Breaking Barriers with Building Blocks:
The Story of the City of Edmonton’s Award-Winning Bicycle Education Videos

By Tyler Golly, P.Eng., M.Sc. and Pam Hnytka
In 2009, the population of the City of Edmonton in Alberta, Canada was booming, putting a strain on infrastructure: we needed to reduce our reliance on single-occupant vehicles. In response, the Edmonton City Council approved plans to expand our interconnected multimodal transportation system of light rail transit and bus networks, pedestrian facilities, and bike routes. The City of Edmonton’s Transportation Services department set to work implementing a 10-year plan to design and install quality cycling infrastructure. Our aim: create a network of routes that would connect people to the places they wanted to go and promote cycling as a safe and healthy alternative for traveling around the city.

We knew, however, that installing infrastructure was only part of our challenge. The “goofy lines” (known to transportation professionals as bike lanes and sharrows) were coming, and we had some explaining to do.

Research told us that, no matter how well the data supported building bike infrastructure, our citizens would only endorse bike routes if they perceived them as safe. So, although our facilities would be designed and installed based on approved design guidelines and industry best practices, we knew we had to make sure perceptions matched reality.

**Enter the Tiny Actors**

For more than four months, the City of Edmonton bike safety team worked with a colourful cast of 1½ inch tall plastic actors in the form of LEGOS to teach Edmontonians about the “goofy lines” we had been painting on the roads. Despite their small stature, these LEGO figures would play a large role in helping Edmontonians to understand and embrace on-street bike routes.

“I was riding my bike down the middle of the road when I spotted ‘em: these goofy lines down the middle of the road...”
- Dial “S” for Sharrow

Edmonton is changing rapidly. Sixty thousand more people made the city their home between 2012 and 2014—a 7.4 percent increase over two years. Our employment growth leads the nation: in 2013, Edmonton created approximately 40 percent of Canada’s new jobs. And while our population is young—the largest single age group in Edmonton is 20 to 39—the number of senior citizens is rising. To keep Edmonton economically, environmentally, and socially sustainable, we need to change the way we get around. We have to reduce traffic congestion; move people more efficiently; and provide mobility options that allow people to travel safely and conveniently—regardless of age, physical ability, or economic capacity.

But in a city dominated by cars, that calls for a lot of change. Many Edmontonians are thrilled to get their bikes on the road and want an expanded bicycle network; others haven’t been so sure it’s smart, safe, or desirable. Although we apply best practices resulting from evidence-based observed risk analysis to design safe bicycle infrastructure, many studies show that perception of safety by existing and potential users is not necessarily consistent with the observed risk.

Resident surveys show that on-street bicycle infrastructure has increased the number of people who are cycling, but these same surveys indicate the significant impact that perceived safety has on the level of comfort with cycling and the willingness of Edmontonians to ride a bike.

**The Interested But Concerned**

We consider that gap between perceived safety and observed risk when we plan and design bicycle facilities, in part to address the needs of the target market for cycling uptake—the “Interested But Concerned.” This target market was identified through surveys that segment the population according to a person’s level of interest in taking up cycling and his or her level of comfort with riding a bike in different contexts with varying types of infrastructure.

Findings from these studies have found the Interested But Concerned group consists of people who are curious about cycling, like to ride a bicycle for recreation, and/or may have fond memories of cycling as a child, but are afraid to ride a bike and, therefore, do not ride regularly. They are afraid to ride with vehicles that are operating at high speeds and are nervous about riding beside vehicles and navigating through intersections.

**What About the Drivers?**

Potential cyclists are not the only ones who are concerned about the safety of on-street bike routes and confused about their function. While the majority of drivers are also cyclists, whether they cycle or not, people who drive have another perspective and an additional
set of concerns. Some media reports have reinforced the idea that bike routes always have negative impacts for people that drive and that the “hippies” are “pushing a green agenda and forcing cars out.” This contributes to a feeling that drivers are judged for owning and driving a car. In addition, confusion around the bicycle infrastructure markings, signs, and resulting cyclist behavior on the roadway created a significant fear that, as drivers, they might injure a cyclist.5,6

Creating a Bike-Friendly City Means Going Beyond Planning and Engineering

But there’s hope. Findings from focus groups and surveys in Edmonton and research elsewhere have shown that providing education about on-street bicycle infrastructure pavement markings and signs can significantly increase the comfort level for those people driving a vehicle or riding a bike.5,6 The City of Edmonton’s education program was created from this perspective. It looks beyond network planning and engineering design of bicycle infrastructure to support the Interested But Concerned group and Edmontonians who drive.

Edmonton’s Bicycle Education Program focuses on cyclists and motorists equally. Whether a person drives or rides a bike, they have shared concerns and responsibilities for safety on city streets; they need to understand the meaning of the pavement markings and signs; and, critically, all need to feel that they are treated with the same respect and held to the same level of accountability regardless of their preferred transportation mode.

“A dame pulls up next to me in a blocky plastic car.”
“Sharrows, she says, they’re sharrows...they mean this lane is shared by bikes and cars.”
— Dial “S” for Sharrow

Until just a few years ago, Edmontonians had little exposure to the pavement markings and signs that designate on-street bike routes. With limited-to-no education on bike infrastructure in driver training programs, and with the installations being new to most Edmontonians, we may as well have been speaking a different language.

Focus groups and surveys identified three specific areas of confusion:

1. Shared-use lanes marked with sharrows, used predominantly for neighbourhood bikeways, were being confused with bike lanes reserved for exclusive use by cyclists.
2. Reserved bike lanes were well understood, but people were unsure how people riding bikes were expected to make left turns from the bike lanes.
3. The dashing of a reserved bike lane’s longitudinal pavement lines were not consistently understood as indicating a shared space where vehicles can enter, when safe to do so, in order to move to the curb to make a right turn.9

Additional research and input from partners such as the Alberta Motor Association, CAN-BIKE, Edmonton Bicycle Commuters, Edmonton Police Service, and Edmonton school districts supported these findings and identified additional areas of confusion around general operational issues such as signaling and safe passing.

With this information and our understanding of the needs and issues of the target audiences, we designed a program to educate and entertain road users ranging from children to seniors, motorists to cyclists, and residents to visitors.

When we began to design our strategy for the education campaigns, we knew we would take a layered approach, disseminating the information to as large and diverse a group as possible. We planned a variety of media including printed materials, newspaper and online advertisements, the City of Edmonton website, social media, billboards, and transit ads.

However, we faced two significant challenges these media couldn’t address. The first: conveying complex instructions, such as how to merge into a bike lane to turn right. The second: creating something that would speak to cyclists—current and potential—as well as drivers.

Video would let us demonstrate bike and vehicle movements with easy step-by-step instructions. But a limited budget meant

Scenes from the City of Edmonon video, “Dial ‘S’ for Sharrow;” a film-noir drama that explains the mysterious arrows on the road and what to do when you see them.
the videos would be posted online, and we would need to rely on social media sharing and media interest to draw in a diverse group of viewers. That’s quite the challenge when you’re trying to create interest in what is essentially a driver and cyclist education manual.

We devised a list of requirements that we felt would make the videos successful:

- The viewers needed to identify with the video, the characters, and messages.
- The videos and messages needed to treat everyone as equals in a friendly, non-judgmental way.
- We needed a “hook,” something memorable, that would carry from one video to the next, making people want to watch every video and share them with their friends and family.

The answer: a series of videos starring a cast of LEGO characters telling stories based on well-known themes. Research told us nostalgia can create feelings of comfort and mitigate fear of change. Many of us grew up with LEGO. We feel comfort and optimism when we remember playing with those little plastic people that we used to go on adventures and to create stories to make sense of the world around us. Now, they could do the same thing for adults.

So, we commissioned a professional production company to produce a series of “Internet video[s] made with a buncha plastic toys.”

“So, how do I use a sharrow?”

“It’s easy big fella…. You just need to ride down the center of the arrows on the markings…”

- Dial “S” for Sharrow

The initiative produced seven videos to address the areas that our research identified as causing confusion. Each was produced in a different well-known theme to draw in and keep viewers’ attention and to encourage sharing.

- Dial “S” for Sharrow: A riveting film-noir drama solving the mystery of the arrows on the road and the operation of shared-use lanes.
- Coaching Corners—Left Turns for Cyclists: TV’s favorite cycling pundits break down the action in this review of two ways cyclists can make left turns from bike lanes.
- Riding & Driving to Safety: A 1950s-style educational film reel in which Billy and Tommy teach motorists and cyclists how to share the road safely.
- Bike Box—3-Way and 4-Way Intersections: Two videos in which a good pal shows his buddy how bikes and cars operate at 3-way and 4-way intersections with bike boxes.
- Bike Attitude & Awareness: A 1980s sitcom teaches the lessons of respecting other road users and being courteous when you are driving a vehicle or riding a bike.
- The Case of the Dashed Bike Lane: This buddy-cop comedy filled with non-stop action cracks the lid open on dashed bike lanes.

In this scene from the City of Edmonton video, The Case of the Dashed Bike Lane, a LEGO bicycle police officer leaps in front of a LEGO bicyclist to ask if she knows how to use the dashed lane she’s approaching.

answering the questions: what are the dashed lines all about and what should motorists and cyclists do when they see them?

“And so, just like that she was gone, leaving behind nothin’ but a hole where my heart should be. A hole not even my newfound knowledge of sharrows could fill.”

- Dial “S” for Sharrow

It turns out that’s not all she left behind.

To date the videos have been viewed more than 60,000 times by Edmonton residents, visitors, and others. The videos have been shared and linked via news outlets, websites, blogs, professional organizations, and social media. Local and regional governments and cycling groups across Canada and the United States have used the videos. Lima, Peru translated a video into Spanish. The LEGO videos have been mentioned, shared, or used by more than 40 groups, demonstrating their successful transferability in Canada and abroad. We were also happy to receive the ITE Transportation Safety Council’s Edmund R. Ricker Award in 2014 for our LEGO videos and Bicycle Education Program.

As we continue to transform Edmonton into a bike-friendly city, we will also continue to monitor the long term impacts of the LEGO Videos, our Bicycle Education Program, and the growing bicycle network on user comprehension, bicycle use, and safety—both perceived and observed.

Our work has been improved by the contributions of many others. The City of Edmonton believes in the value and power of collaborating and sharing. We encourage any group who would like to use these videos to link to them from your websites and social media. The entire LEGO videos library can be found and viewed at www.edmonton.ca/bikevideos. Information on the Bicycle Program and the Bicycle Education Program can be found at www.edmonton.ca/cycling.
References
7. OECD, 2013

Tyler Golly, P.Eng., M.Sc. creates livable communities through multimodal transportation engineering, planning, design, and policy development. Tyler’s work in both private and public sectors has provided him with unique opportunities to create policy and strategic plans and to see them through implementation. As the general supervisor of sustainable transportation for the City of Edmonton, Tyler is a leader in transforming Edmonton into a walking and cycling-friendly city through community-oriented design of complete streets. Growing up in the Canadian prairies has shaped his approach to engineering, designing for all people and all seasons. He is a member of ITE.

Pam Hnytka is the social marketing supervisor for the City of Edmonton’s Transportation Planning Branch where she leads a team that build and executes innovative programs that help Edmontonians choose sustainable transportation. In her 15-year career in communications and marketing, Pam has been pleased to work on a series of projects that educate and drive social change. Prior to taking on mode shift, she was project lead and account director on the award-winning EdmontonStories program, promoting Edmonton through the stories of its residents. In a previous incarnation, she managed publicity and marketing for a Canadian educational television group.

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