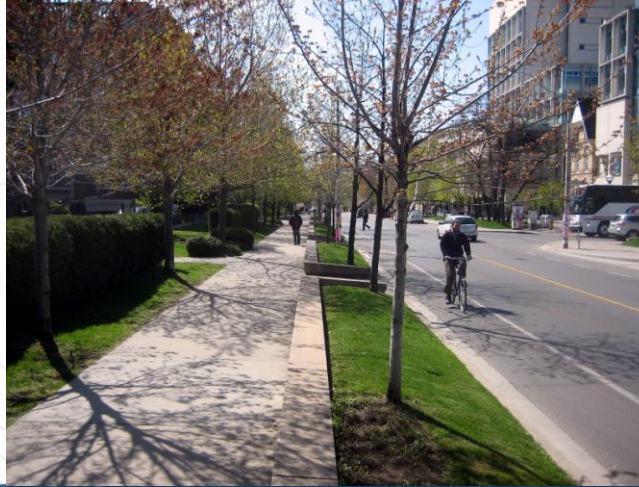




PLANNING A GREAT CITY, **TO**GETHER



CITY PLANNING

# STRATEGIC PLAN 2013 2018

# TORONTO Green Streets



Sheila Boudreau, OALA, OPPI (Prov.)

Urban Design, City Planning

*Federation of Canadian Municipalities  
Sustainable Communities Conference*

*Feb.11, 2015*



@CityPlanTO



[www.toronto.ca/planning](http://www.toronto.ca/planning)





# Toronto **Green Streets:** *Moving from Policy to Practice*

## Green Streets Playbook

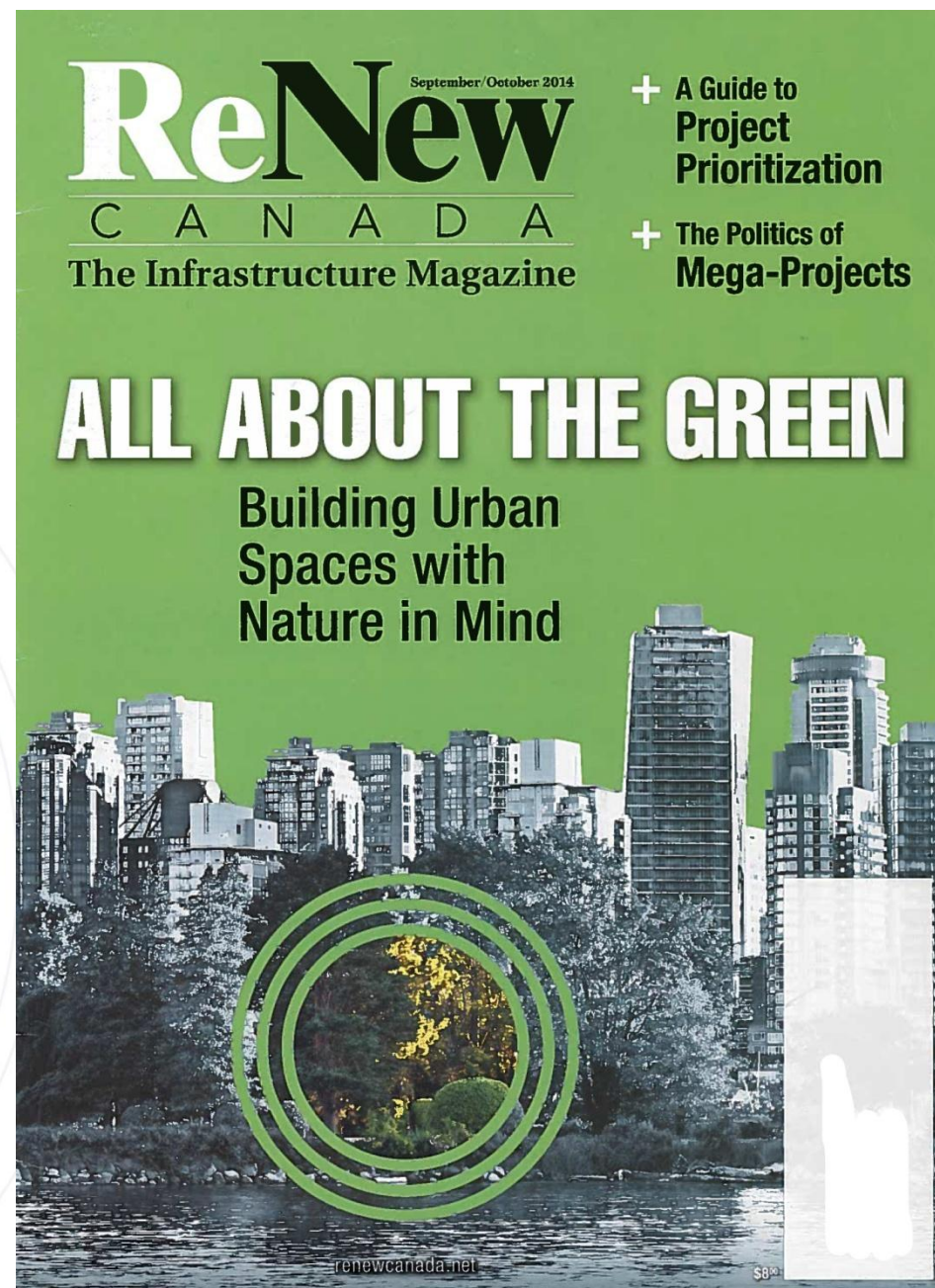




PLANNING A GREAT CITY, **TOGETHER**

# Green Streets Playbook

## Vision





July 8, 2013  
126mm in 3 hours

Toronto flooding gives city a double whammy:

Hum Opinion / Commentary

Aging infrastructure  
How to get ahead of the storm with green infrastructure

As Toronto mops up from its stormy wake-up call, it's time to have a discussion about how to respond to the dark, costly clouds on the horizon.

By: Christie

Compare  
Toronto

But as the  
only is the  
grown he

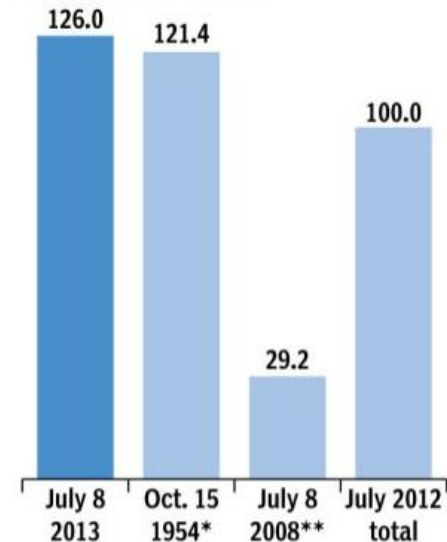
The ostrich  
heads in the  
unproven  
believe.

Facebook Tweet 144 +1 1 reddit this! + save to mystar



## RAINFALL IN TORONTO

IN MILLIMETRES



\*Single day record for rainfall

\*\*Previous record rainfall for July 8

NOTE: All data recorded at Lester B. Pearson International Airport.

SOURCE: ENVIRONMENT CANADA  
JONATHON RIVAIT / NATIONAL POST

GLOBE EDITORIAL

A ditch in time will save cities from floods

The Globe and Mail

Published Tuesday, Jul. 09 2013, 6:39 PM EDT

Last updated Tuesday, Jul. 09 2013, 6:53 PM EDT



the star.com

## COMMENTARY

### What the city can do to improve our health

Easy access to grocery stores and walkable neighbourhoods play a significant role in the health of Torontonians.



Tweet 0



7



reddit this!

+ save to mystar



Tweet



**Shawn Micallef**

@shawnmicallef

General rule.

Where you live in a city defines how healthy you are. Often, we think of health in terms of hospitals and clinics: matters for the province to look after. Yet, **the environment work and play has an enormous impact on our health.**

No level of government has as much power to directly shape these factors as the city. It's a city hall issue and in no area is this more obvious than chronic diseases like heart disease, diabetes and osteoporosis...

Doctors often recommend the "exercise and diet" strategy to prevent and treat diseases. We should apply the same action plan to build and govern our cities.

What if city council took our health into account when designing neighbourhoods? One gaining favour in major cities around the world is **"complete streets,"** a city-planning approach that promotes development of **streets usable by all citizens**, whether they are pedestrians, drivers or transit users.

**Toronto Star, July 25, 2014**

**Danyaal Raza** is a community family physician and serves on the Ontario College of Family Physicians' Poverty & Health Committee.

**Edward Xie** is an emergency physician and lecturer at the University of Toronto.



development of streets for all citizens, whether they are pedestrians, cyclists, drivers or transit users. Many residents and organizations praise the benefits of Toronto's Kensington Market

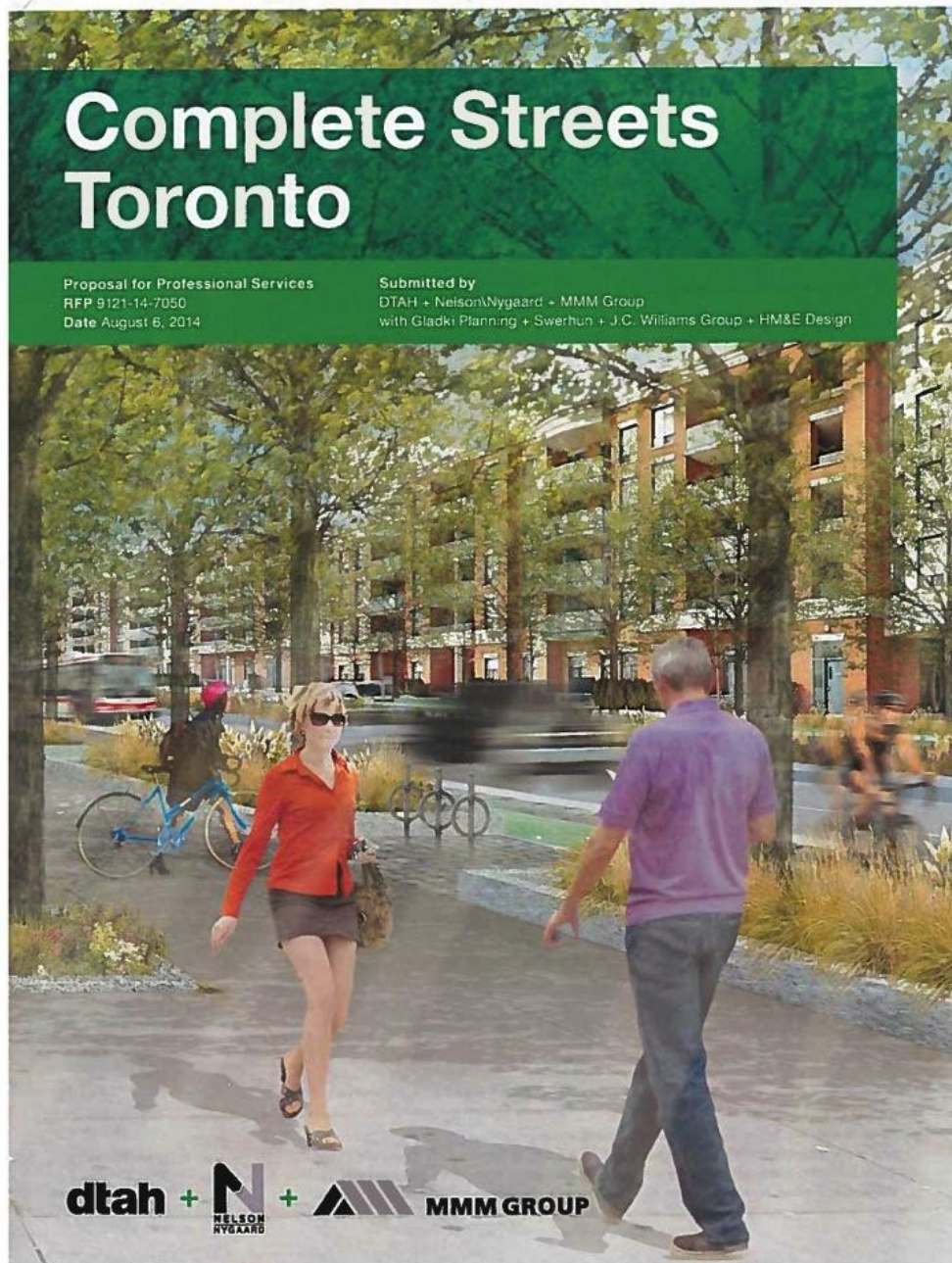


# Complete Streets Toronto

Proposal for Professional Services  
RFP 9121-14-7050  
Date August 6, 2014

Submitted by  
DTAH + Nelson\Nygaard + MMM Group  
with Gladki Planning + Swerhun + J.C. Williams Group + HM&E Design

dtah + NELSON NYGAARD + MMM GROUP



MLS

City  
Planning

Fire  
Service

Tor  
Ser

Toronto  
Water

Transportation  
Services

MCIC

Economic  
Development  
and Culture



TPA

BIAs

Equity,  
Diversity and  
Human Rights

STREETS / Coordination





## City of Philadelphia Green Streets Design Manual



planning, design and  
*proposed approach*

## DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION



## GREEN INFRASTRUCTURE STANDARDS

2014



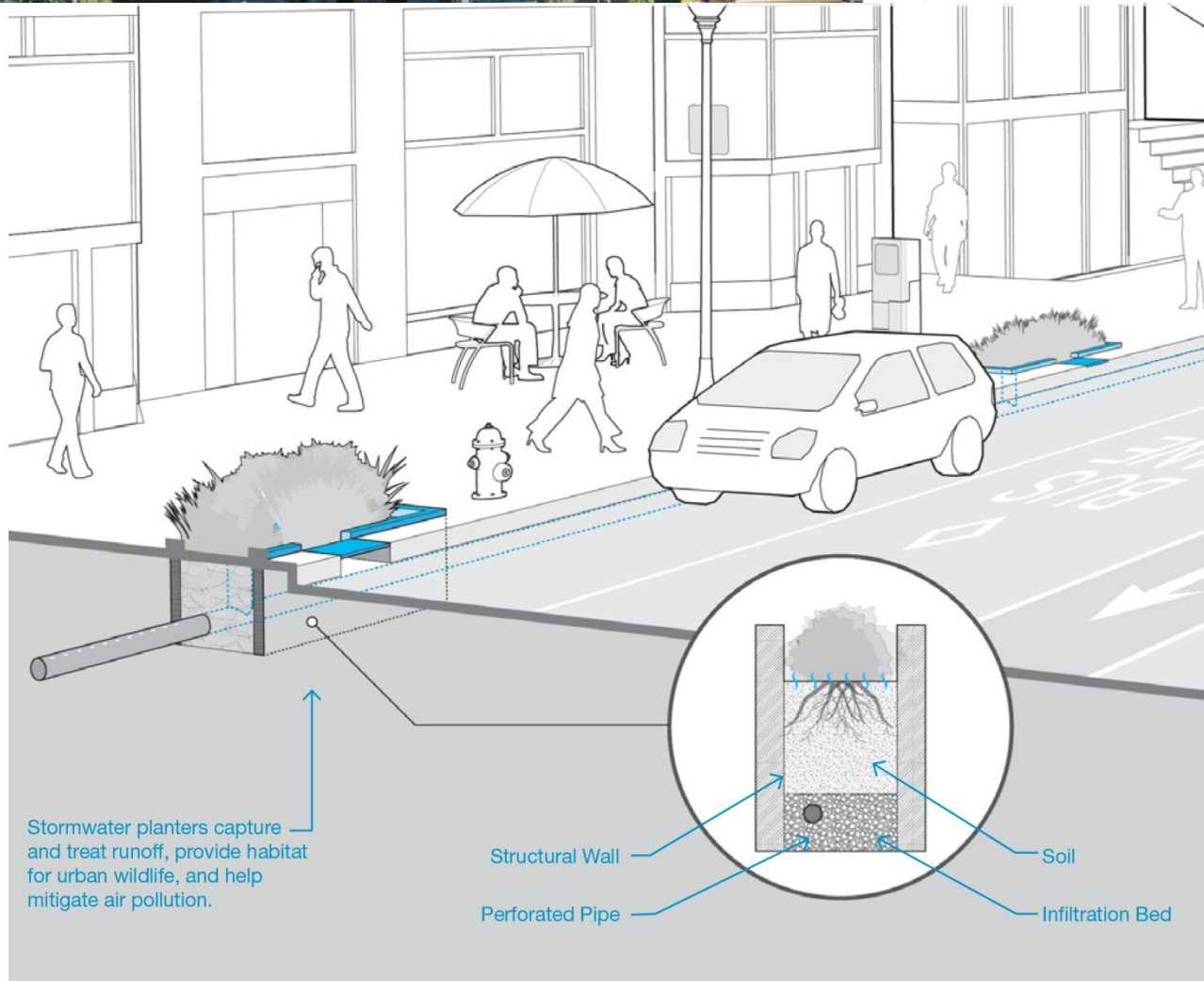
MANAGING WET WEATHER WITH  
GREEN INFRASTRUCTURE

MUNICIPAL HANDBOOK

GREEN STREETS



# Boston's Complete (r) Streets







# Green Streets Structure

## CORE GROUP

Toronto Water / City Planning

## WORKING GROUP

City Planning / Toronto Water  
Parks, Forestry & Recreation  
Transportation Services  
Engineering & Construction Services

## ADVISORY GROUP

*(in progress...)*

TRCA, CVCA  
MOE  
Universities

BIA Office  
TTC  
TPA

NGOs

Utilities

Industry

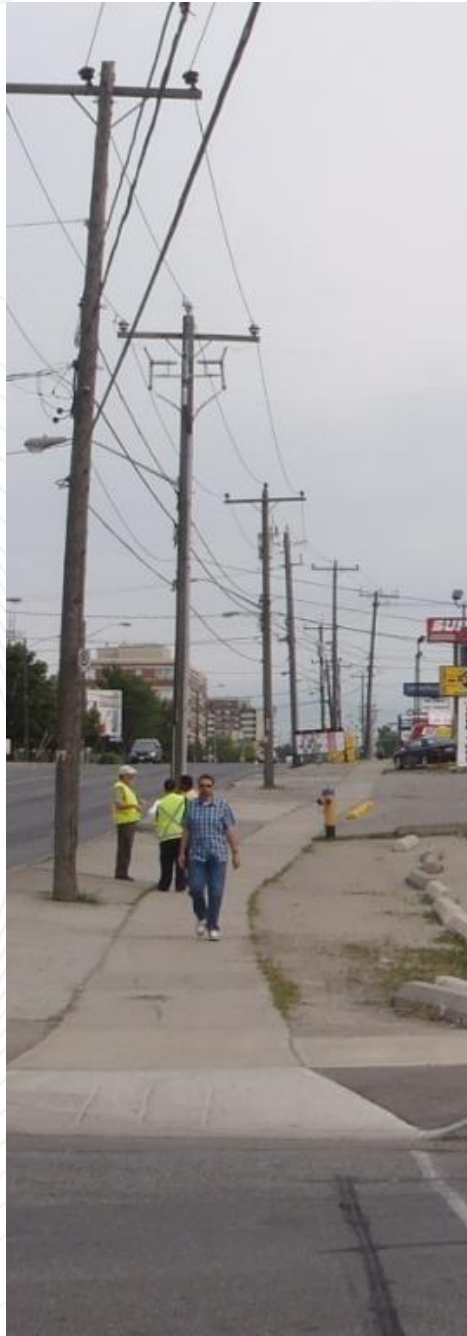


# Green Streets Work Plan

## Part I Research & Consultation

## Part II Integration with Complete Streets Guidelines

## Part III Green Streets Guidelines Document & Maintenance Plans







# Green Streets Playbook

**Vision**

Be Strategic

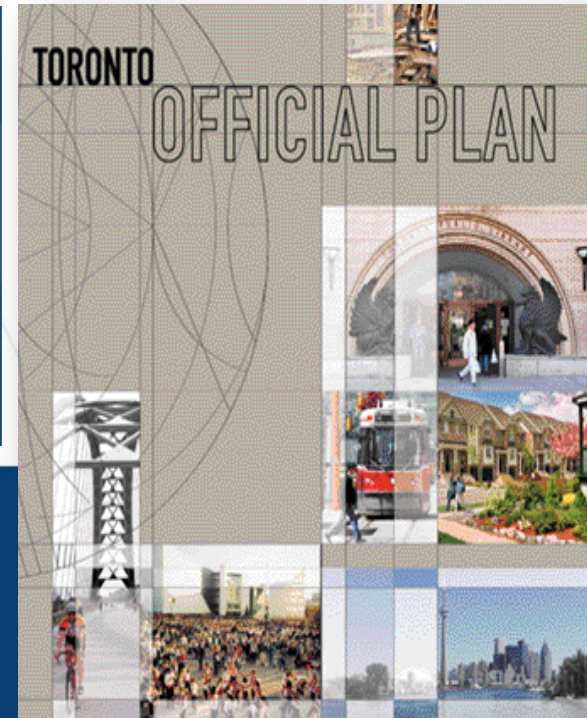
Change the Rules

Culture Shift

Policy on the Ground

Design Matters

Make it Sustainable



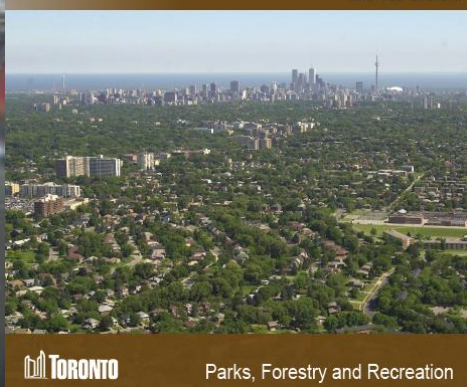
# Toronto's **Official Plan Vision** / Green Streets related policies:

**Attractive, tree-lined streets with shops and housing made for walking.  
Clean air, land and water.**

**Green spaces of all sizes and public squares that bring people together.  
Beautiful architecture and urban design that astonish and inspire.**



# City of Toronto Official Plan



Toronto

Parks, Forestry and Recreation

## Trees



Toronto

GOV

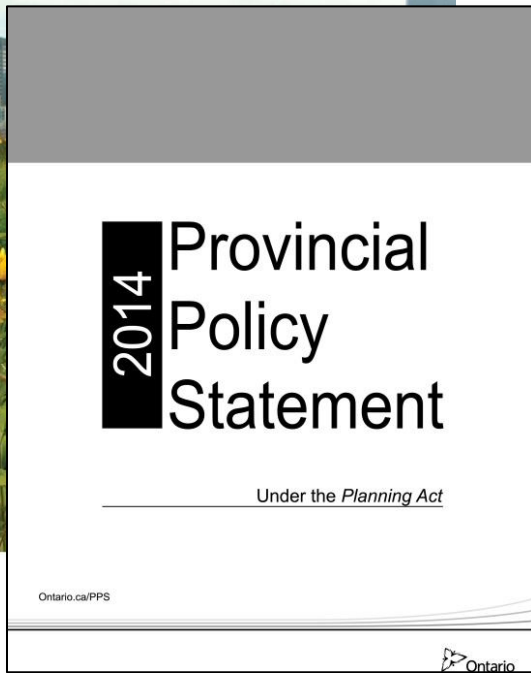
Livegreen  
toronto



## Stormwater

# Ministry of Municipal Affairs and Housing

## 2014 Provincial Policy Statement



*“Planning authorities should promote **green infrastructure** to complement infrastructure.” (1.6.2)*

*Def’n: “...natural and human-made elements that provide ecological and hydrological functions and processes. **Green infrastructure** can include components such as natural heritage features and systems, parklands, **stormwater management systems, street trees, urban forests, natural channels, permeable surfaces, and green roofs.**”*





**WATER**  
quality, quantity, efficiency)  
**ECOLOGY**  
**AIR QUALITY**  
...co-benefits...

## What are 'Green Streets' - for Toronto?

A right-of-way with a variety of green infrastructure design and operational treatments that manages stormwater at-source, and achieves the broad objectives of the Toronto Green Standard.



1

# Stormwater Management



Toronto City Hall







# 'Green Streets Playbook'

Change the Rules

Culture Shift

## *Be Strategic*

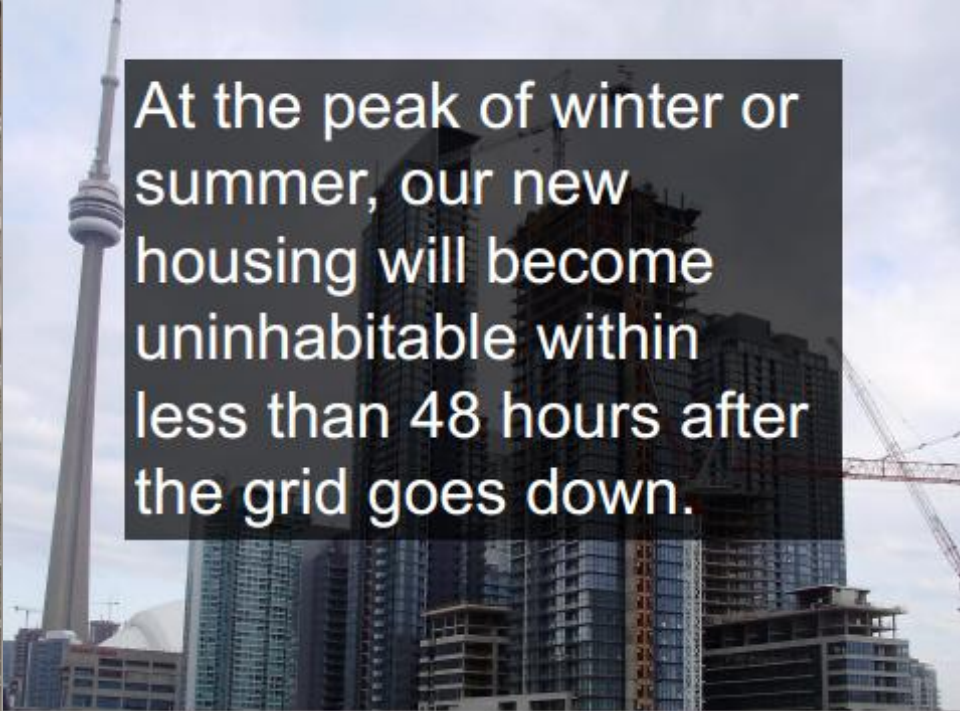
Vision

Policy on the Ground  
Design Matters

Make it Sustainable



At any time, Toronto has between 3 and 4 days worth of food supply on the shelves.



At the peak of winter or summer, our new housing will become uninhabitable within less than 48 hours after the grid goes down.



Toronto water supply is estimated at between 6 and 7 days after the water treatment plants go down.

Toronto needs a Plan A  
Toronto needs a Plan B  
Toronto needs a Plan C  
Toronto needs a Plan D  
Toronto needs a Plan E  
Toronto needs a Plan F  
Toronto needs a Plan G





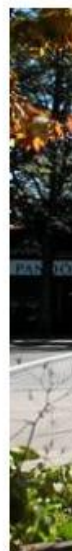
TIME TO LEAD

## Unhealthy neighbourhoods play big role in obesity, diabetes epidemic

LISA ROCHON

SPECIAL TO THE GLOBE AND MAIL

Last updated Friday, Aug. 24 2012, 4:01 PM EDT



## Shade Guidelines

*The role of supportive environment becomes increasingly important as a potential trigger of healthy behaviour in everyday life, particularly in children.*

OTTAWA CHARTER FOR HEALTH PROMOTION, 1986.

July 2010



Toronto Cancer Prevention Coalition

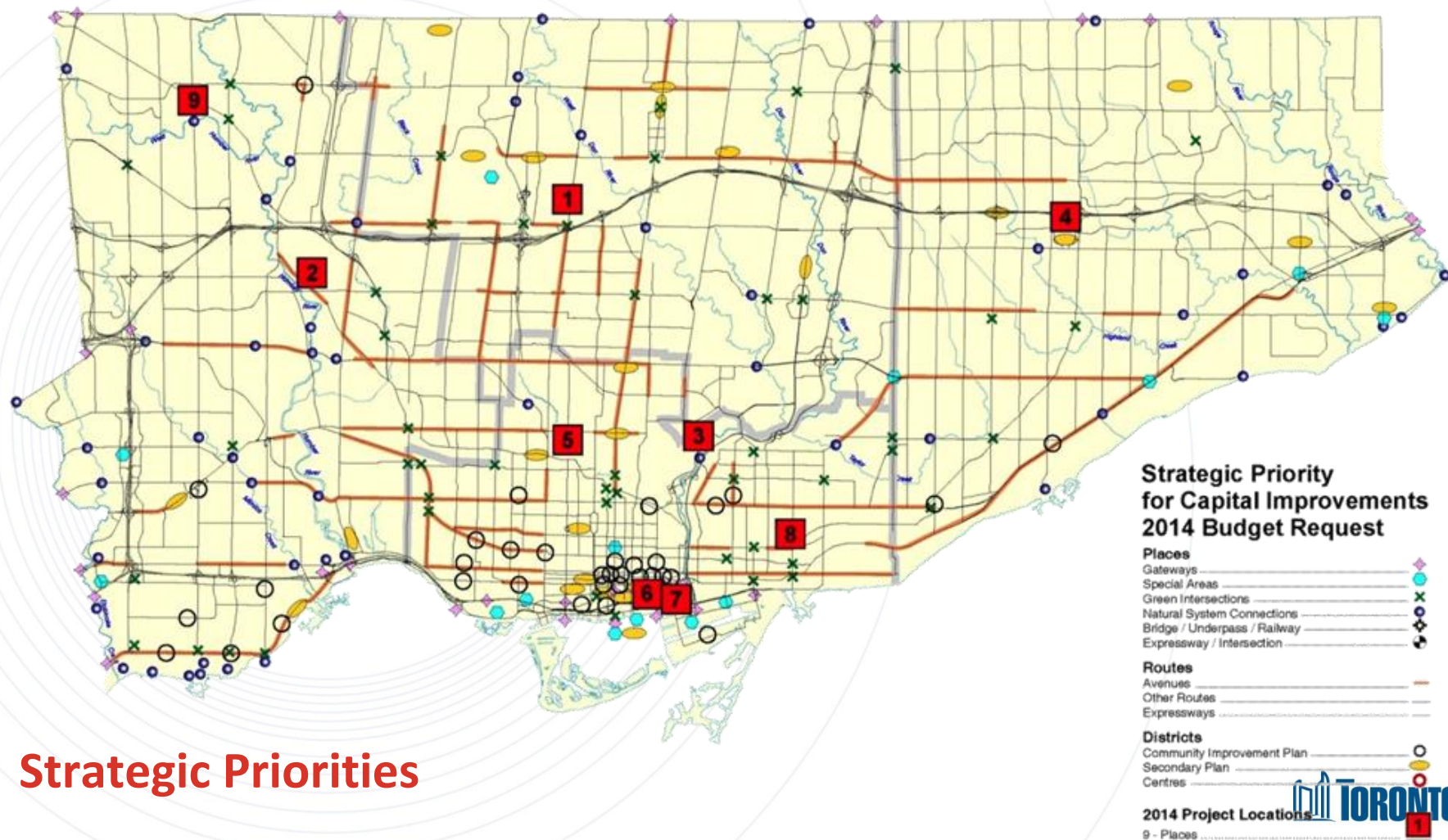
Walk  
down  
marg  
The (





## CIVIC DESIGN / CAPITAL PROGRAM

2014 Capital Projects Underway / 5 year Coordination process



**Strategic Priorities**



After



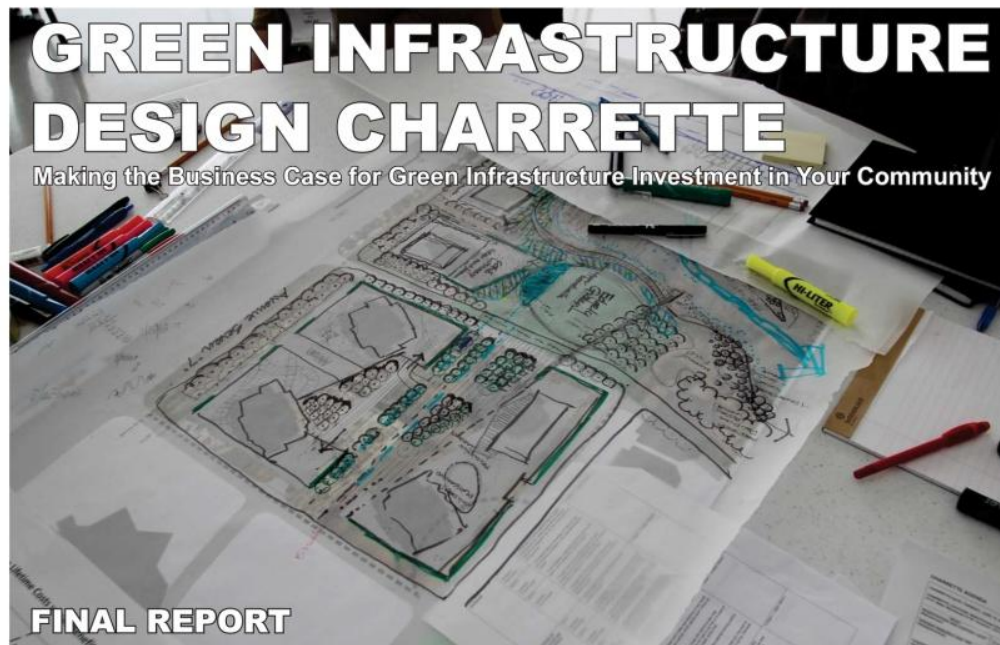




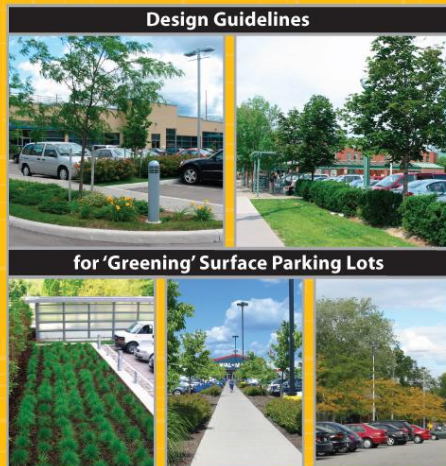
## 2014 Grey to Green Conference

Economics of Green Infrastructure / 'Designing for Health'

Design charrette team for Toronto site (province-wide program)







Toronto City Planning

November 2007  
DRAFT



(Photo: 700 St. Clair Ave. W.)

## Toronto Parking Authority





# Economic benefits...

## NYC

## Greening Pilot Projects / 48% increase in retail sales!



**Janette Sadik-Khan**  
@JSadikKhan

Why not a #tbt for streets? 139th St & 5th Ave, Harlem, before/after. Proud to have helped create safer @NYC\_DOT sts

Principal with @BloombergAssoc and former NYCDOT Commissioner, committed to delivering programs to improve safety, mobility and sustainability worldwide.







# 'Green Streets Playbook'

Be Strategic

Change the Rules

## *Design Matters*

Vision

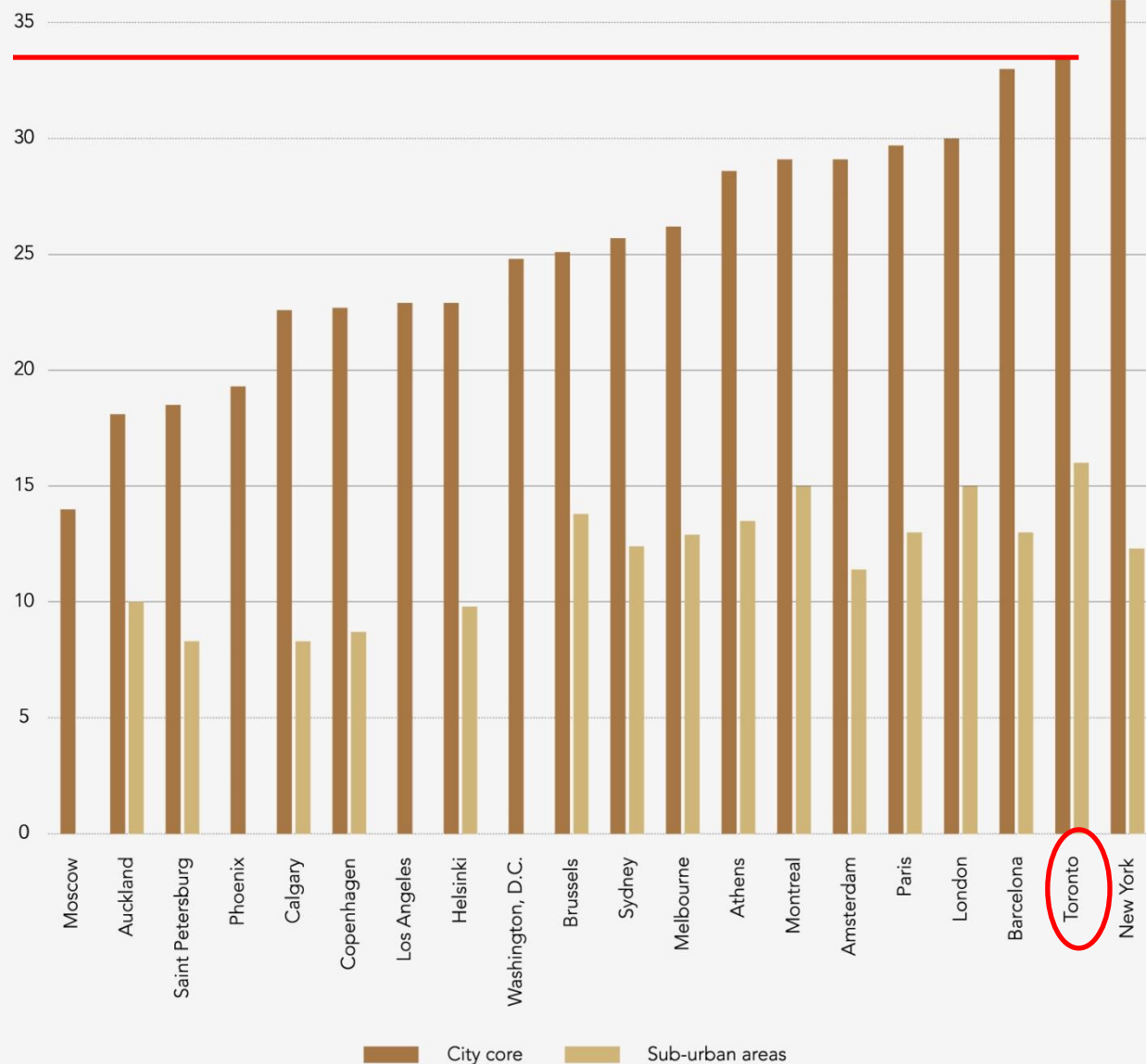
Culture Shift

Policy on the Ground

Make it Sustainable



## LAND ALLOCATED TO STREET (LAS) IN CITIES, EUROPE, NORTH AMERICA & OCEANIA



## Toronto Streets

Total length of lanes =  
Halifax to  
Vancouver &  
back!



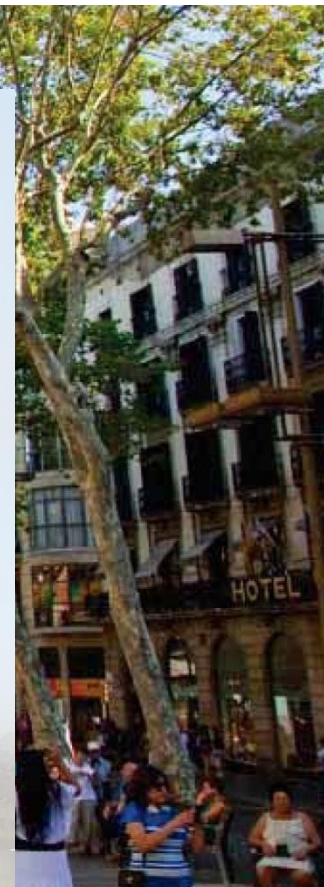
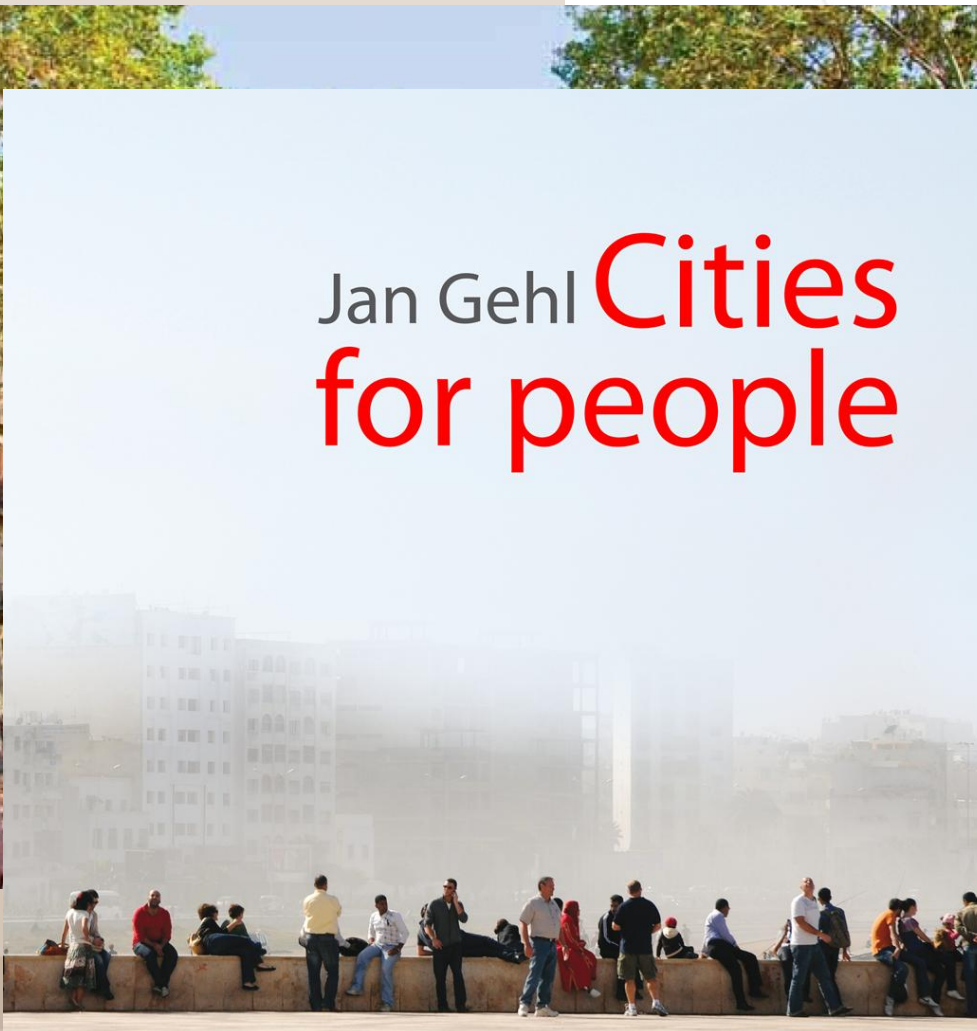


# Streets

## STREETS AS PUBLIC SPACES



Jan Gehl **Cities  
for people**





## PARKS + OPEN SPACE

### The Great (Urban) Outdoors

While it's true that a city's skyline defines its character in the postcard sense, at the human scale, we identify with the spaces between buildings.

Recent research also suggests that open spaces and a high quality public realm add significant value (think real estate along Central Park in New York).

But making room for open space can be a significant challenge—especially for major, dense metropolises. Not everyone can recreate New York's Central Park.

Clearly, there are huge opportunities in existing underutilized spaces to transform them into parks. Often, these spaces are linear, like New York's High Line and Chicago's Riverwalk. These projects require design innovation and engineering ingenuity, but ultimately provide unique outdoor experiences and connective tissue between different parts of the city.

MOST PEOPLE REMEMBER THEIR FAVORITE CITY EXPERIENCE TAKING PLACE OUTDOORS—EITHER IN A PARK OR ON A STREET

1

**PARK/  
STREET**

**65%** remember their favorite experience being in a park or on a street

2

**PRIVATE  
BUILDING**

**22%** remember their favorite experience taking place in a private building

(Credit: Sasaki/ State of the City Experience Report, 2014)





## Copenhagen unveils first climate-change adapted neighborhood



A visualization of the center square of St. Kjeld. The section of Copenhagen is the first neighborhood in the world to use vegetation and water to prepare for rising sea levels and other consequences of climate change. Tredje Natur

(Credit: Elisabeth Braw, Jan.26/15)



# 'Green Streets Playbook'

Culture Shift

Be Strategic

## *Change the Rules*

Vision

Policy on the Ground

Design Matters

Make it Sustainable





12 | CITY PLANNING CHARTER

14 | CITY PLANNING CHARTER

16 | CITY PLANNING CHARTER

CITY PLANNING

# STRATEGIC PLAN 2013 2018

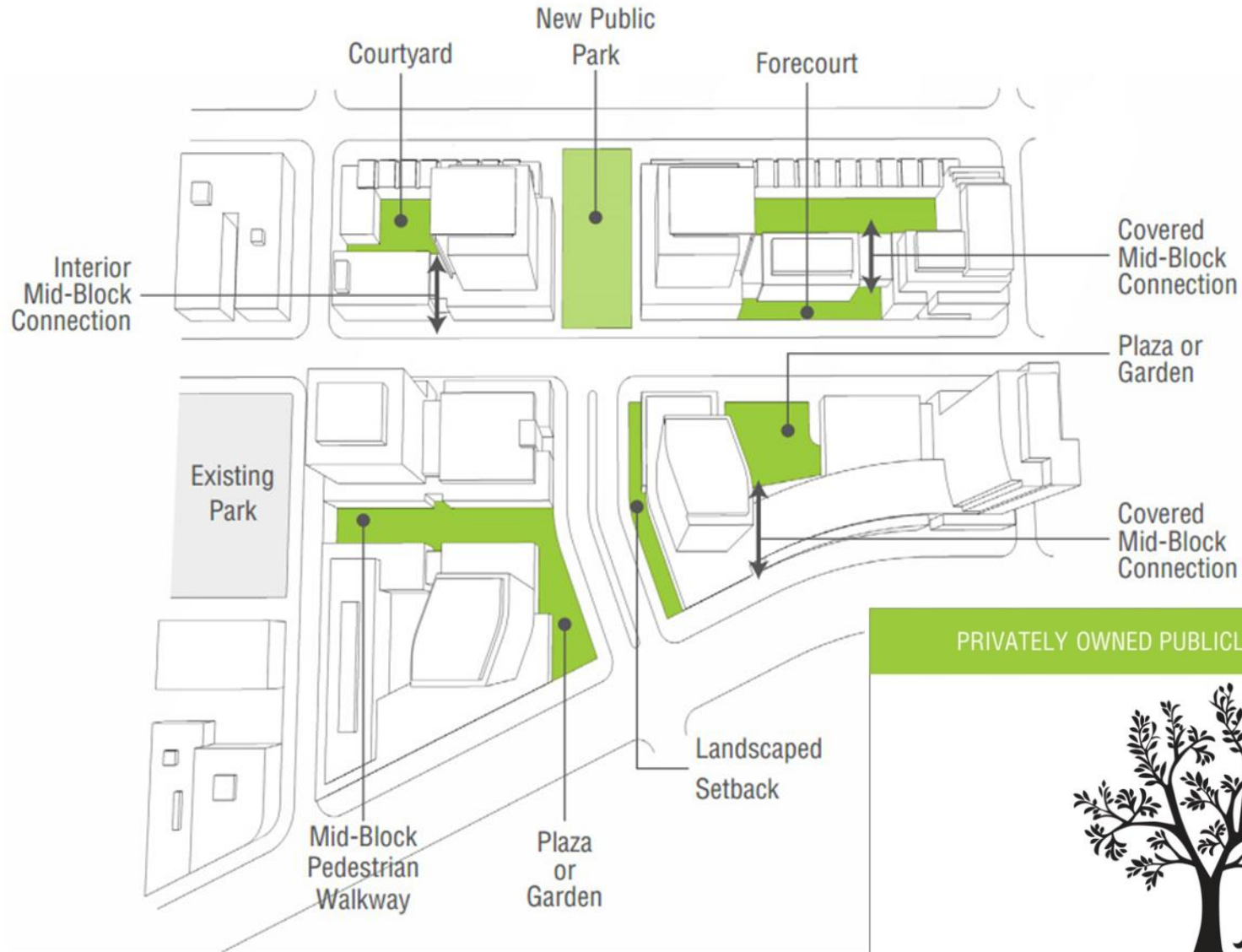
We Plan TO:

## By continually working to broaden participation in City Building.

As a Division, we facilitate broader, more meaningful engagement within and outside City Hall to respond to the pace and complexity of change across the city.



# Site Plan Review



PRIVATELY OWNED PUBLICLY-ACCESSIBLE SPACE



POPS

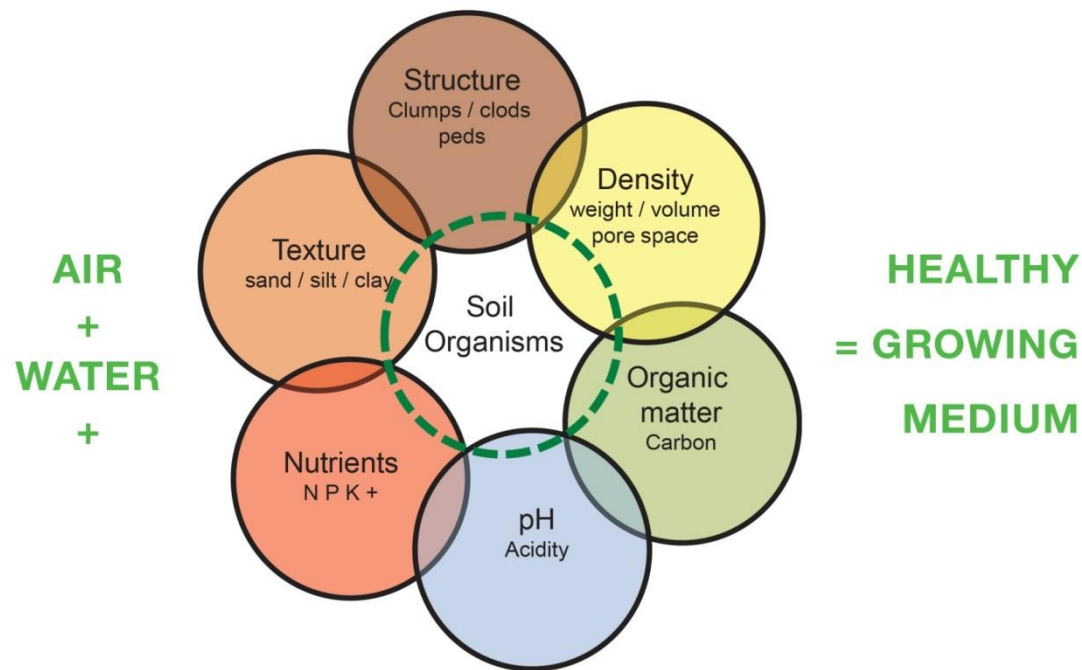
Creative Place Making to Enhance Urban Life





## Bioretention Soils

...knowledge gaps, scheduling issues,  
contractor coordination



Loamy growing medium mix with peds is desirable.



Sandy growing medium mix without peds (i.e. screened) should be rejected.



# 'Green Streets Playbook'

Be Strategic

Change the Rules

## *Culture Shift*

Design Matters

Policy on the Ground

Make it Sustainable





PLANNING A GREAT CITY, **TOGETHER**

# City of Ravines







PLANNING A GREAT CITY, **TOGETHER**

The City





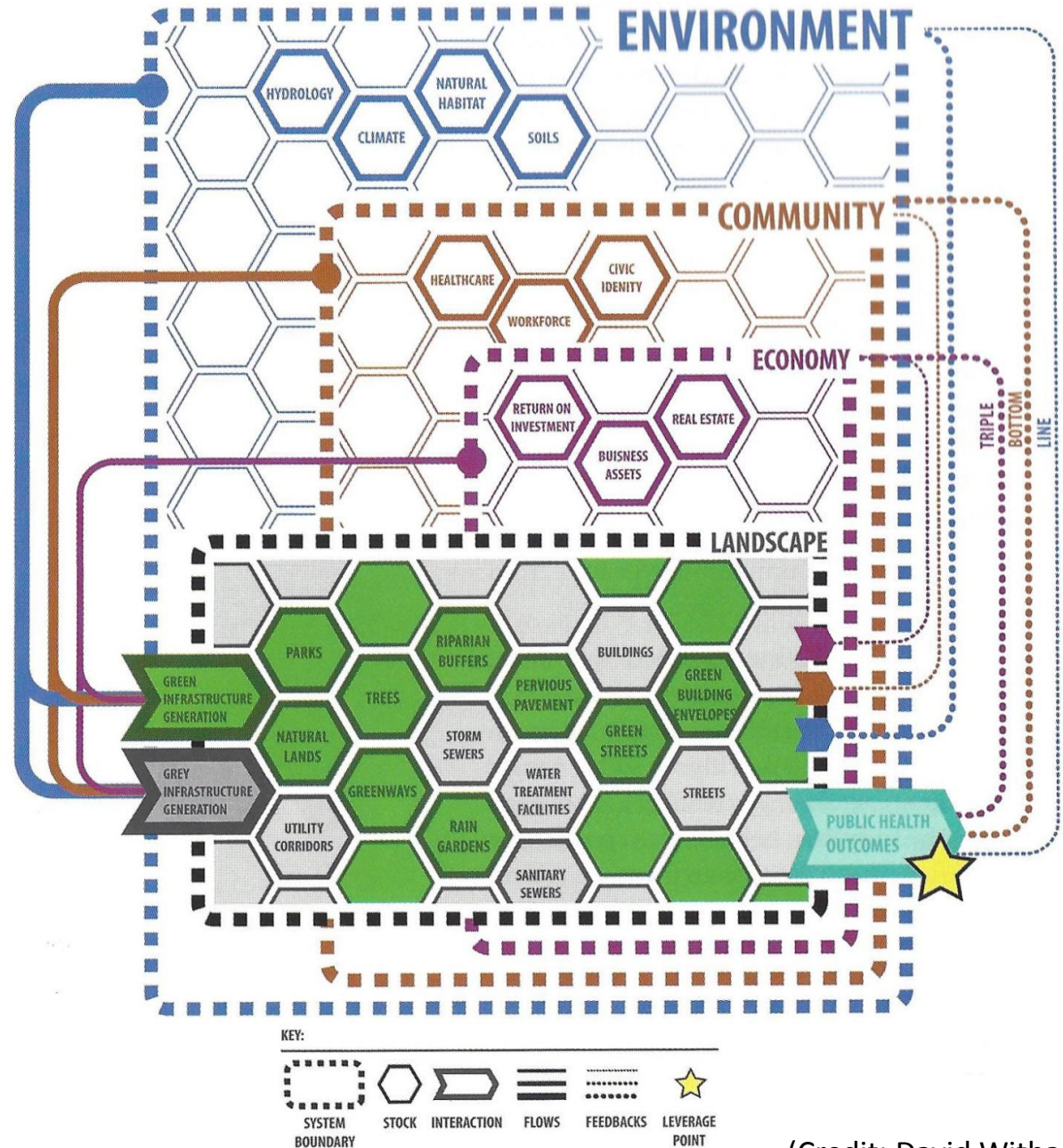
# Planning for Green





# Co-benefits

Green +  
Grey

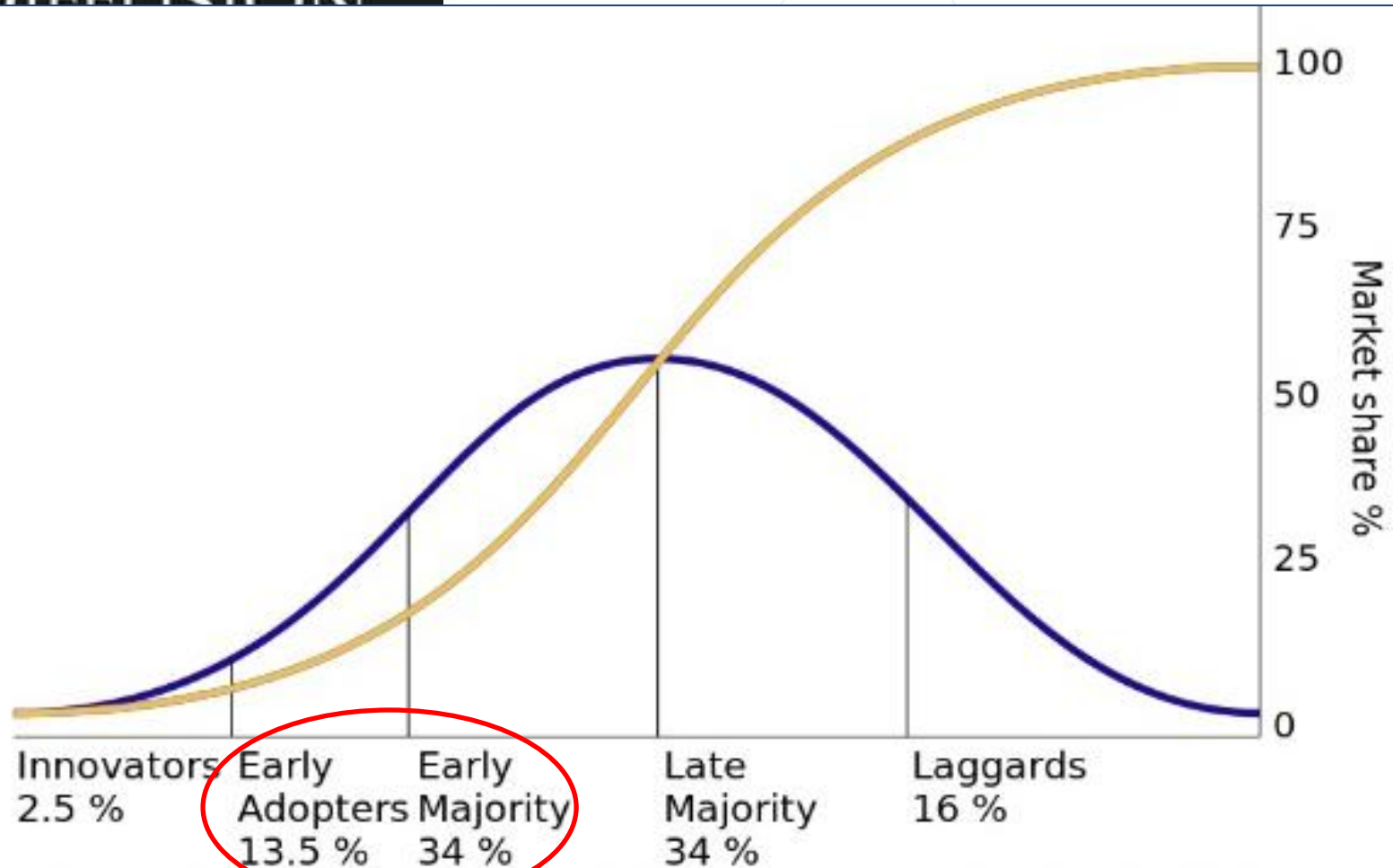






# Adopting Innovation

DIFFUSION



Rogers Everett - Based on Rogers, E. (1962) Diffusion of innovations. Free Press, London, NY, USA.

eileenb@amastra.co.uk 07764 359 905



# Canopy Size and Climate Change Growing Trees in City Sidewalks



Presented by Clara Kwon OALA CSLA

## Tree Planting Solutions in Hard Boulevard Surfaces Best Practices Manual

Project # A21065

Date February 8, 2013

Recipient

City of Toronto

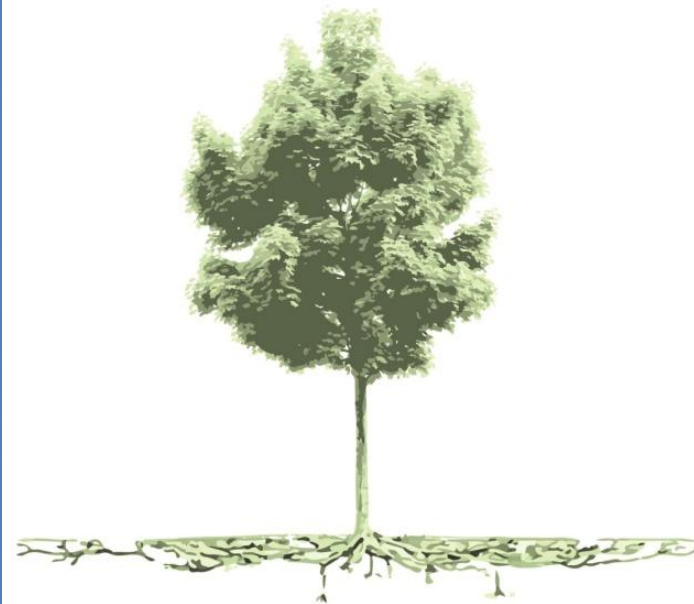
Submitted by

DTAH, Lead Consultant

ARUP, Engineering

James Urban, Urban Trees + Soils

Urban Forest Innovations, Arborist

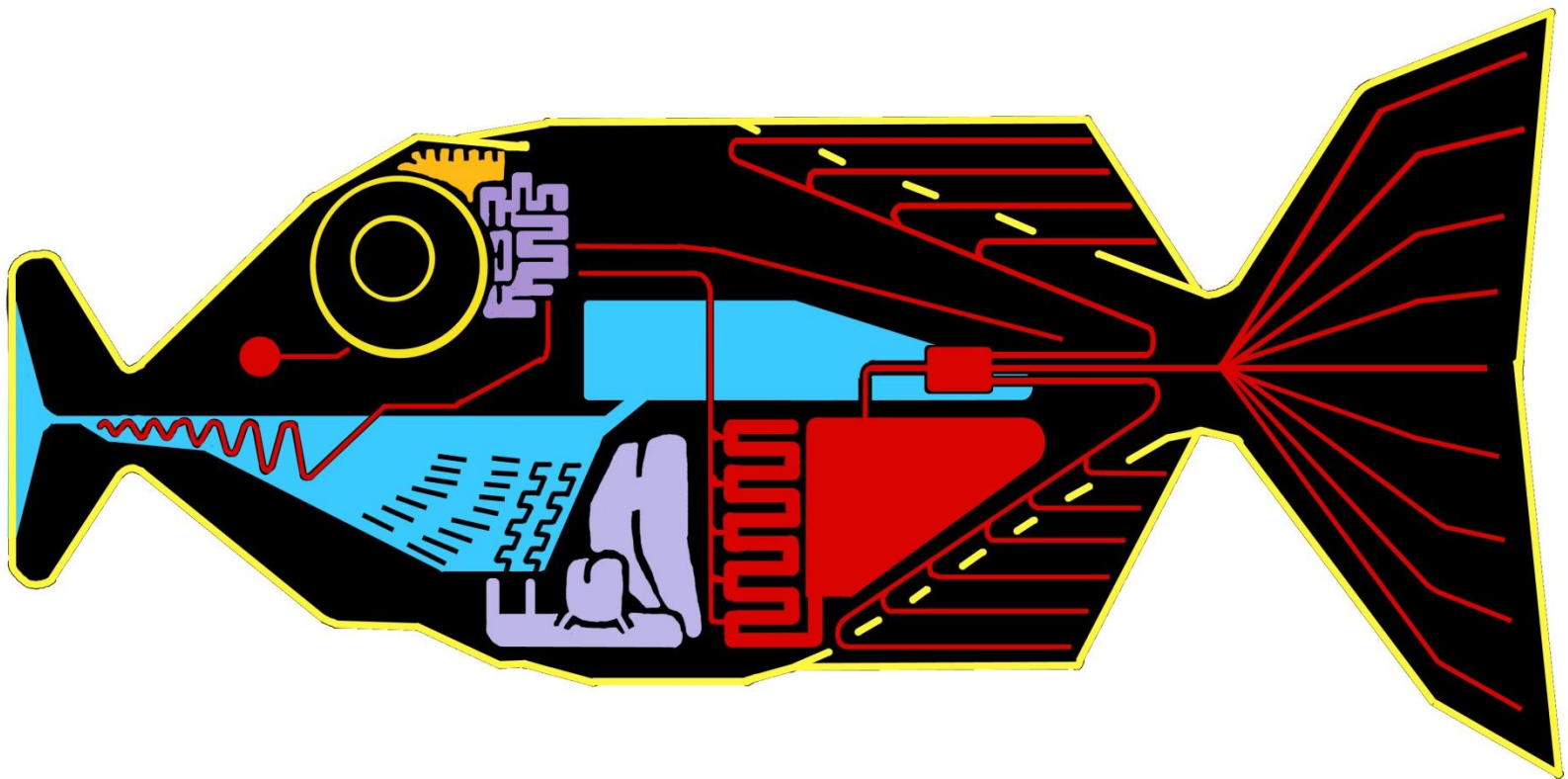


**dtah** | ARUP | James Urban - Urban Trees + Soils | Urban Forest Innovations Inc.

**dtah**



# BABEL FISH



(Credit: Matthew Mobbs)



# 'Green Streets Playbook'

Design Matters

Be Strategic

## *Policy on the Ground*

Vision

Culture Shift

Change the Rules

Make it Sustainable





# Queensway Sustainable Sidewalk (2008)



(without stormwater capture / 2014)





# Queensway Sustainable Sidewalk (2008)



(with stormwater capture / 2014)





# Keele St. (2013)







# Keele St. (2013)



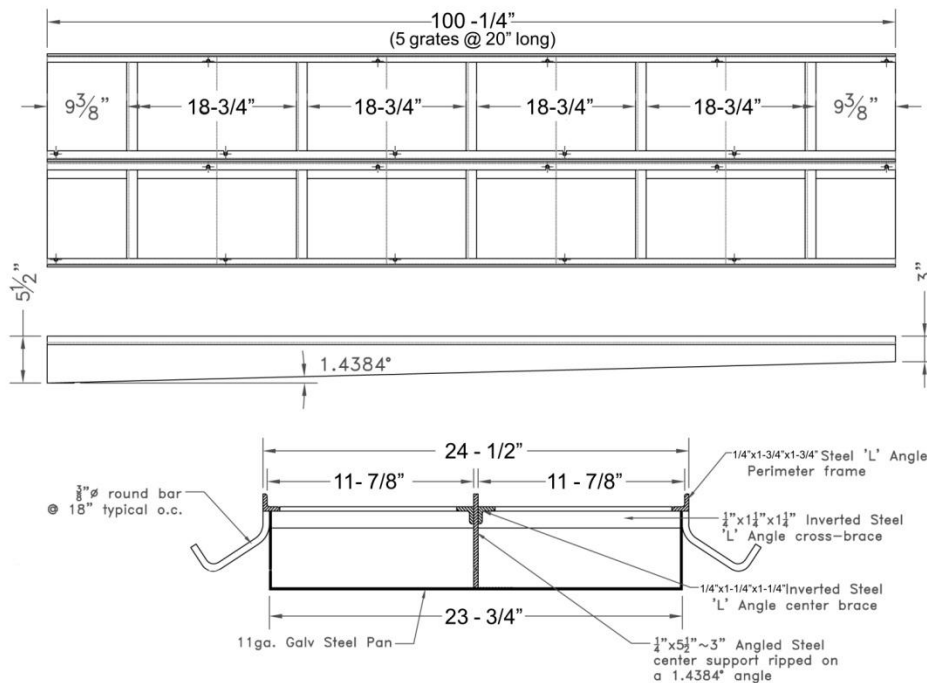
Construction: Soil / Compaction / Utilities





## Challenge: Trench Drain System

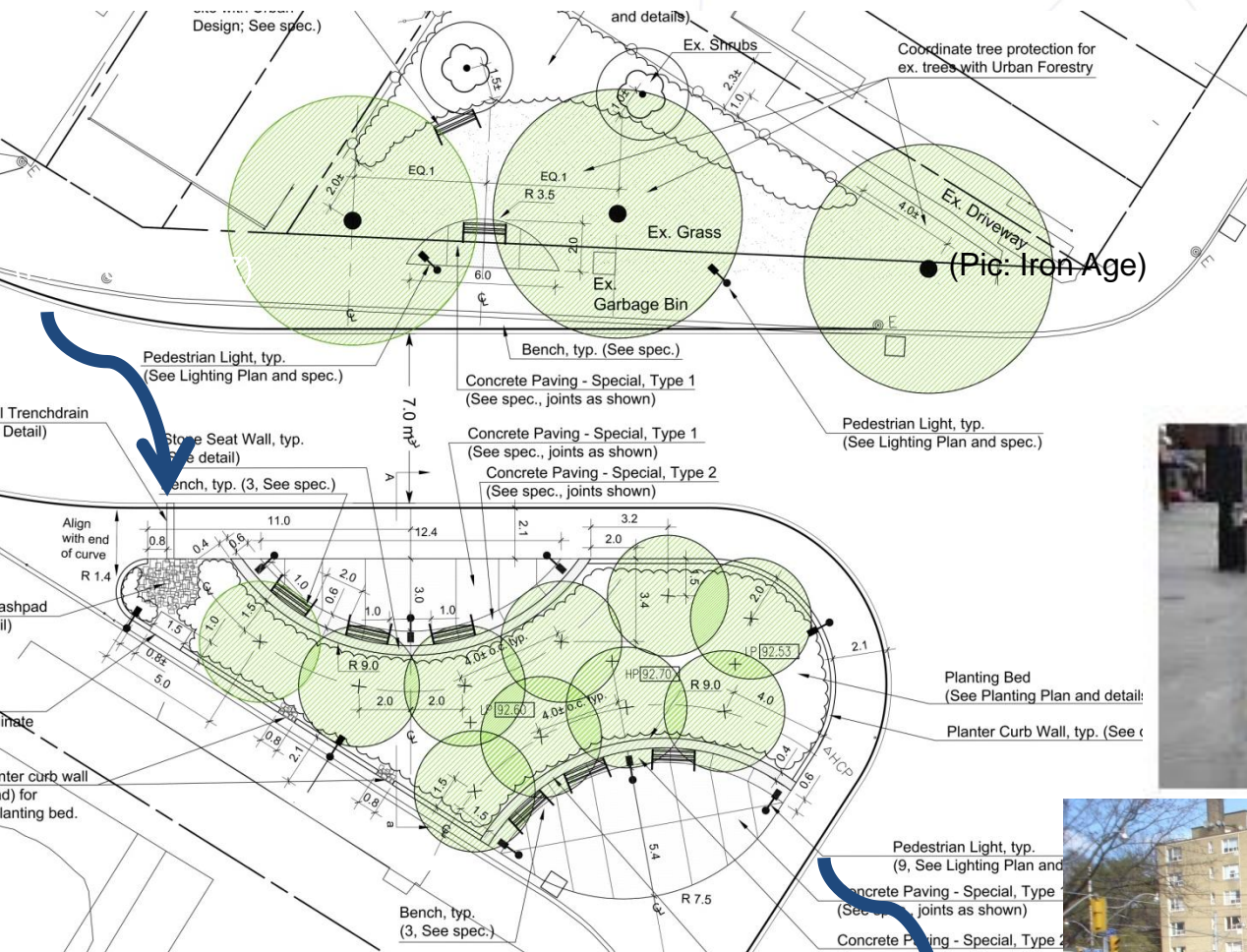
...knowledge gaps, skill sets,  
project coordination issues...



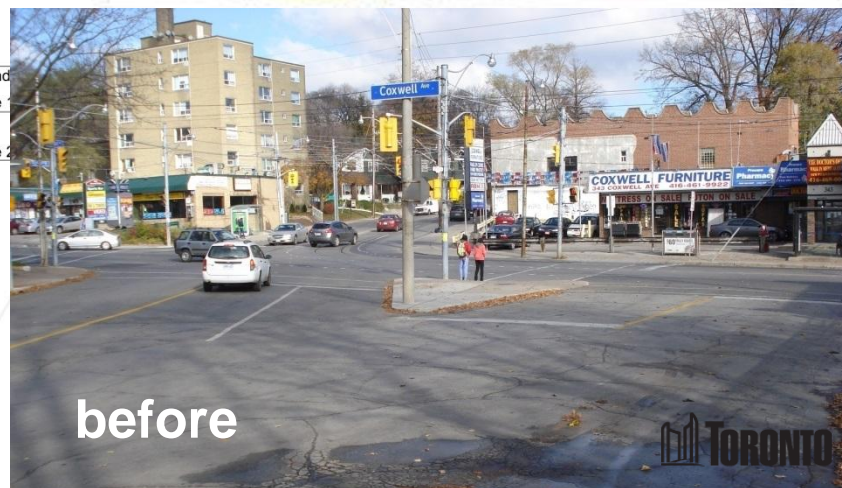




# Fairford Ave/Coxwell Ave (2014/15)



(Pic: NYC)



before





# Fairford Ave / Coxwell Ave (2014)



2014 construction

Construction issues: schedule / submittals / skills





PLANNING A GREAT CITY, **TO**GETHER

# To**core**

planning toronto's downtown







# 'Green Streets Playbook'

Design Matters

Policy on the Ground

# *Make it Sustainable*

Vision

Culture Shift

Be Strategic

Change the Rules



# Operations & Maintenance



**litter**

**weeds (sparse plantings , organic soils)**

**education / toxic!**



**litter trapped  
in openings**







# Evaluation Brainstorming Future

## Shade Guidelines

*The role of supportive environment becomes increasingly important as a potential trigger of healthy behaviour in everyday life, particularly in children.*

OTTAWA CHARTER FOR HEALTH PROMOTION, 1986.

July 2010




Toronto Cancer Prevention Coalition





# Next Steps...

A photograph of a city street scene. In the foreground, a person is riding a bicycle on a paved path. To the left, there is a sidewalk and a grassy area with young trees. In the background, there are more trees with autumn-colored leaves and a modern building. A white van and a bus are visible on the street.

Complete Streets Integration  
Program Development  
Reliability-centered Maintenance  
Triple-Bottom-Line / Funding  
Organizational Structure  
Staff Training  
Contractor Certification  
Pilot Projects  
Public Outreach





# Stewardship

Everyone has a role  
to play...



**NOW IS THE  
PERFECT TIME TO  
GET INVOLVED.**



TreePeople's Urban Forestry program supports Citizen Foresters to organize volunteer tree plantings and tree care events along city streets and in neighborhoods throughout Los Angeles County.

(Credit: Tree People, Los Angeles)

(Credit: 2020Vision, Australia)



## **City of Toronto Complete Streets**

<http://www.toronto.ca/completestreets>

## **National Complete Streets Coalition**

<http://www.smartgrowthamerica.org/complete-streets>

## **Toronto Green Standard**

<http://www.toronto.ca/greendevlopment>

## **City Planning/Urban Design – Design Guidelines**

<http://www.toronto.ca/planning/urbandesign>

## **Toronto Water**

<http://www.toronto.ca/water/stormwater>

## **Credit Valley Conservation: Low Impact Development (LID)**

<http://www.creditvalleyca.ca/low-impact-development/>

## **Toronto and Region Conservation Authority: STEP**

<http://trca.on.ca/the-living-city/programs-of-the-living-city/>

[sboudre@toronto.ca](mailto:sboudre@toronto.ca)

@SheilaBoudreau

@TOGreenStreets