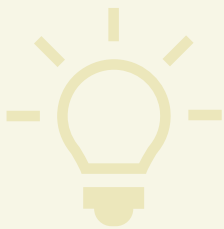
Increasing integrated, meaningful community stakeholder engagement and involvement in road safety interventions may lead to greater levels of buy-in and more appropriate programming that addresses the real needs of communities. To develop more meaningful engagement of stakeholders in infrastructure and intervention design, road safety experts and decision makers will need to create new strategies for community engagement, co-creation, and iterative involvement in design and implementation of road safety strategies and infrastructure.

NEXT STEPS

Sustaining our momentum

The COVID-19 pandemic prompted many cities in Canada to fast-track implementation of a range of initiatives to promote and facilitate the use of active transportation, both for leisure and transit. Major cities around the country have implemented new bike lanes, banned cars from main roads temporarily and implemented "quiet streets" with motorized vehicles allowed for local traffic only, and at low speeds. These measures "aim to provide safe, convenient, low-cost and non-polluting alternatives to driving and public transit, to facilitate lower-risk outdoor activities, and to improve connections to essential services" (Lin et al., 2021).

The participants of the roundtable discussions agreed that these developments demonstrate the public's appetite for using active transportation methods, as well as showing that promptly implemented pilot interventions are not only possible, but a very effective way of experimenting with different solutions on the use of public space. There is a need to continue this momentum toward safer, healthier roads. Participants were concerned that, despite the increased number of people who ride bikes and the positive attitudes toward these interventions (TCAT, 2021), the pre-pandemic status quo would return and these temporary projects would be reversed in favour of drivers. In part, the Change for Good Roads initiative is a message to the sector to seize this opportunity to advocate for these welcome interventions to become permanent, before they are undone.

Throughout the consultations and roundtables, there was an abundance of optimism and desire to take collective action. The need to sustain the momentum of the past year, and commit to safer roads, is clearer than ever.

WE INVITE THE READER OF THIS REPORT TO

Translate the key elements and recommendations from this report into actions relevant to their field and organization.

Commit to sharing information, so all sectors concerned with road safety and Canada at large can better benefit from existing information.

Commit to continuing and increasing collaborations with other organizations and individuals that have a role, a responsibility and a stake in urban road safety, and extend such connections.

Commit to the incremental and commensurate funding of action and organizations that drive change so that ideas and interventions can become reality.

The roundtables also identified the desire to continue the Change for Good Roads initiative. Parachute is committed to fostering the momentum gained through this initiative and to facilitating collective action. We will create a dissemination, communication and outreach plan that includes key messages, calls to actions and templates, in consultation with all roundtable representatives. This will provide concrete steps to the entire Change for Good Roads collective organizations that they can take to maximize impact.

We will create tools to support:

- Social media content
- Briefings to decision-makers
- Information dissemination through organizational communications channels (e.g., newsletters, e-blasts)
- Advertising donated/paid
- Presentations at events (e.g., conferences, webinars, workshops).

These activities will increase collective action from all organizations involved, as a group and individually, inspired by the five strategic areas of focus from this initiative. Ultimately, policymakers and sectors involved in this initiative need to share these goals and respond to their calls to action.

Additional Resources

GLOSSARY

Built environment:
The collection of buildings, structures, infrastructure and other creations constructed by humans, including parks and other areas of vegetation that were not created through the forces of nature.

Collision Avoidance Systems:
Technology solutions that help drivers avoid collision with other vehicles, pedestrians, animals or objects such as poles or trees. Examples include lane-keeping devices, forward collision warning systems or adaptive cruise controls.

Complete Streets:
Complete Streets are streets for everyone, prioritizing the safety, access and comfort of all users, with an emphasis on traditionally underserved populations such as older adults, people without access to cars, people with l imited mobility, BIPOC communities or women. Complete Streets aim to make all activities on and around roads safe and accessible, regardless of the user's mode of transport or life situation. (What Are Complete Streets?, n.d.)

Geometric Design Guide for Canadian Roads:
A document created by the Transport Association of Canada, addressing design considerations for roads within and outside of urban settings, including roads and facilities for pedestrians and bicycles.

Peri-urban:
Zones of transition from rural to urban land uses located between the outer limits of urban and regional centres and the rural environment.

Safe System Approach:
An integrated approach to address road safety, ensuring a safety net for all users of the transportation system through solutions that anticipate human error and accommodate for human injury tolerance. Safe System rely on appropriate roadway and vehicle design rather than behavioural changes from road users.

Sustainable Development Goals (SDGs):
"The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet and ensure that by 2030 all people enjoy peace and prosperity. The 17 SDGs are integrated – they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability." (Sustainable Development Goals, n.d.)

Universal Design Principle:
"Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." (About UD, n.d.) This is in contrast to the generally prevalent principles of designing for the average user. According to the Centre for Universal Design, the seven principles are: Equitable Use, Flexibility in Use, Simple and Intuitive Use, Perceptible Information, Tolerance for Error, Low Physical Effort and Size and Space for Approach and Use (The 7 Principles, n.d.). While similar, Universal Design is not analogous to Inclusive Design: it focuses on ensuring inclusivity of design, which may involve different solutions for certain groups of people, while Universal Design aims to provide designs accessible to most through a single solution. (Mourichon, 2020)

Urban environments:
Built-up, densely populated areas accompanied by supporting built infrastructure. Urban environments include cities, towns and suburbs but may also include areas with similar characteristics without the formal requirements of the former examples.

Vision Zero:
"Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all. First implemented in Sweden in the 1990s, Vision Zero has proved successful across Europe — and now it's gaining momentum in major American cities." (What Is Vision Zero?, n.d.)

APPENDIX

List of related Sustainable Development Goals

3 | Good health and well-being

3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

5 | Gender equality

5.1 End all forms of discrimination against all women and girls everywhere

5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

9 | Industry, innovation and infrastructure

9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

10 | Reduced inequalities

10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality

10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard

11 | Sustainable cities and communities

11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels

13 | Climate action

13.2 Integrate climate change measures into national policies, strategies and planning

13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

16 | Peace, justice and strong institutions

16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all

16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels

16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements

16.b Promote and enforce non-discriminatory laws and policies for sustainable development

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