



Kids Reimagine School Streets



Climate Leadership,
Mobility & Play



WHY DON'T KIDS WALK TO SCHOOL?
**It's not the
 kids these
 days...**



**it's the
 streets
 these days.**

SO, WHAT DO WE DO ABOUT IT?



Stepping Towards a Greener Tomorrow

What would streets look like if we built them to keep kids safe, active, and playful? This question guides Stepping Towards a Greener Tomorrow, a collaboration between Ever Active Schools, Sustainable Calgary and 4 schools in 3 communities. The aim: to co-create safe, comfortable, and interesting routes to school; and to empower kids - and the rest of the community - to lower their carbon footprint by walking and biking for daily trips. Active travel reduces pollution *and* leads to improved physical and mental health, and better school grades.

This program takes kids out of the back seat (figuratively and literally) and gets them involved in planning low-carbon, healthy communities. It connects urban planners and city builders with students - showing kids they can make a difference when it comes to climate change and giving decision makers kids' points of view.

The project builds on Ever Active Schools' *Active and Safe Routes to Schools Program*. Results include educational resources, tactical urbanism projects in three neighbourhoods and 'Neighbourhood Active Travel Networks' proposals to turn three school communities into walkable, welcoming places with safe routes to school and other destinations.

What would streets look like if we built them for kids?

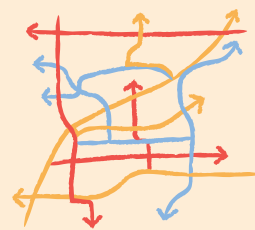
59% of children in 10 countries are worried or extremely worried about climate change. 45% say their "feelings about climate change negatively affected their daily life and functioning."

MARKS ET AL., 2021

"It is unequivocal that human influence has warmed the atmosphere, ocean and land."

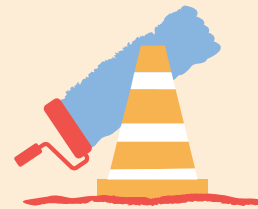
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SIXTH ASSESSMENT

Definitions



NEIGHBOURHOOD ACTIVE TRAVEL NETWORK

Infrastructure that prioritizes people on foot, bike or wheelchair first, and conveniently, safely and enjoyably connects them with nearby destinations.



TACTICAL URBANISM

Low-cost, temporary changes to public spaces that improve neighbourhoods and gathering places.

The Data

REIMAGINING STREETS INFLUENCES MODE CHOICE AND SAFETY



People walk and bike more when there is safe, comfortable, interesting and convenient infrastructure

81%

increase in cyclists in one year after Edmonton's first dedicated bike lanes installed



Children in low-income neighbourhoods in Toronto more likely to be struck, linked to poor infrastructure

50%

increase in cycling for work trips 2012-2018 after installation of Calgary's cycle track

INCREASING ACTIVE TRAVEL IMPROVES CHILD HEALTH



Inactivity linked to diabetes, obesity, and heart disease

44%

decrease in pedestrian injuries when kids had safe routes to school in an extensive New York City study



Hours spent driving is correlated with obesity

D+

awarded for level of physical activity among children in Canada



Air pollution is higher at school drop-off and pick-up times in Calgary

39%

increase in diabetes in Alberta, 2003-2014

Physically active children have better academic achievement, concentration, classroom behaviour, stress management and self-concept.

INCREASING ACTIVE TRAVEL ADDRESSES CLIMATE CHANGE

37%

of greenhouse gas emissions in Calgary are from transportation



Alberta is the #1 producer of greenhouse gas emissions in Canada

14%

decrease in daily emissions for every bike trip added

30%

increase in active trips and 5.3% decrease in motorized trips associated with Active and Safe Routes to School programs in New Zealand, with total savings of 1149 tonnes CO₂

62%

decrease in emissions for every car trip avoided

1/2 tonne

of emissions saved per person per year, by avoiding one car trip and adding on bike trip every day, for 200 days



2/3 of greenhouse gas emissions from households are from transportation

Our Process

Ever Active Schools' Active and Safe Routes to Schools program has operated in Calgary and Edmonton since 2019. It takes a holistic approach to safe and active travel to school, including design changes, programming, evaluation and resources. Stepping Towards a Greener Tomorrow builds on this programming through design. It asks: what would routes to school look like if kids were the priority users? Here's what we did to explore that question.



4. KIDS IN MOTION, YMCA
Workshops adapted and adopted for use in summer camps.



3. HACK YOUR ROUTES WORKSHOP
Students develop design concepts that invite walking and wheeling in their school community.

5. TACTICAL URBANISM PROPOSALS
Landscape Architecture students develop tactical urbanism concept plans, detailed drawings and shop drawings based on the kids' proposals. They submit them for permitting to the City of Calgary.

6. GREENHOUSE GAS MODELING
As part of a capstone course, University of Calgary civil engineering students propose walkable school routes, and model anticipated community reductions in greenhouse gas production.



2. STREETS AND SPACES WORKSHOP
Students learn about the relationship between neighbourhood design, travel choice and climate change.



7. TACTICAL URBANISM IMPLEMENTATION
Once approved, tactical urbanism proposals are implemented with a small budget for street furniture, paint, permitting and upkeep.



1. ACTIVE AND SAFE ROUTES TO SCHOOLS PROGRAMMING
Students explore their family travel habits, school community and identify actions they can take to support walking and wheeling to school - which contribute to a *School Travel Plan*.

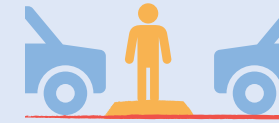
8. NEIGHBOURHOOD ACTIVE TRAVEL NETWORK:
Professionals take inspiration from student work, and propose a collection of routes that connect kids and local residents with key destinations - safely and enjoyably.

Kids Reimagine Streets with Tactical Urbanism

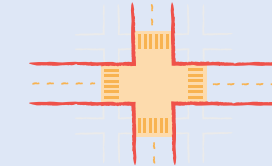
Tactical urbanism means making low-cost, temporary changes to public spaces. It aims to improve local neighbourhoods and gathering places, and tests out more permanent changes.

We asked kids how to make walking in their neighbourhoods safe and fun, and they came up with three temporary design concepts that university students turned into concept drawings and detailed plans. Here's what they proposed. **Check out sustainablecalgary.org for more on what we built!**

Definitions



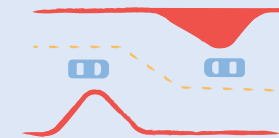
CONTINUOUS SIDEWALK
A sidewalk that stays level across driveways and intersections. People walking, pushing strollers, or in wheelchairs have a continuous level surface, while vehicles must go up and over the sidewalk at intersections and driveways. This slows traffic and signals to drivers that they are 'guests' in the space.



RAISED INTERSECTION
This includes continuous sidewalks, but the entire intersection is at sidewalk level. This slows travel and signals to drivers that they are 'guests'.



CURB BUMPOUT
Curbs that extend into the street on one or both sides of the road. Bumpouts prevent collisions by slowing traffic and making people on foot more visible to drivers. May be used at intersections, crosswalks, or paired with street parking.



CHICANE
A chicane is a series of alternating curb extensions (road narrowing device) that slows traffic by making vehicles drive in an S-shaped pattern.



ADAPTIVE SIDEWALKS
Create a sidewalk where one is needed and a traditional one can't be built, using temporary materials like concrete blocks, plastic barriers, flex posts, bollards or signs.



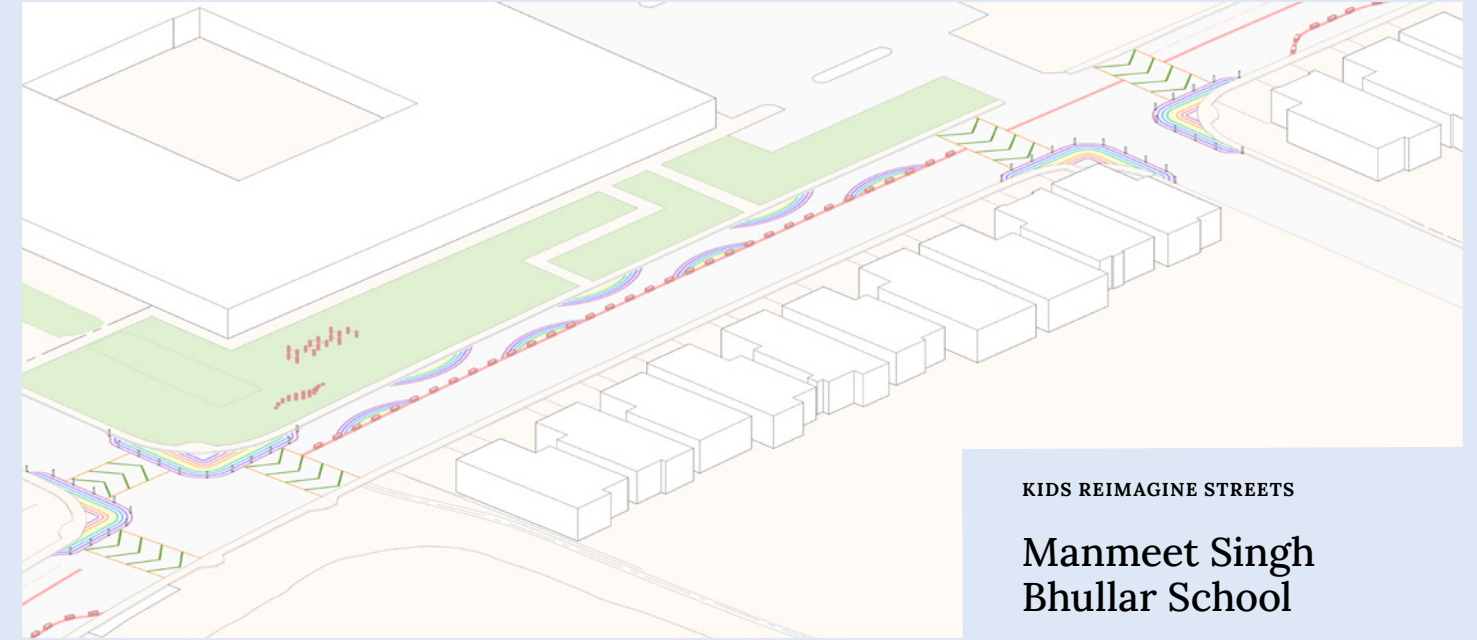
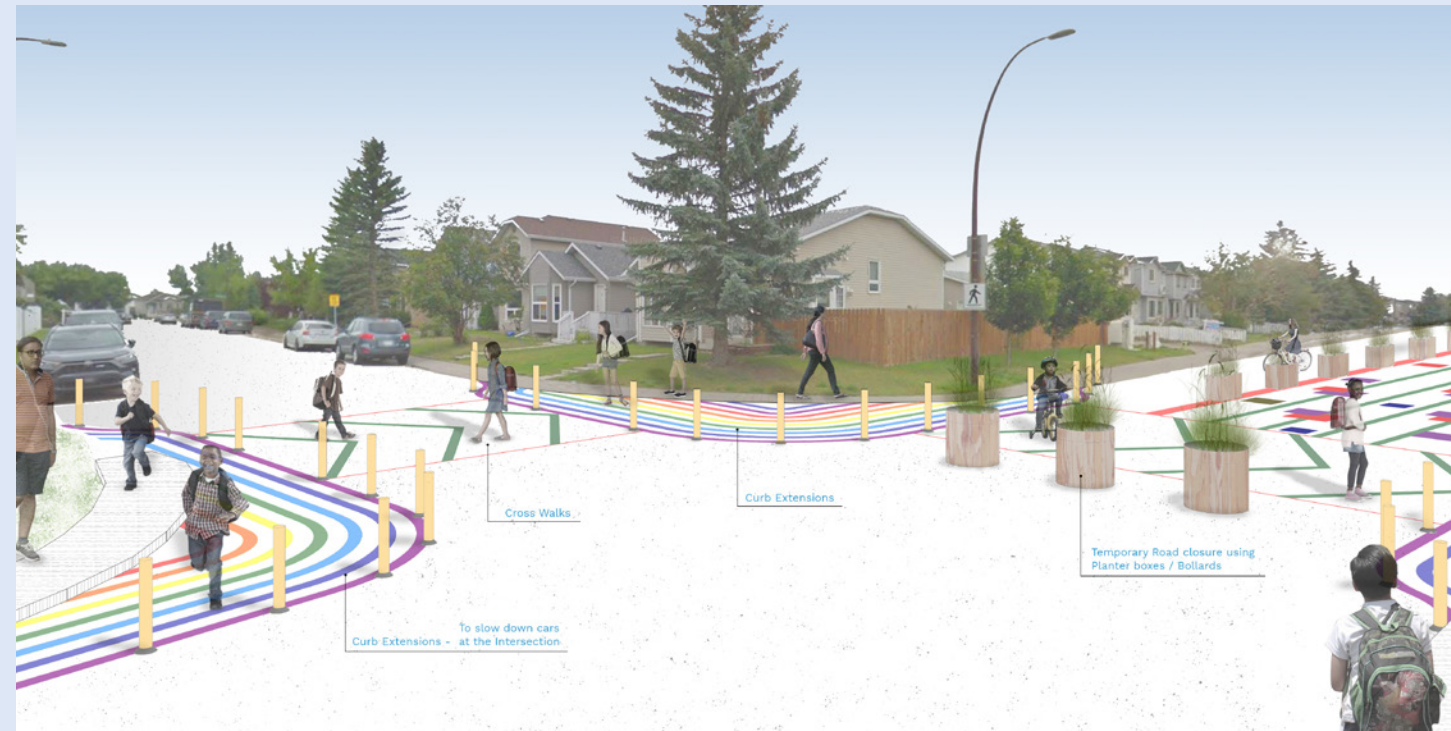
PLAY STREET
Closes a low-traffic road for a couple of hours a day to let children play freely.

KIDS REIMAGINE STREETS

Ecole la Mosaïque

NEIGHBOURHOOD: Martindale
CHARACTERISTICS: Commuter school, suburban neighbourhood, curvilinear street pattern
MODE OF TRAVEL: 70% school bus, 20% car, 7% walking, 3% public transit

Students brainstormed curb bumpouts, raised crosswalks, chicanes, street closures and play equipment in their design workshop. A playful “Complete Street” was proposed for the tactical urbanism project. The Complete Street design creates safe spaces for all users and calms traffic in front of their school - which is also a major transit route - and periodically closes to cars and opens as a Play Street.



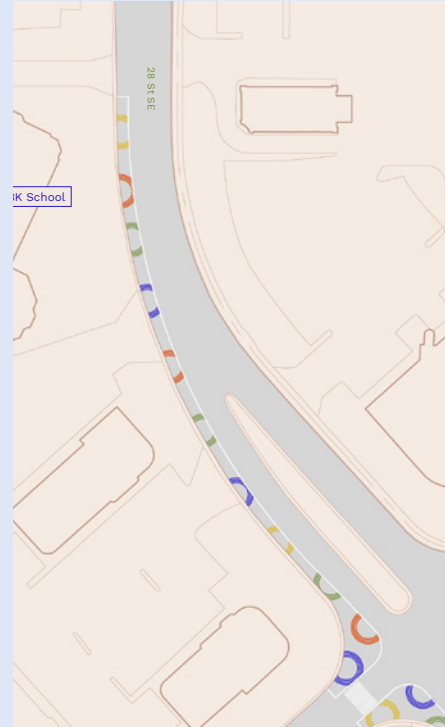
KIDS REIMAGINE STREETS

Manmeet Singh Bhullar School

NEIGHBOURHOOD: Martindale
CHARACTERISTICS: Local school, suburban neighbourhood, curvilinear street pattern
MODE OF TRAVEL: 47% car, 40% walking, 5% carpool, 3% school bus, 5% other

Students proposed colourful crosswalks, bike lanes, painted murals, lighting and play structures to make their school street - a collector road and transit route - calmer and safer. They described their favourite places to walk or bike as having trees and greenery, and smelling of fresh air and soil. The key issue identified was conflict between different users - schoolkids, people getting on and off the bus, people in cars - on a street with speeding and illegal passing due to its width. The final proposal brought their ideas to life with parkour equipment and a Complete Street with rainbow-themed bicycle lanes and curb bumpouts.



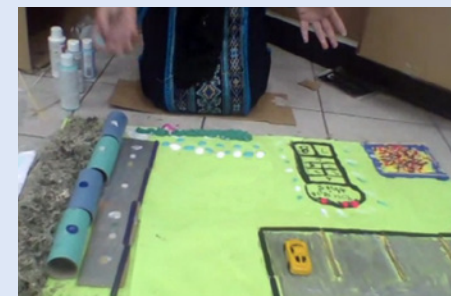
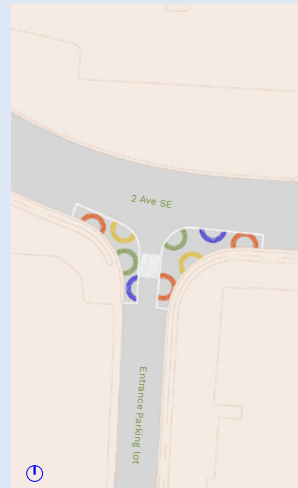
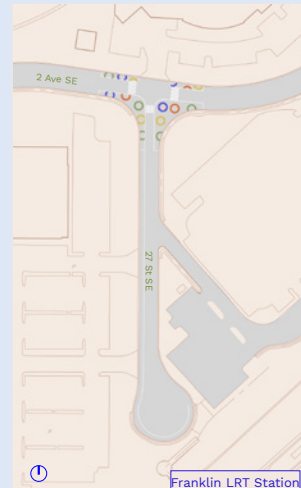
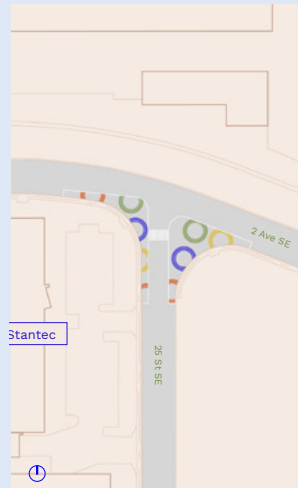


KIDS REIMAGINE STREETS

Calgary Islamic OBK

NEIGHBOURHOOD: Meridian
CHARACTERISTICS: Commuter school, industrial neighbourhood, curvilinear street pattern
MODE OF TRAVEL: 74% drive, 16% carpool, 10% school bus,

Students brainstormed colourful raised crosswalks and curb extensions to make their school street safer, and suggested turning a neighbouring alley into a Play Street, with dedicated space for walking, cycling and playing. They further proposed a street redesign that added sidewalks (which narrowed the street), an extension to their playground, and safe routes from the nearby Franklin LRT Station.



KIDS REIMAGINE STREETS

Connaught School

NEIGHBOURHOOD: Beltline
CHARACTERISTICS: Local school, urban neighbourhood, grid street pattern
MODE OF TRAVEL: 45% walk, 18% school bus, 18% drive, 6% public transit, 6% cycle, 3% carpool, 6% walk and drive

Students proposed closing their street “forever and always” and extending their playground into the street. They wanted to remove the playground fence, and add climbing structures, plants, and a shallow pond to the street. The final proposal closes the south end of the street, and brings it to life with ramps and modular furniture, with summer and winter configurations and programming.

Reimagine Streets with Neighbourhood Active Travel Networks

Tactical urbanism lets us test out a design idea at a particular spot, but **kids need safe routes from start to finish**. That's where Neighbourhood Active Travel Networks come in: infrastructure that puts people on foot or bike first, and connects them - safely, conveniently, enjoyably - with local destinations. We explored what that could look like in the neighbourhoods of Connaught, Martindale, and Meridian, shaping solutions to the local context.

Road design is an evolving field. It includes best practices as well as creative experimentation to explore how streets could be different to serve changing priorities. NACTO's [Designing Streets for Kids](#) is a great resource that shares best practices and standards. The Netherlands are known for their experiments with road design. But even within those experiments, there are common approaches and tactics to designing safe and active routes for kids.

Definitions



WOONERF

Translates to 'living street' in Dutch, and refers to streets as public spaces for socializing, play and travel. People walking and wheeling have priority, while vehicles are guests in the space. All modes operate at low speeds.



COMPLETE STREET

A street built to accommodate - and typically separate - all modes of travel. This might include sidewalks, bike lanes, vehicle lanes, and bus lanes. Complete Streets include space for a variety of activities like sitting, playing, restaurant patios, street vendors, and performers.

ACTIVE TRAVEL NETWORKS

Design Considerations



Embrace Trees

When we asked kids what kinds of streets they preferred - what felt safe, inviting - one thing was consistent: they liked trees. Research tells us they're onto something. Trees and woodlands also:

- Improve child mental health and cognitive development
- Clean the air of pollutants
- Absorb carbon
- Cool the air / manage heat waves
- Mitigate flooding
- Filter water
- May improve gut health



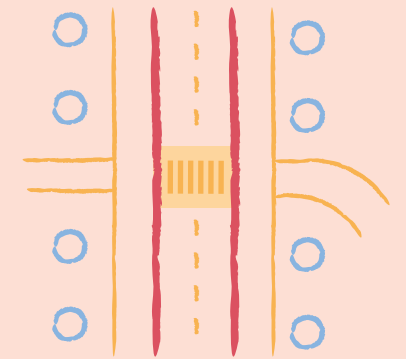
Rules of Thumb

Use road design to:

- make people visible
- make drivers a bit uncomfortable to encourage slow speeds
- separate kids from traffic

Make active transportation routes:

- safe, interesting, comfortable, convenient, and playful
- more efficient than driving
- green with trees, gardens, bioswales, and rain gardens



Types of Infrastructure

Design guides are full of infrastructure changes - temporary and permanent - that give kids freedom of movement. We focused on permanent changes that fall into the following categories:

- Off-street pathways
- Woonerfs, or 'Living Streets'
- Complete Streets
- Intersection treatments that prioritize and protect kids

Connaught

Neighbourhood Active Travel Networks (or NATN) make walking or wheeling an option for all types of errands and commutes, and for students, these networks make getting to school a breeze.

Connaught school is located downtown, next to apartments, offices, restaurants and coffee shops. The neighbourhood has good transit and a growing network of active transportation infrastructure, but wide roads and distant crosswalks make play and travel unsafe for kids.

The kids at Connaught told us they wanted to turn their street into a community play space, visit the local ice cream shops on their own and see more trees in their neighbourhood. Combining Complete Streets, green spaces, woonerfs and car-free areas, Connaught's NATN transforms the community into a place for everyone. A long "green finger park" transforms a paved rail corridor into meandering paths and brings new ways to play and commute, like skiing and skating, to downtown. Commercial and Main Streets become Complete Streets that add community life with dedicated space for walking, biking and lingering. Commercial squares create outdoor space for shops, dining, events, plants, socialising and play.

Trees and plants in green woonerfs running east-west provide drainage and address the heat island effect. These shaded, low-speed streets connect to local shops, parks, and pools, allowing kids to travel seamlessly from school to the rest of the community.

Connaught's school street - 13th Avenue - is shown on page 16 as a playful green woonerf. The kids imagined colourful sidewalks that would bring fun to warm days and brightness to white winters. Puffy cloud shapes create shade from sun and cover on rainy days. The street is transformed into a place for play and exploration, giving kids joy and freedom of movement.



Definitions

COMMERCIAL STREET

Complete Street lined with businesses, with room for outdoor activities, greenery and public furniture. Often a major travel route through the community.

MAIN STREET

Local destination for events, dining and shopping with vibrant public life: outdoor dining, socializing, concerts, events, or commerce. Designed as a Complete Street with room for patios, greenery, and street furniture.



GREEN WOONERF IN SUMMER, CONNAUGHT SCHOOL (CONNAUGHT)



GREEN WOONERF IN WINTER, CONNAUGHT SCHOOL (CONNAUGHT)

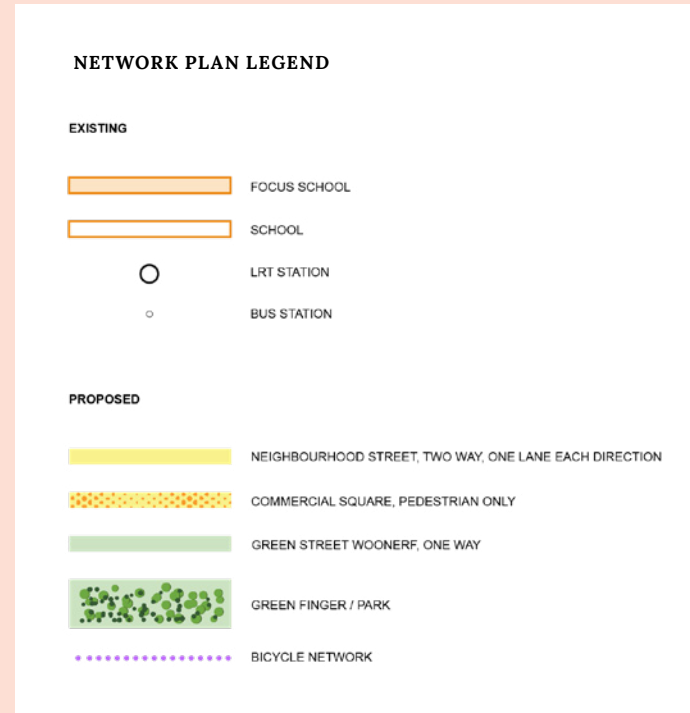


Martindale

Neighbourhood Active Travel Networks (NATN) give kids safe routes to school, home, and everywhere in between. In suburban Martindale, safe active transportation routes are hard to find and kid friendly places are few and far between. The kids we spoke to wanted to redesign their school field and make their street, Martindale Boulevard, safer - while adding lots of colour! This NATN honours their ideas and creates space for them in their own community.

In Martindale's NATN, green woonerfs connect to parks, school, and shops, making new routes efficient, beautiful and fun. An Active and Green Park transforms open school fields into vibrant places that the whole community can use for events, sports, play, and picnics. Martindale Boulevard - the neighbourhood's main street and the only way in and out of the community - is transformed into a Complete Street that loops through the neighbourhood with wide colourful sidewalks and spaces for walking, play, transit, cars and bikes. With shortcuts and dedicated space for people travelling at different speeds, active routes become more efficient and enjoyable. New routes branch off the Boulevard and lead to favourite places like the local convenience store, where a pedestrian only area (Commercial Square) gives kids a place to hang out and linger.

The Boulevard's redesign on page 20 reflects the residential nature of the neighbourhood - the street becomes the community's "living room" and gathering space, with couch-like benches, street "lamps", and tiny houses as bus stops. This redesign means kids are not bound to their home, school, or playground. They become visible, known, and welcome members of their community.



Definitions

NEIGHBOURHOOD STREET

Residential Complete Street with space for transit, people walking and biking, public furniture and greenery.

ACTIVE AND GREEN PARK

An open field becomes a vibrant space for sport, play, rest and connection. Trees, plants and places to sit and eat make it welcoming for the entire community.



COMPLETE STREET, ECOLE LA MOSAIQUE (MARTINDALE)



RAILS TO TRAILS, CALGARY ISLAMIC OBK (MERIDIAN)

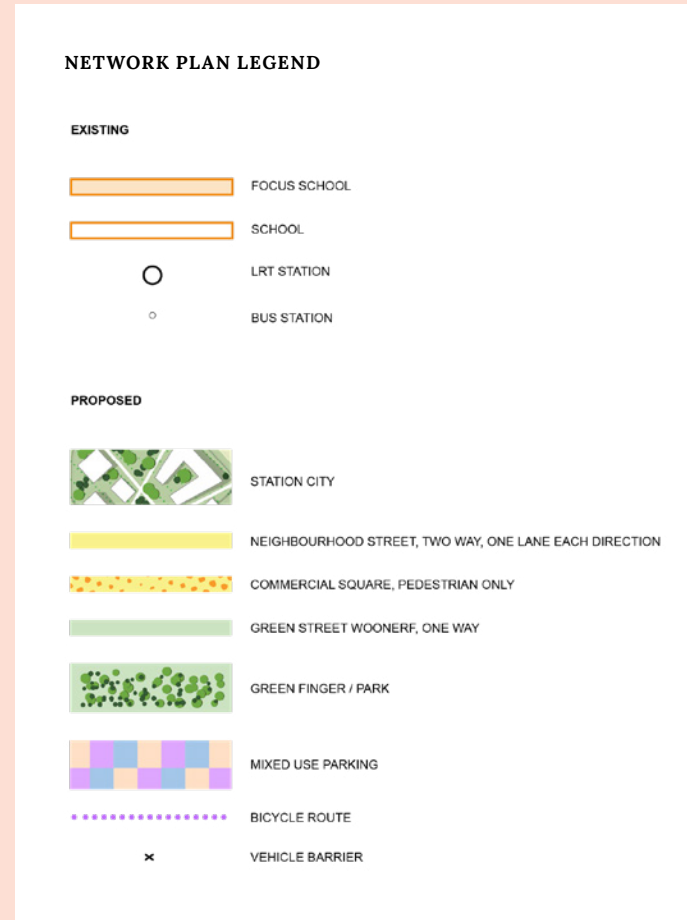


Meridian

Meridian is a unique community, home to industrial operations and community organisations. Many Calgarians work in the area and every school day, students from OBK make their way to the neighbourhood. Despite being on the LRT line, ¾ of OBK students are driven to school because of the wide streets, industrial traffic, and missing sidewalks. The kids at OBK wanted to make their school space safe for play and welcoming to every Calgarian that spends time in the area.

The Meridian Neighbourhood Active Travel Network (NATN) makes space for people. It separates industrial traffic from community life using vehicle barriers. Bike lanes and green space connect Franklin LRT station with the school, local organisations and businesses. Parking lots around the transit hub become “Station City” - a commercial area that makes better use of high-value land, while adding convenience, greenery, comfort and greater safety through “eyes on the street”. Mixed use parking transforms the car-only area outside OBK into an area for play and events. Commercial Squares take over unused paved space throughout the community, letting activities spill out into the neighbourhood. Neighbourhood Streets address missing sidewalks and create fun and efficient routes around the community.

Unused rail lines behind OBK are transformed from “rails to trails” (page 21), providing a fully separated pathway and a place for play that connects the school to transit stops, parks, and commercial areas. Play structures sit alongside adult exercise equipment, and trees and gardens add greenery, food and shade. The industrial nature of the neighbourhood is kept in this design - tires and pipes create places to play and industrial paving stones allow water filtration and greenery.



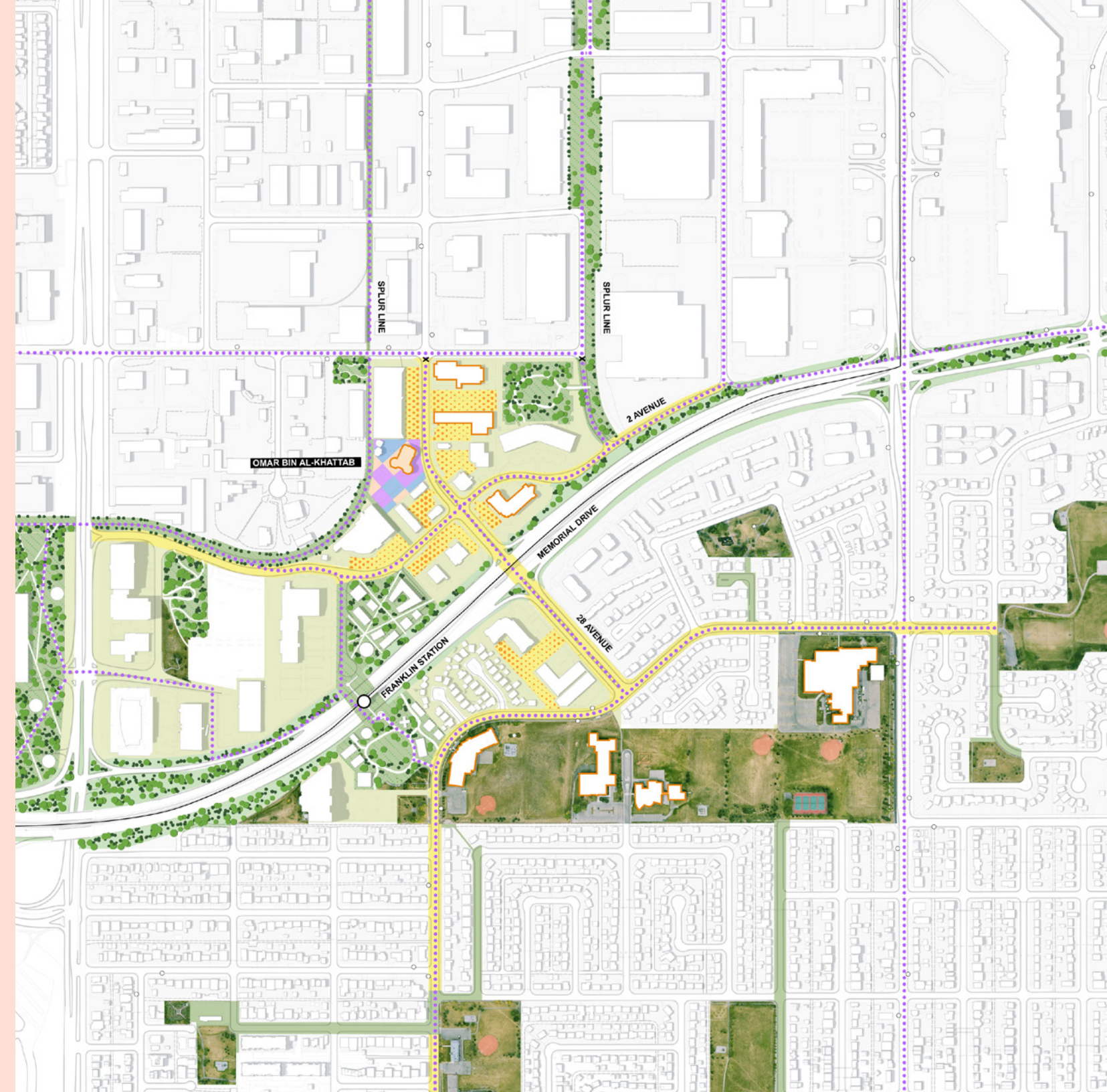
Definitions

GREEN WOONERF

A woonerf that addresses stormwater and ecological connectivity with green infrastructure like permeable paving, bioswales and trees.

STATION CITY

LRT parking lot transformed into a commercial area, making the station convenient, comfortable and safer through “eyes on the street”.



Next Steps

Government

Develop a collaborative Safe and Active Routes to Schools initiative with school boards and multiple levels of government.

Review municipal and provincial road design policy to support safe, active, green and zero-carbon routes to school. Policy should reflect best practices from NACTO Street Design Guides and contain strategies like street narrowing, street re-designation, Complete Streets, woonerfs or shared streets, raised and narrowed crosswalks and intersections, protective intersections and street greening.

Budget for School Streets and new infrastructure along school routes.

Divert funds from highway expansions, so budgets reduce our carbon footprint overall.

Schools & School Boards

Call for provincial and municipal infrastructure investment. Partner on pilot programs to retrofit priority routes.

Propose a School Streets program in your school or school board.

Expand Safe and Active Routes to Schools programs.

Propose a Walking or Biking School Bus initiative.

Host information about active travel options and programming for parents on school websites.

Develop an active transportation curriculum. Connect students with their local community to discuss priorities and codesign safe routes to school.

Citizens

Contact your local Councillor, Member of the Legislative Assembly, School Board Trustee and Neighbourhood Partnership Coordinator to ask for road design and programming - like walking school buses and School Streets - that get kids actively and safely to school. Ask for supporting budgets.

Get involved in your Local Area Plan, and ask for Safe and Active Routes to Schools.

Host a community conversation about Safe and Active Routes to Schools. Share your thoughts with your Councillor.

Reimagine your local Catwalks! Check out the Reimagine Catwalks Playbook and do some scheming with your neighbours. Let your local Councillor know you would like meaningful upgrades to local shortcuts, catwalks and mews.

Ask for a Play or School Street near you!

More information and resources at sustainablecalgary.org

NEXT STEPS

Additional Initiatives & Resources

Across Canada and the world, communities are exploring what they can do to support active school travel. Here are just a few of those initiatives and resources.

WALKING SCHOOL BUS

Simply a group of kids, led by an adult, walking to school together. A walking school bus takes a scheduled route with scheduled stops, picking up school children along the way. This transportation makes school streets safer, school air cleaner, and kids more active.

Resources: [Step by Step: How to start a walking school bus](#) and [Organizing Bike Trains](#), *Safe Routes to School National Partnership*; [Walking and Wheeling Buddies](#), *Ever Active Schools* and *SHAPE*

NACTO - DESIGNING STREETS FOR KIDS

Designing Streets for Kids looks at what cities around the world have done to make their streets “safe, enjoyable, and inspirational for children and caregivers”. The guide includes design recommendations and case studies of streets made for children of all ages and abilities.

Resources: [Designing Streets for Kids](#), *NACTO*

SCHOOL STREETS

School Streets close roads temporarily to cars and open them to school staff, children, and their families from Monday - Friday at the start and end of the school day. School Streets create a safe environment for kids to walk or bike to school and improves the air quality in and around the school.

Resources: [A short guide for good school streets and play streets](#), *Centre d'écologie urbaine*

PLAY STREETS

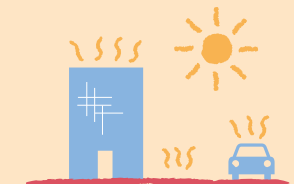
A Play Street closes a low-traffic road for a couple of hours a day to let children play freely. This “closure” is really an opening - transforming a road into a place for physical activity and social connection. Opening streets for play in areas where there is little access to green space creates opportunities for children to exist and explore, safely and independently.

Resources: [A short guide for good school streets and play streets](#), [Review of inspiring Case Studies: Play Streets and School Streets](#), and [Fostering Free Play](#), *Centre d'écologie urbaine*

BARCELONA SUPERBLOCKS

The Barcelona Superblock model reclaims streets for people, lets them drive less, reduces the heat-island effect, and improves quality of life. Each Superblock consists of nine square blocks that permit local traffic, turning what were previously car-only areas into vibrant public spaces. Traffic calming like speed bumps, chicanes, traffic circles and raised crossings make streets into places for kids - safe for play and independent travel.

Definition



HEAT ISLAND

An urban area that gets hotter than the area around it. Roads, buildings, and parking lots absorb and radiate heat more than natural features like trees, vegetation, and water bodies.

ABOUT THE PROJECT

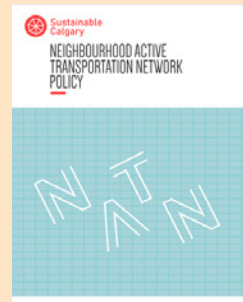
Sustainable Calgary works at the intersection of public health, equity, active transportation and urban design. We work with citizens and decision makers to create research and engage in conversation to make Calgary a healthier, happier, more sustainable city.

Ever Active Schools is a national charity that invests in healthy futures for every child. We work together with communities to create healthy futures for children and youth through well-being and education.

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Visit us at sustainablecalgary.org for more resources on city design, active travel and public health!



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Let's help kids hit the streets

GET CREATIVE, GET INVOLVED!





Sustainable
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Ever
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