



Moving Calgary towards a sustainable future.

Celebrating 20 years of citizen-engaged research and action!

Our work at Sustainable Calgary grows out of needs identified in our [State of our City](#) reports. Inspired by those findings, we collaborate on national programs including the [Active Neighbourhoods Canada](#) and the [Housing Transportation Food Nexus Fund](#).



2/3

of household
greenhouse gas
emissions in Canada
come from personal
transportation.

1/10th

A commuting cyclist has
1/10th the environmental
footprint of someone who
drives to work

Trends on the rise

- ↑ Greenhouse gases
 - ↑ Global temperatures
 - ↑ Car ownership
-

14,400

premature deaths per
year are linked to air
pollution in Canada

3.6 million

motorized vehicles
in Alberta

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

274 megatonnes

Alberta's greenhouse
gas emissions in 2015



Physically active children have **better academic achievement** and concentration.



4-5 times the risk of hospitalization for seniors experiencing isolation.



48 km of cycling per week can reduce the risk of heart disease by **46%**.



1 billion hours of volunteer time are contributed by seniors annually. Without access to their city and community, seniors cannot make these contributions.

\$10 billion is the estimated cost of inactivity annually.

In Canada:

8.4 hours engaged in sedentary behaviour among children and youth, on average.

D+ on physical activity among children and youth (ParticipACTION Report Card on Physical Activity for Children and Youth).



3 times increase in obesity rates in less than **30 years** (1985-2011).

\$2.3-\$3.7 billion

Congestion cost to the 9 largest Canadian municipalities in 2006

\$2 billion

lost to San Francisco businesses annually through employees stuck in traffic

\$255

Average money spent by cycling tourists in Alberta, according to the Ministry of Tourism, Culture, and Sport (2018). That's \$84 more than the \$255 per trip average visitor's at \$171.

\$700- \$3000

U.S. dollar increase in home values alongside a 1 point increase in WalkScore™.

WHY HEALTHY PLACES? The economy

In 2018, the City of Calgary set aside \$5.5 million for active transportation in the Barley Belt, home to the city's booming beer industry. This funding has wide ranging benefits. For example, there is evidence that a thriving beer culture brings economic benefits. Breweries in the state of Maine added \$228 million to the state's economy and employed more than 1,600 people. The community of Manchester, where the Barley Belt is located, is underserved when it comes to quality pedestrian infrastructure. Funding in Manchester to improve pedestrian and cycling infrastructure will make the community safer, encourage physical activity, and offer more transportation options. Commercial districts also benefit from great pedestrian





PEDESTRIAN COLLISIONS ARE AN ISSUE OF EQUITY: STREETS IN LOWER-INCOME AREAS MORE DANGEROUS FOR PEDESTRIANS

APRIL | 25 | 2019

Apart from economic and environmental benefits, neighbourhoods and their residents experience many health benefits from walking and cycling. These benefits include the prevention of cardiovascular diseases, obesity, and mental health issues ([Ahmed et al., 2018](#); [McCormack & Shiell, 2011](#); [Pucher & Dijkstra, 2003](#)). Factors such as land use, connectivity, population density, and overall neighbourhood design ([McCormack & Shiell, 2011](#)) are associated with higher levels of walking and cycling. When these are not considered in the design of the neighbourhood, it not only discourages residents from walking and cycling, but may also lead to an increase in collisions.

Collisions an important indicator of how safe a neighbourhood is for walking

According to the 2018 Road Safety Report on Canada, road fatalities in the country increased by 2% in 2016 from 2015, with the largest increase being in deaths of people walking or cycling (21% and 7% respectively). Conversely, from 2015 to 2016, motor vehicle occupants actually experienced a decrease in road fatalities by 4% ([OECD, 2018](#)). In other words, our roads are becoming safer for car occupants but more dangerous for pedestrians and cyclists.

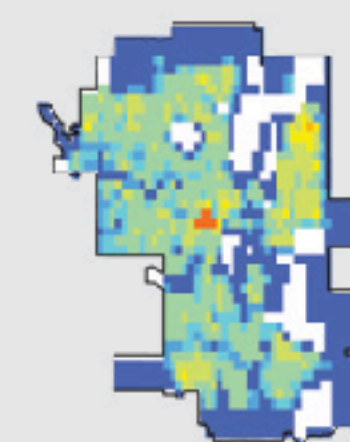
“Patchy” Density

Research by V. Fast and J. Guo, 2018

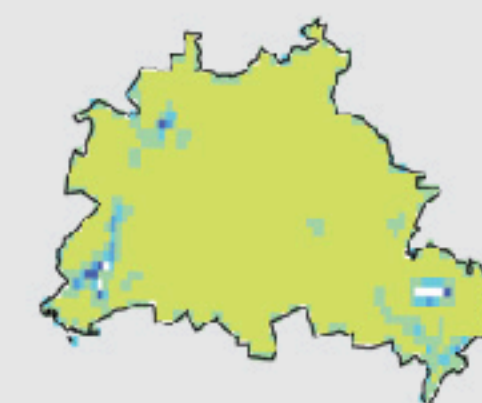
Urban Form — A case study of Calgary

“Patchiness” in Calgary’s density makes public services and utilities more expensive, and doesn’t promote active transportation, but the updated Municipal Government Act provides an incentive to start filling the gaps.

NUMBER OF INHABITANTS PER KM²



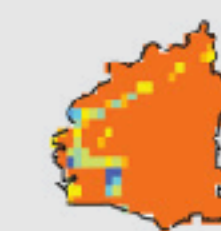
Calgary



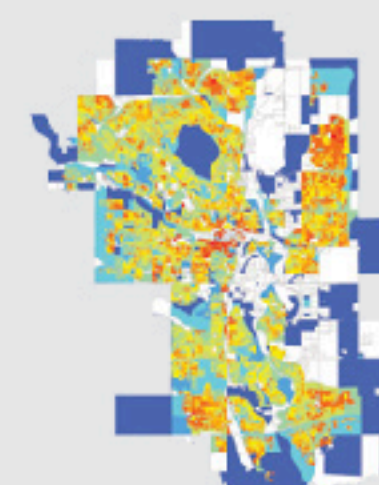
Berlin, Germany



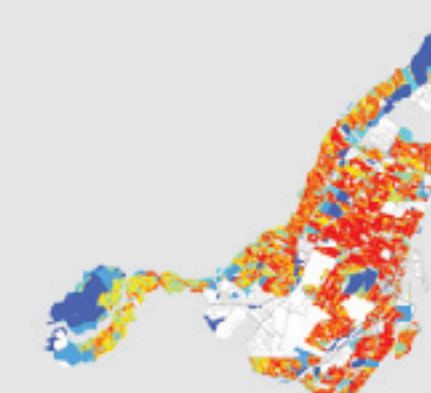
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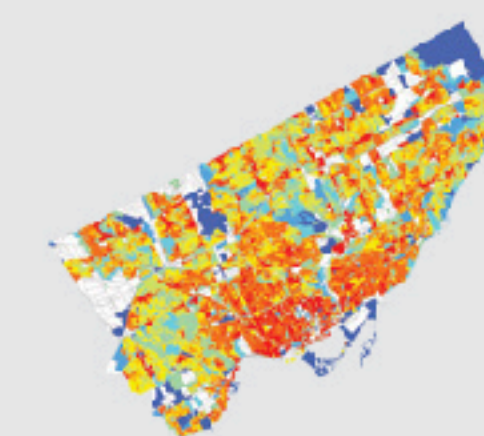
Osaka, Japan



Calgary



Montreal



Toronto



Vancouver

How can we design healthy places in Alberta? New research suggests we can begin by filling in low-density areas in our cities and communities.

Federal and municipal projects have already done this by developing decommissioned military bases or land previously considered undevelopable: East Village, Garrison Woods, the Bridges and Village at Giesbrach. Recent changes to the province’s Municipal Government Act (MGA) make this kind of development more attractive, by providing tax breaks for “brownfield” re-development.

These maps show that Calgary has unevenly distributed density compared to other Canadian cities, and even more so when compared to Madrid, Berlin and Osaka. This isn’t the most financially efficient use of land when it comes to services and infrastructure. It also does not promote healthy behaviours, which improve with increased density and increased access to transportation options. A population density of 1160 people/km is correlated with less driving.

SOURCE: GUO, J. AND FAST, V., 2018.

*"I love the Farmers' Market,
it has changed my lifestyle.
Many other seniors do too."*

People will walk if there are destinations to walk to and great pathways to get them there.

We've heard from experts and non-experts that what makes a healthy place will vary based on the context of the place itself. Asking who are we designing for? Urban or rural? What budget do we have?

We do know that some aspects of the built environment lend themselves to more physical activity and liveable communities. "Generally, areas with higher population density, a mix of residential, commercial, educational and employment areas, connected streets, good access to destinations, bike paths, good sidewalks, good public transit, green spaces and attractiveness have been linked to more active transportation or reduced driving (Tam, 2017)." Low-density development,

Association of City Transportation Officials (NACTO) and Complete Streets design guidelines. In Alberta, we have Alberta Health Services' WalkABLE program, which engaged communities to create healthy urban and rural environments. We can learn from Edmonton's Winter City Guidelines, Calgary's StepForward Pedestrian Strategy, Safer Calgary's "Safe and Smooth" program – and more.

In the following pages, we share what healthy places could look like based on our research and co-design experiences. These designs reflect community priorities. They respond to the needs of seniors, children and new Canadians; they address local economic development and tourism, traffic safety, public health, transit

What Encourages Active Transportation?

Quotes from residents

Density

Public transit stop nearby

Dedicated infrastructure for walking and cycling

"The road is wide enough for cycling but cars go by at high speeds. I still use the sidewalk when I'm with my son."

Connected streets

Attractive spaces

Nearby amenities

Green spaces

"The railway is a barrier."

Feelings of safety

Public art and cultural spaces

A door every 6 metres increases walkability – particularly in commercial districts. This can have a positive impact on local business, because it means smaller and more commercial bays – which are more affordable for small business. How

"If we created access to the new car dealership across the nearby highway, it would create walk-to-work opportunities for us."

Affordable recreational

WHAT DOES A HEALTHY COMMUNITY LOOK LIKE?

Public and active transportation system:
efficient, accessible, and safe.



WHAT DOES A HEALTHY COMMUNITY LOOK LIKE?

Mixed-use development: brings together workplaces, schools, essential services, and stores in the same neighbourhood.





















DESIGN FOR THE EPHEMERAL: RE- INVENTING THE PARKING LOT

caboodle

OPEN TO ALL, DEDICATED TO NONE

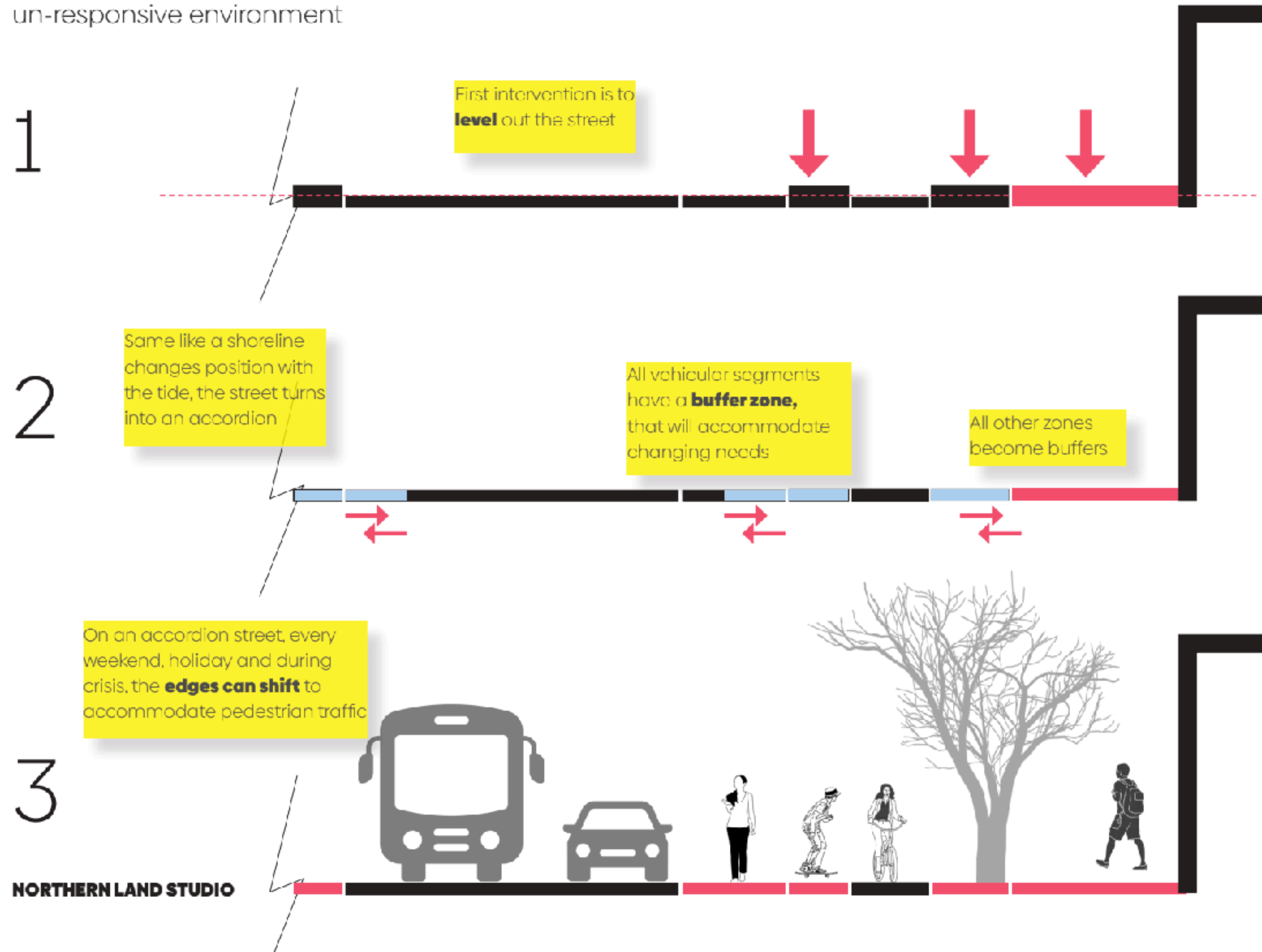
A concept by Juliana Morar (Northern Land Studio) and Celia R Lee (Sustainable Calgary)



MANCHESTER: Design Scheme: Manchester, 2-year horizon (by Spectacle Bureau)

The problem is that while our needs are constantly **changing**, the public infrastructure is designed as a **rigid** and un-responsive environment

ACCORDION STREET









b. Detail Plan of Temporary Playful Streetscape



1 Figure 8. Playful Payment ©Hato



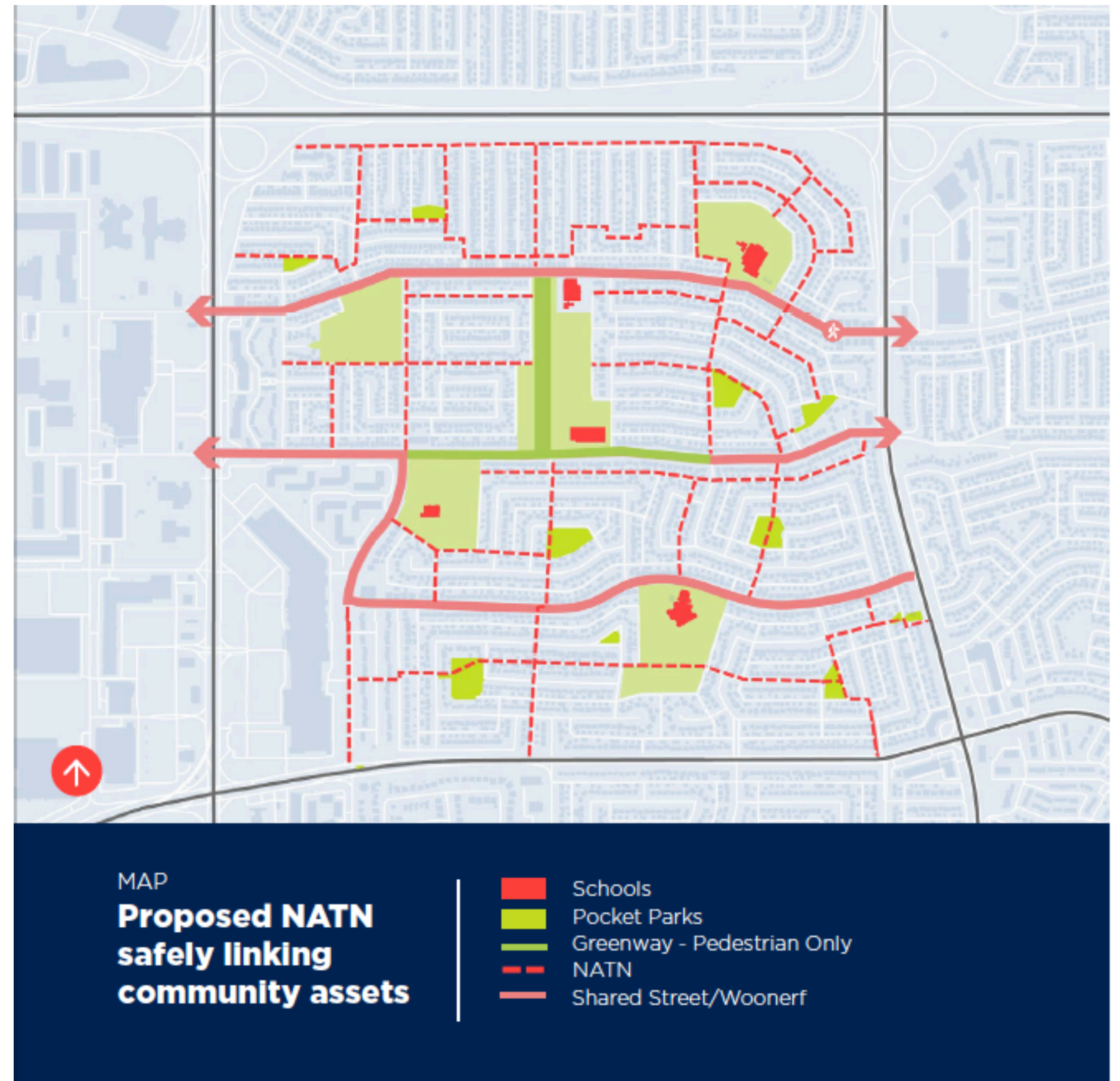
3 Figure 8. Play Street © NACTO-GDCI

Detail plan of 2St SW

Elevating the Importance of Pedestrians Through Neighbourhood Active Transportation Networks



Pedestrian collisions are preventable, yet human safety continues to be threatened in favour of efficiency. Transportation planning in Calgary has long shaped a built environment where the private vehicle is prioritized. Reimagining the way road safety is approached relies on inverting the current method to instead elevate the importance of pedestrians by creating residential networks that are connected to destinations.





Fund bike loops or Neighbourhood Active Transportation Networks locally. (Loopy and the Six Parks, for Anderson-Heritage)



LEGEND

■	Parks and Open Space
■	Residential
■	Industrial
■	Commercial
■	Institutional

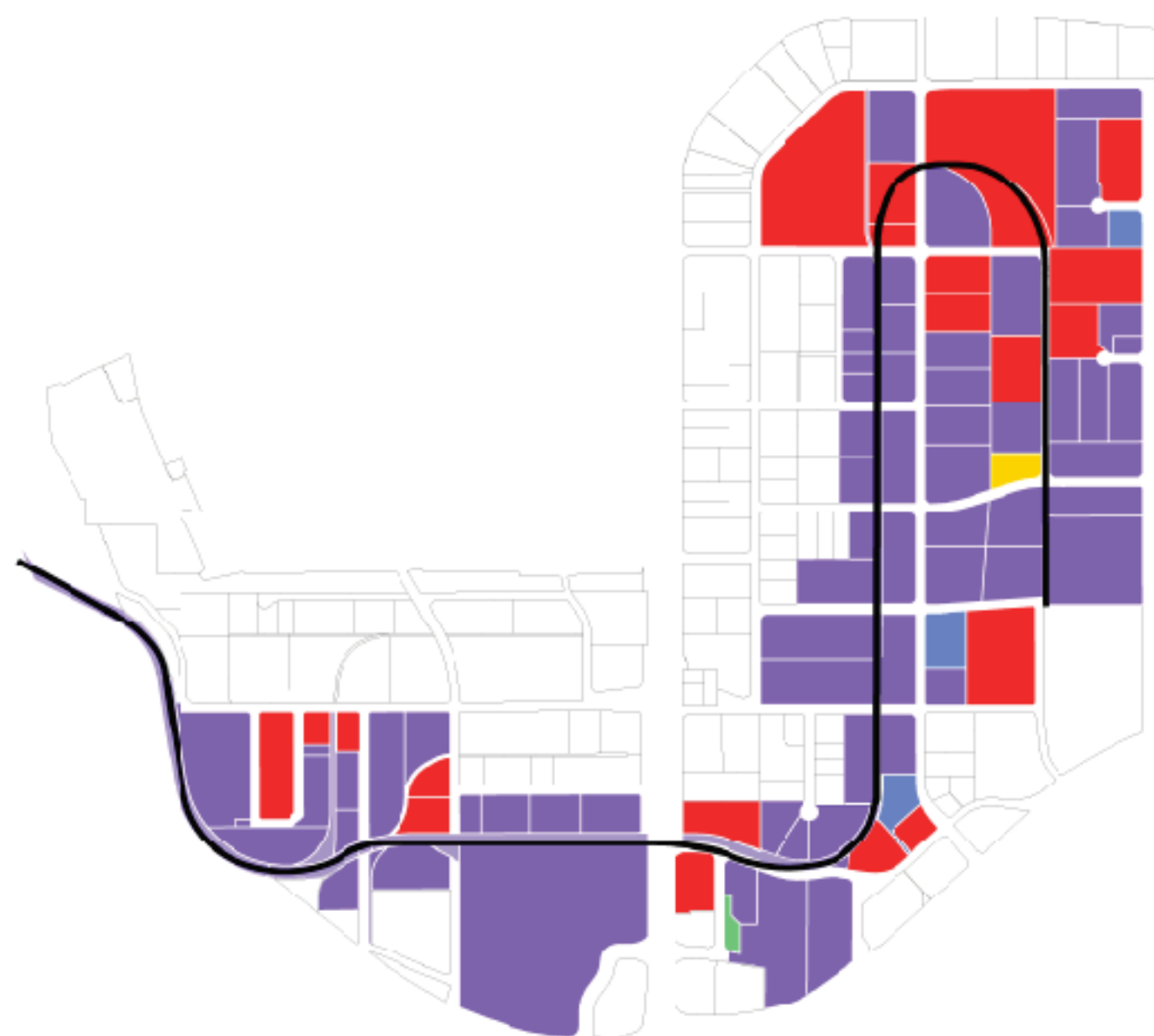


Fig. Conceptual landuse map along the Spur Line

In the context of fast urbanization, evidence of global warming and a better understanding of urban planning, single-use zoning are no longer an option. Leading to urban sprawl, neighbourhood segmentation and longer commuting times, single-use zoning must be re-imagined for vibrant multi-use environments, where residents can live, work, shop and recreate within a walking distance.

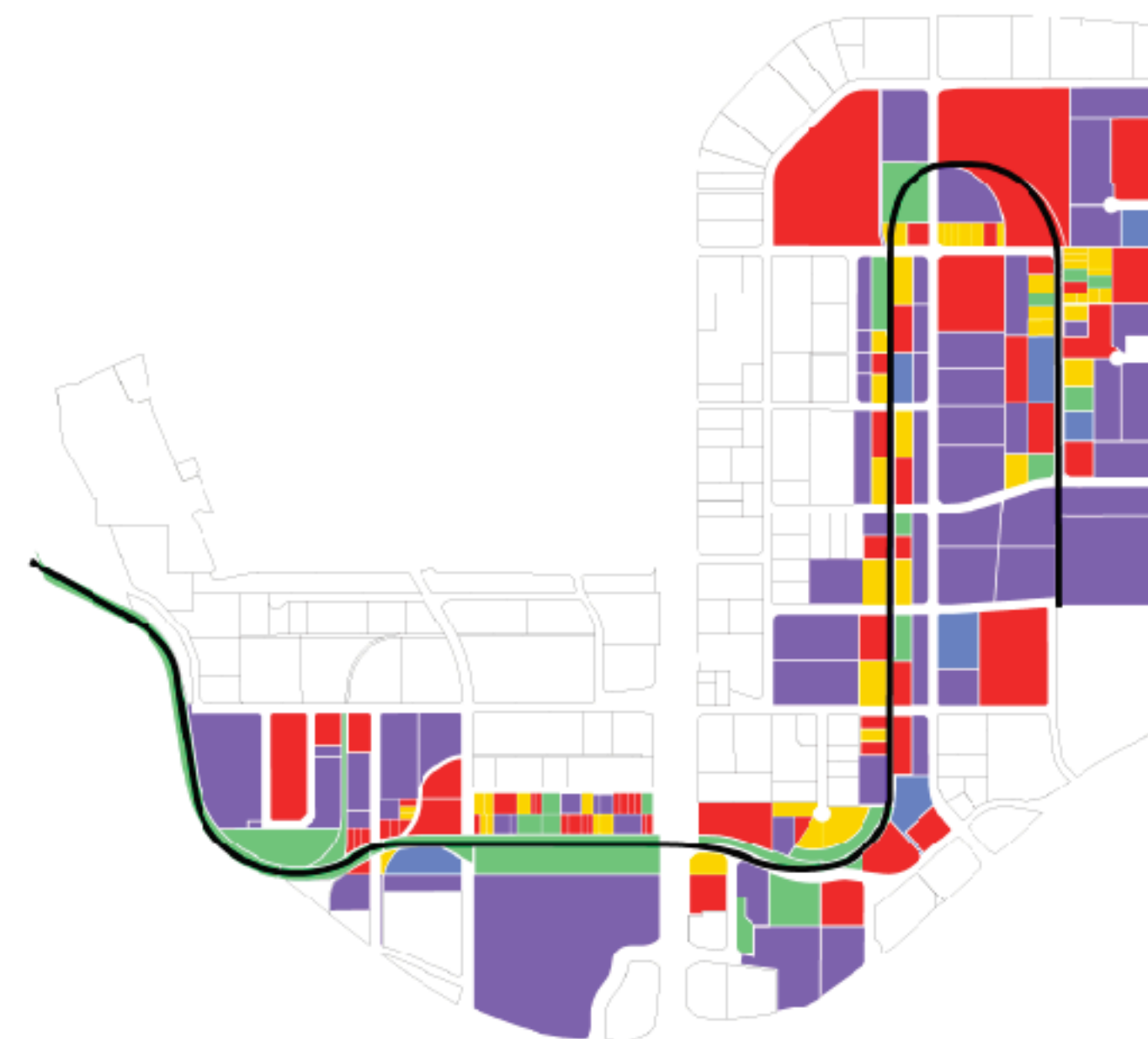
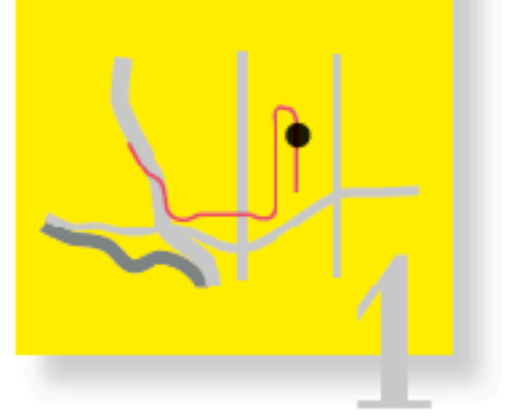


Fig. Conceptual vision for a mixed-use landuse map along the Spur Line

Acting as an agent of change, the Spur Line becomes a multi-modal active transportation corridor, bridging the multi-cultural SE Calgary community to the rest of the City. With multi-family housing, triple-use buildings, ample green spaces and vibrant public realms lining the Spur Line, the area increases density, widens diversity, facilitates active living all while improving connectivity across the Deerfoot divide.

Gateway



"To strengthen shared identities, we need more opportunities for meaningful interaction across ethnic lines where we work, learn, recreate, and live."

Robert Putnam

Passing through the hearth of the multi-cultural neighbourhood of NE Calgary, development along the Spur Line has the opportunity to be a common ground for diversity. By using cultural identifiers, a sense of belonging can be achieved, stirring feelings of inclusiveness and acceptance.

CULTURAL IDENTIFIERS



Nipa Hut pavilion (Philippines)



Multi-purpose seating and use of color (China)



A multi-purpose, informal seating creates a sense of inclusiveness, allowing people to use the surface as they like.

Food and particularly street food is a powerful catalyst that brings people together.

Color and patterns are among the most powerful cultural identifiers for urban design.





THANK YOU!

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