

A person wearing a black winter jacket, black pants, and a red helmet is riding a bicycle on a wet city street. The street has red and yellow lane markings. In the background, there are cars and a grassy area. The overall scene is in a winter or late autumn setting.

# THERE'S NO SUCH THING AS BAD WEATHER? MAKING ACTIVE TRANSPORTATION VIABLE ALL YEAR LONG

**ASPEN J. PFLANZ**

APA Iowa | Planning on Tap Series  
March 23, 2023



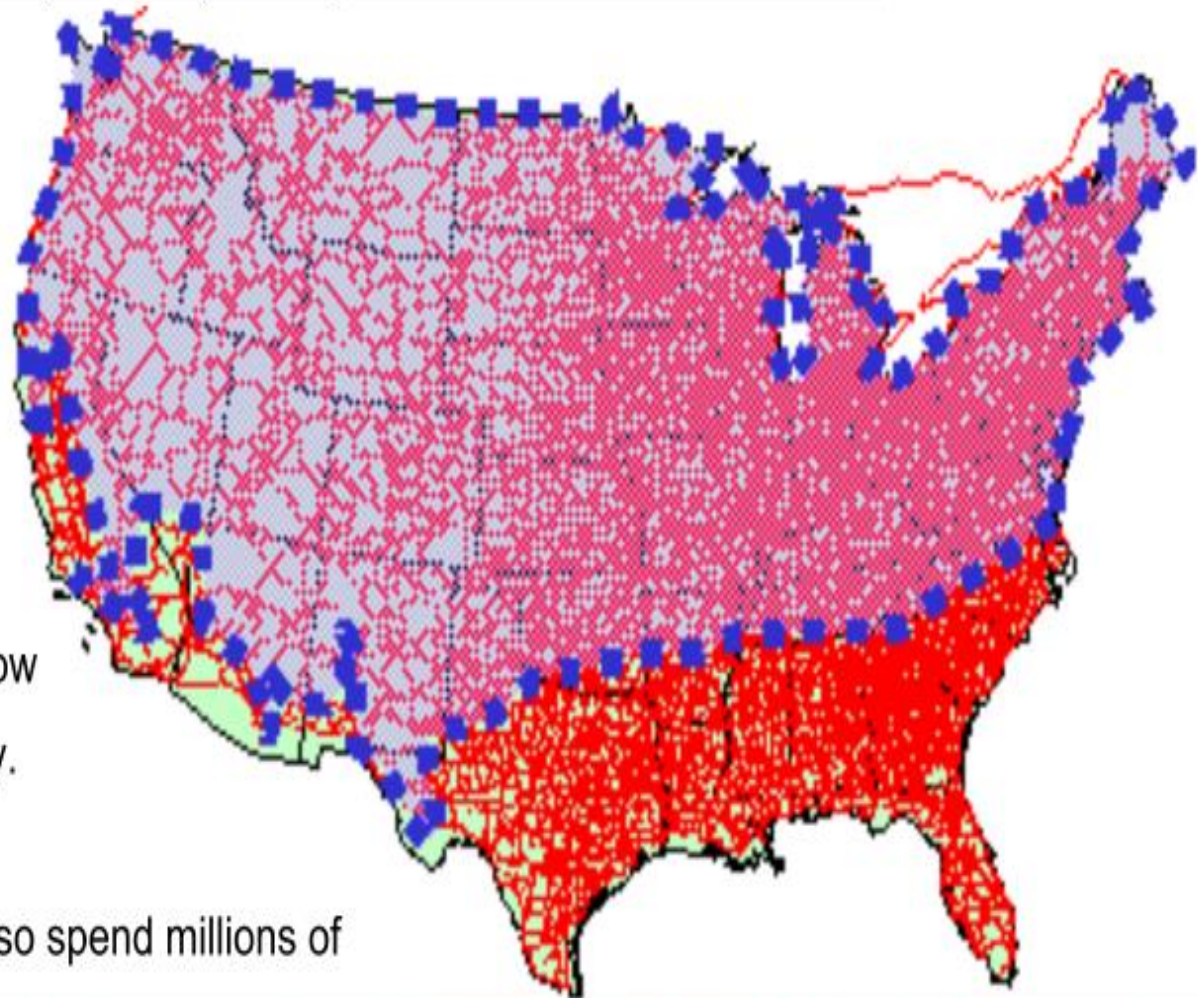
# BAD WEATHER

Over 70 percent of the nation's roads are located in snowy regions, which receive more than five inches (or 13 cm) average snowfall annually.

Nearly 70 percent of the U.S. population lives in these snowy regions.

State and local agencies spend more than 2.3 billion dollars on snow and ice control operations annually.

Each year, these road agencies also spend millions of





# WHAT IS THE ISSUE?

The standard prioritization of vehicles threatens the viability of alternative transportation modes / mode choice, especially in the wintertime.



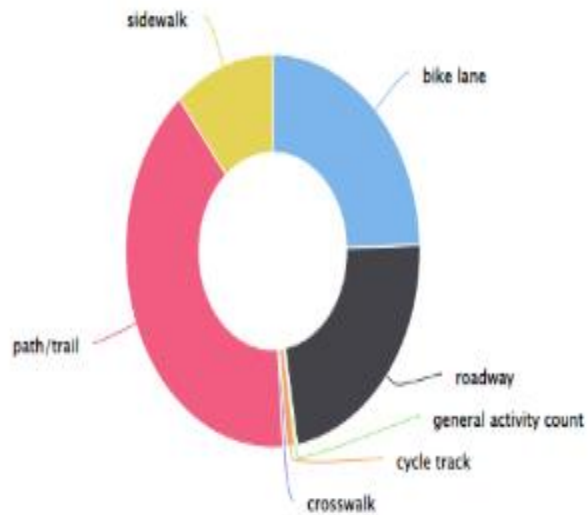
## WHAT ARE THE IMPLICATIONS?

Communities are not able to fully realize their multimodal goals, transportation mode choice is limited, streets are less safe, *whether real or perceived.*

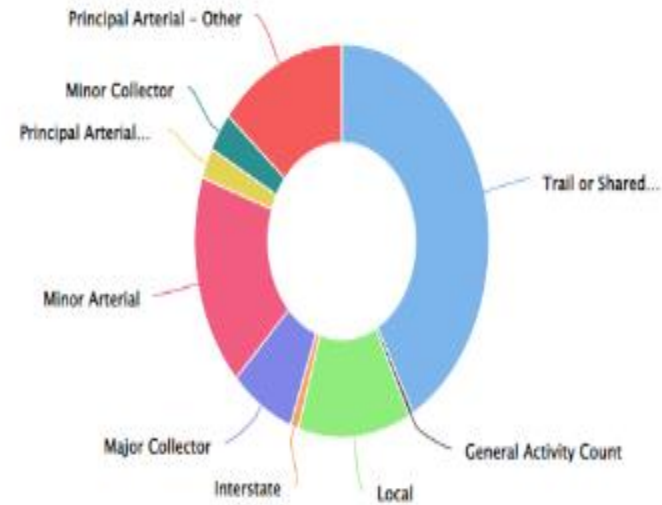
**It is poor planning.**

# DATA

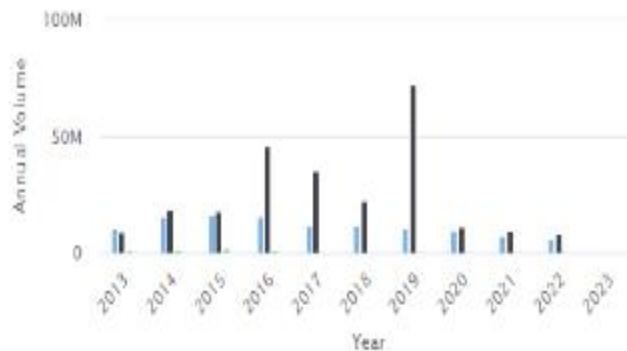
By Facility Type



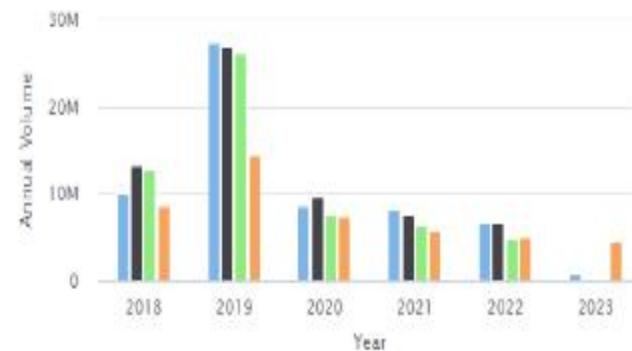
By Functional Classification



Volume per Year by Mode Type



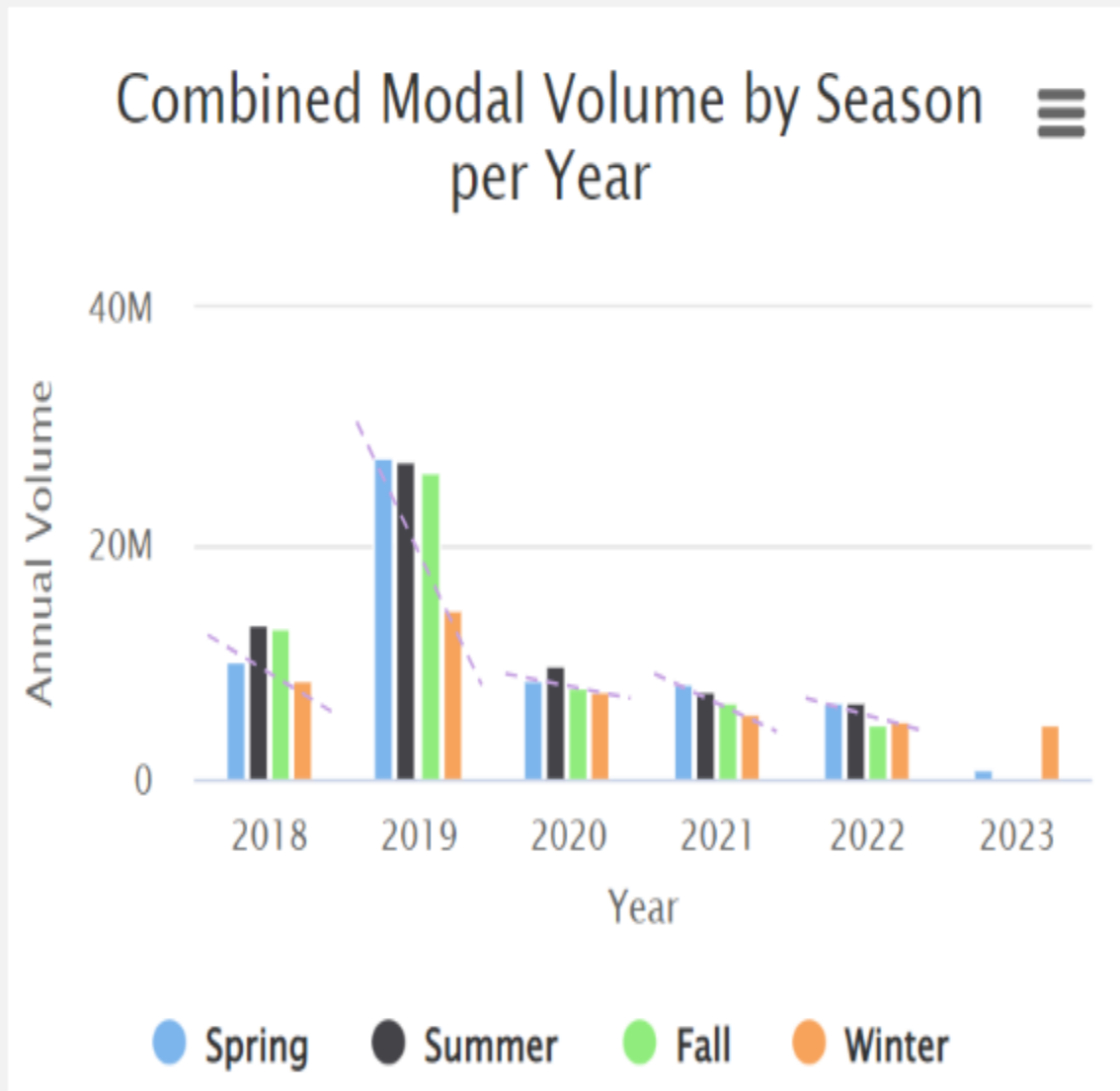
Combined Modal Volume by Season per Year



● bicycle 
 ● pedestrian 
 ● bicycle + pedestrian 
 ● other

● Spring 
 ● Summer 
 ● Fall 
 ● Winter

# DATA



# DATA

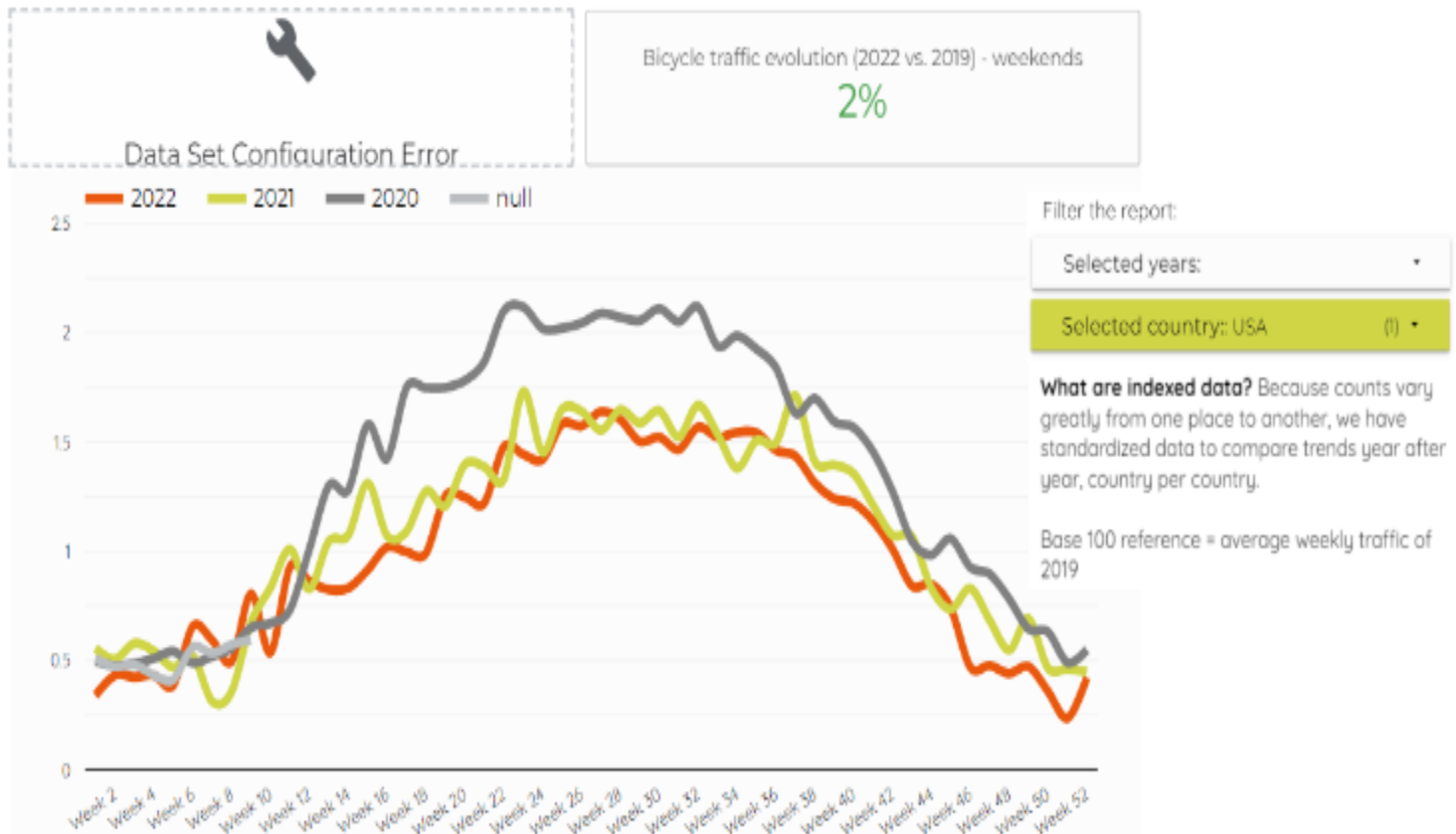


## Bicycle traffic trends per country since 2019

Last update: January 2023

### In Europe and North America

Full year analysis



# WHAT COULD / SHOULD / OUGHT TO BE DONE?

It depends, and it's complicated.



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# HOW ARE OTHER COMMUNITIES RESPONDING?



# HOW ARE OTHER COMMUNITIES RESPONDING?

- Incorporating specific winter considerations into various planning efforts
- Conducting winter maintenance studies for pedestrian and bicycle infrastructure
- Identifying/revising snow removal routes that prioritize pedestrians and bicyclists
- Purchasing/upgrading street maintenance equipment to accommodate non-vehicular travel paths
- Enforcing/updating existing sidewalk and trail snow removal policies
- Collecting data to analyze year-round active transportation usage and monitoring performance
- Designing streets to specifically accommodate snow and ice storage without impeding pedestrian and bicyclist travel
- Installing all-weather transit shelters
- Restricting on-street parking during winter weather events
- Building better street connectivity and reducing block lengths
- Recessing pavement markings
- Incentivizing weather-protected bicycle storage lockers
- Encouraging their residents to stay active in the outdoors during winter months
- Establishing /promoting local winter destinations and events
- Elevating
- Holding their elected officials and city employees accountable

*And much, much more!*

# CASE STUDY: MONTRÉAL, CANADA

Réseau cyclable de la Ville de Montréal - Voies accessibles 4 saisons - 2022-2023



Source: City of Montréal, Canada <https://montreal.ca/sujets/velo-et-pistes-cyclables>



# CASE STUDY: MONTRÉAL, CANADA



# CASE STUDY: MONTRÉAL, CANADA

How?

- Developed a larger bike path network in the city
- Assigned 5 maintenance vehicles to 56 km of dedicated cycle paths, including 2 dedicated to snow removal
- Increased monitoring of the state of the network
- Posted signage around certain cycle paths to ensure compliance with the winter maintenance requirements
- Created maps to exhibit the accessible 4-season bike routes
- Incorporated two city trails into assessable route map to accommodate the comfort all cyclists, regardless of ability or bike type
- Removed bollards on certain protected trails to facilitate access for snow removal machinery
- Prioritized and scheduled snow removal routes that balance space for on-street parking and travel
- Widened traffic lanes on certain streets (typically one-ways) to facilitate snow removal operations and allow access to emergency services at all times
- Provided winter cycling tips to the public

# CASE STUDY: MONTRÉAL, CANADA

The result?

- **Bicycling counts nearly DOUBLED** from 9,000 in January 2022 to more than 17,000 in January 2023 (at the REV Bellechasse at the intersection of Christophe-Colomb Avenue).



Source: City of Montréal, Canada <https://montreal.ca/articles/an-reseau-cyclable-4-saisons-dans-rosemont-la-petite-patrie-9647> and Eco-Counter <https://data.eco-counter.com/ParcPublic/2/id=630>

Photo Credit: Vélo Québec <https://www.velo.qc.ca/en/toolsbits/adapt-your-bike-for-winter/>

**WHAT COULD / SHOULD / OUGHT TO BE DONE?**



**WHAT COULD / SHOULD / OUGHT TO BE DONE?**

**Start where you are with what you have.**

# WHAT COULD / SHOULD / OUGHT TO BE DONE?

## 1. Discuss it.

- Specific considerations detailed in plans, policies, procedures
- Different departments/agencies involved at different levels

## 2. Build it.

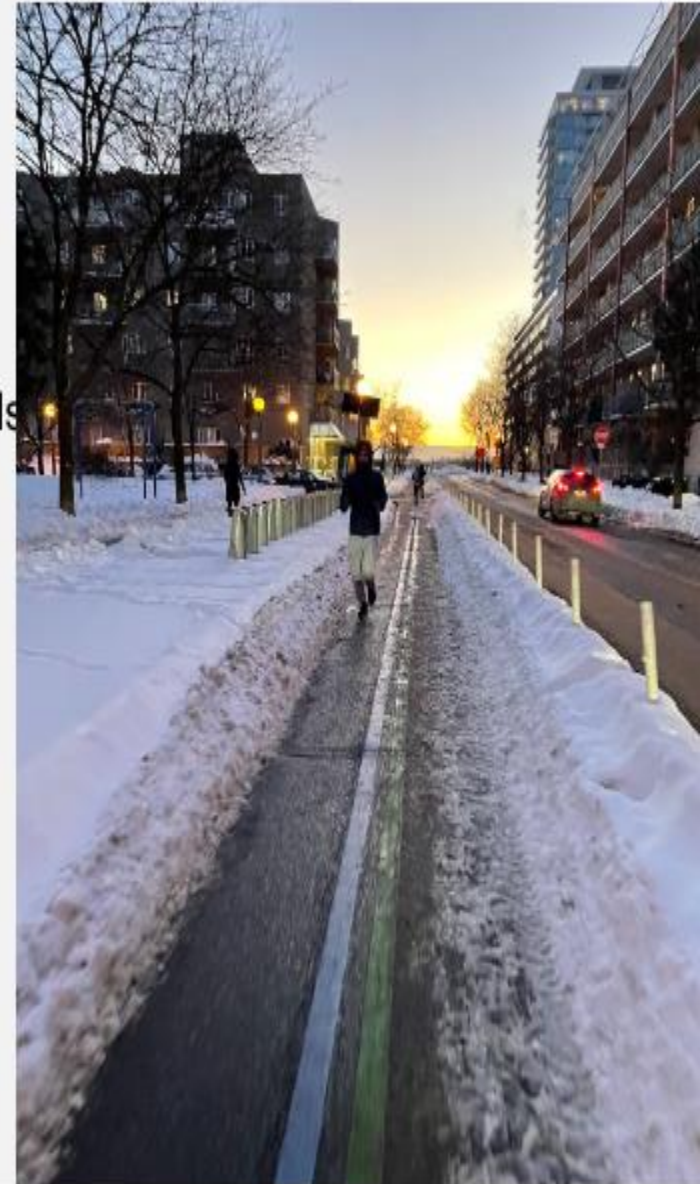
- Network, infrastructure, permanent data collection and monitoring, staff, equipment, priorities
- Maps! Pamphlets! Social media posts! Events!

## 3. Maintain it.

- Does the size of your investment match your priority level?
- Performance evaluation, return on investment, public opinion

## 4. Enjoy it.

- Celebrate successes, build upon them, share your



# RESOURCES



TOOLE DESIGN

RESOURCE GUIDE // 81

## Winter Maintenance



TOOLEDESIGN.COM

December 2019



PERSPECTIVES IN PLANNING

Volume 2, Number 1

## Winter Bike Lane Maintenance: A Review of National and International Best Practices (Updated 2/14)

### SUMMARY

The winter season presents unique challenges for active lifestyle maintenance as snow or ice often impedes the road. The paper reviews winter maintenance best practices across a range of climate conditions and road types, and provides a list of best practices for winter bike lane maintenance. The paper also includes a list of best practices for winter maintenance of other active transportation modes.

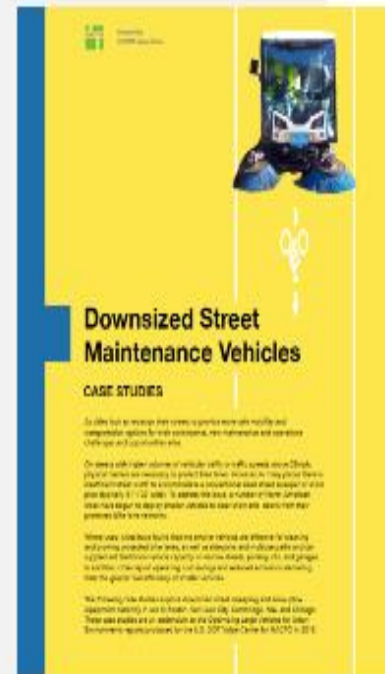
### Introduction

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## Downsized Street Maintenance Vehicles

### CASE STUDIES

The paper reviews the use of downsized street maintenance vehicles in various climate conditions and road types, and provides a list of best practices for downsized street maintenance vehicles.

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## DOCTORAL THESIS

### Urban Design of Winter Cities Winter Season Community & Soft Mobility



David Chapman

Architecture



*Winter Maintenance* – Toole Design, 2019

*Pedestrian and Bicycle Winter Maintenance Study* – City of Minneapolis, 2018

*Winter Bike Lane Maintenance* – Alta Planning + Design, 2014

*Downsized Street Maintenance Vehicles: Case Studies* – U.S. DOT Volpe Center, 2018

*Urban Design of Winter Cities* – David Chapman, 2018



# DONE

*Thank you!9*



What does your city do currently?

What ideas do you have?