

Before We Start....

Audience will be **muted** throughout the session.



Closed Captioning is available for this session.



Use the **chat** function to submit your questions. Use the “like” button to upvote questions.



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#WhereTheFutureIsBuilt





**Urban Land
Institute**
Curtis Infrastructure
Initiative

ULI InfraXchange #4 Smart Mobility in Transit-Oriented Complete Communities: **How to Integrate “One” Mobility Infrastructure?**

JUN 23, 2023



ULI Asia-Pacific



ULI Americas



Smart Mobility in Transit Oriented Communities



Yvonne Yeung

Principal,
Planning Sustainable Cities and Communities
Hatch Urban Solutions

ULI Toronto Advisory Board
ULI SDRC Product Council Vice Chair
ULI Curtis Infrastructure Fellow



Tribute to Jim Curtis, ULI Life Trustee 1953-2019

*“Every single person in the land use process has the real ability to make a visible difference, and make it matter because they are part of the process. **If they push for the right choices, each one of them has the ability to change the world.**”*



ULI NEXT Global Visionary Video Series:
James J. Curtis III
[youtube.com](https://www.youtube.com)



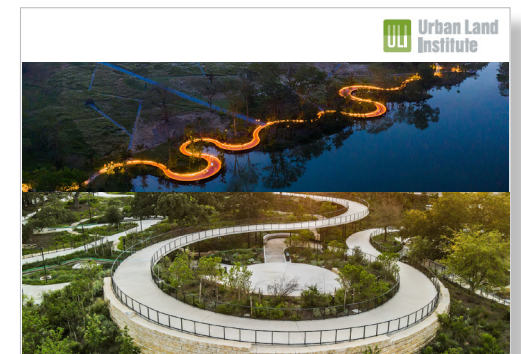
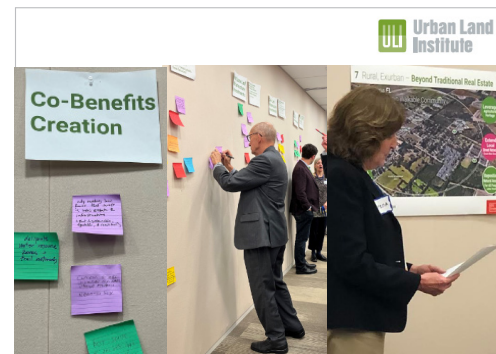
Cornerstones of ULI Curtis Infrastructure Initiative

A Global Resource for Transforming Cities into Equitable, Resilient and Thriving Communities

Build Global Partnerships

Conduct Technical Assistance

Grow Knowledge



ULI Publication

**Building 15-Minute
Communities
Leadership Guide**

**ULI Infrastructure
Forum at Spring
Meeting in Toronto
Knowledge Finder**

**ULI InfraTAP
District & Product
Council Coalitions
2023**

**ULI InfraXchange
Global Spotlights
Local Spotlights
Mar - Jun 2023**



ULI InfraXchange Spring Series 2023

Building Leading-Edge Infrastructure Solutions and Co-benefit Creations in Complete, Walkable, 15-Minute Communities

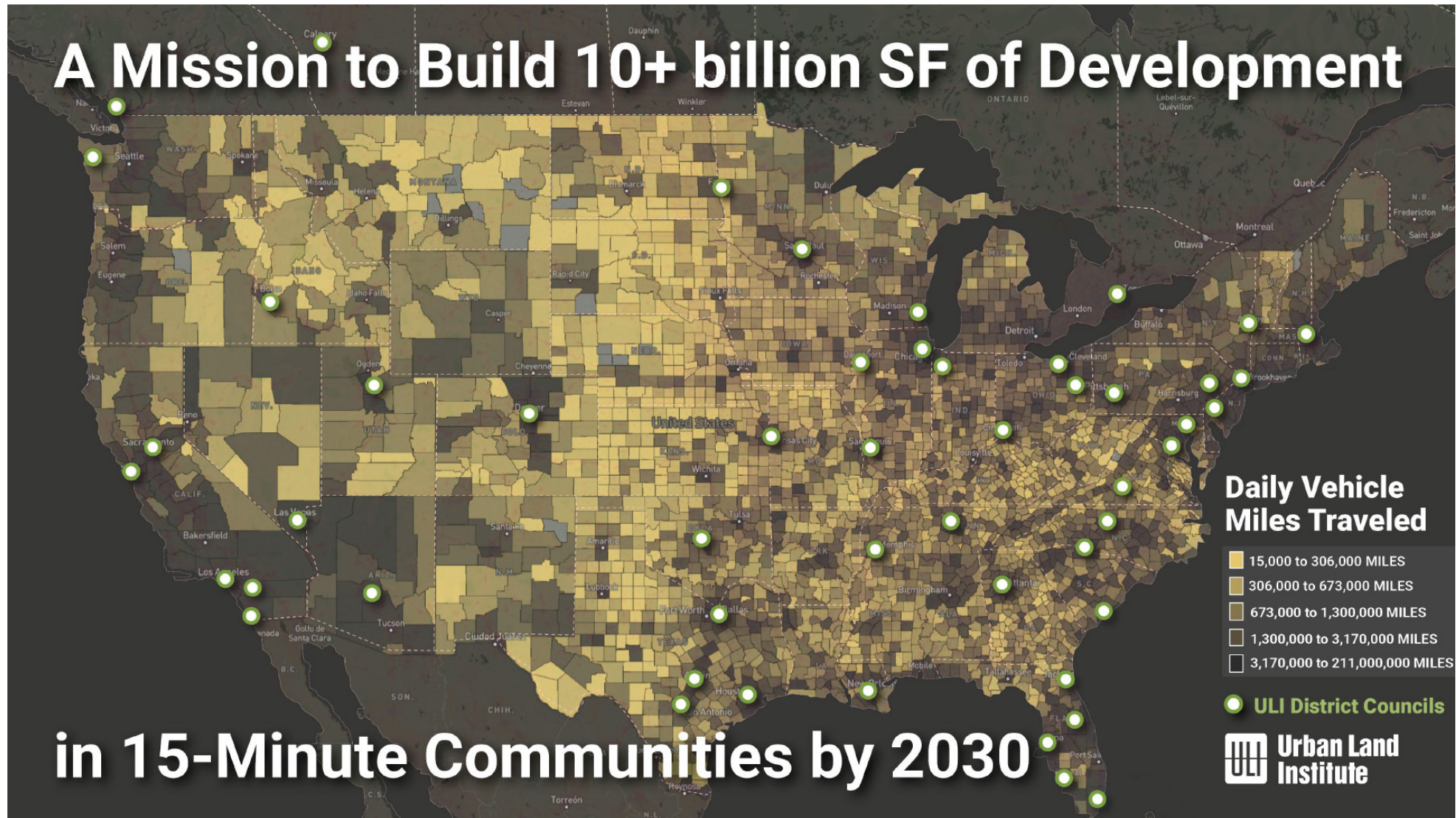
Four sessions over 4 months with an article summary to follow in 2023

- MAR 30 One Environment Infrastructure deliver parks, green streets, flood protection, environmental restoration, and utilities in one project
- MAY 4 One Community Infrastructure deliver education-social-health-culture-co-work space under one roof
- JUN 9 One Energy Infrastructure deliver combine renewable energy, carbon removal and waste management in one district?
- JUN 23 One Mobility Infrastructure deliver transit, micro-mobility, broadband, and smart city system to provide one trip experience



A Mission to Build 10+ billion SF of Development

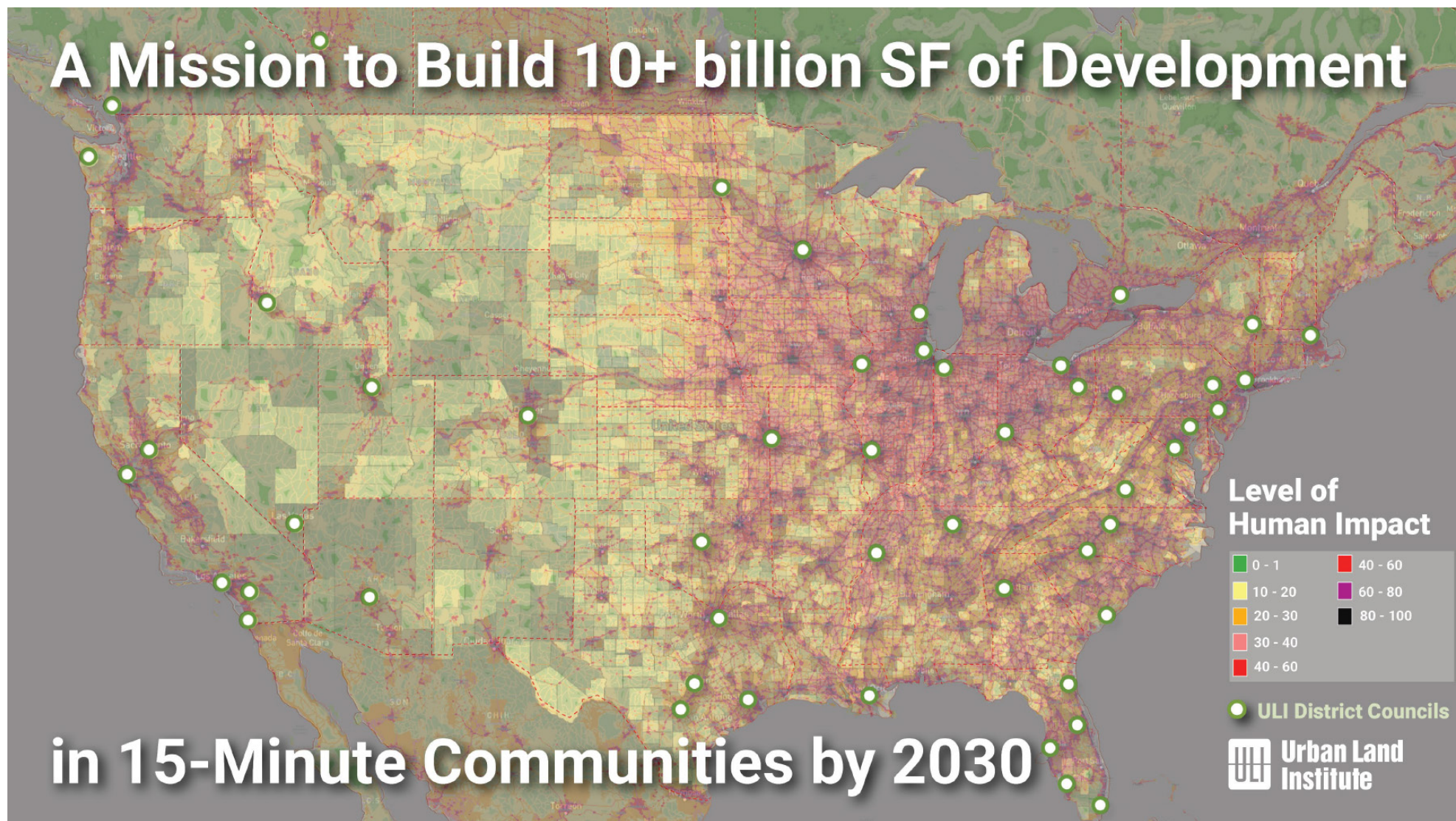
Today's
Challenge:
Reduce VMT
with TOCs





A Mission to Build 10+ billion SF of Development

**Today's
Challenge:
Decarbonize
with TOCs**



in 15-Minute Communities by 2030



Our Common Responsibilities to Build A Strong, Healthy City Region with Complete Communities

- Uphold city-building cornerstones in *Provincial Policy Statement* and *Planning Act*
- Protect public interest including the future population and natural environment

Complete Communities – Ensure lands are zoned and development are designed in a manner that supports the achievement of complete communities

Full range of Facilities – Adequate distribution of educational, health, social, cultural and recreational facilities

Infrastructure – Prioritize planning and investment in infrastructure and public service facilities that will support intensification

Orderly Development – Orderly development of safe and healthy communities and coordination of activities of public bodies



Our Common Responsibilities to Build A Strong, Healthy City Region with Complete Communities

- Uphold city-building cornerstones in *Provincial Policy Statement and Planning Act*
- Protect public interest including the future population and natural environment

High-quality Built Environment – Provide high-quality public spaces that are safe, accessible, attractive and vibrant, built-form that are well-designed and provide a sense of place

Co-locate Public Services – Co-locate public services in community hubs to promote cost-effectiveness and facilitate service integration, access to transit and active transportation

Sustainable and Pedestrian Oriented – Design development to be sustainable, support public transit and be oriented to pedestrians, mitigate greenhouse gas and adapt to changing climate, conservation of energy and water, and minimization of waste



Opportunities: Sustainable Mobility in Communities

How to Create 'One' Mobility Infrastructure to Leverage...

Communities

\$21M Build America
Bureau Grants

**Thriving Communities
Program: planning
and development of
transportation and
community
revitalization activities**
summer 2023

[transportation.gov](https://www.transportation.gov)

Rural

\$3M Build America
Bureau Grants

**Rural and Tribal
Assistance Pilot
Program: assist with
pre-development-
phase activities, project
planning, etc**
deadline Aug 14, 2023

[transportation.gov](https://www.transportation.gov)

Transit

\$5B CIB Transit
Infrastructure

**Canada Infrastructure
Bank Priority Sector
Public Transit: transit
oriented development,
light rail transit, etc**
ongoing

[cib-bic.ca](https://www.cib-bic.ca)

Acceleration

\$500M CIB Project
Acceleration

**Canada Infrastructure
Bank Priority Sector
Accelerate early works
Shorten critical paths to
construction**
ongoing

[cib-bic.ca](https://www.cib-bic.ca)



Hong Kong, SAR

Toronto Region, Canada

Smart Mobility in Transit Oriented Communities



David Yam

General Manager, Business Development
MTR Corporation Limited
ULI Asia-Pacific
speaker



Stephen Engblom

Faculty, University of California,
Berkeley
ULI Americas
moderator



Michael Sutherland

Director, Urban Solutions
Hatch
ULI Americas
speaker

TRANSIT-ORIENTED COMPLETE COMMUNITIES



Photo by Tony Yeung on Unsplash

ULI Infrastructure Exchange: Mobility

June 23, 2023

METROPOLITAN TORONTO

A HISTORY OF REGIONAL TRANSIT PLANNING

1950s

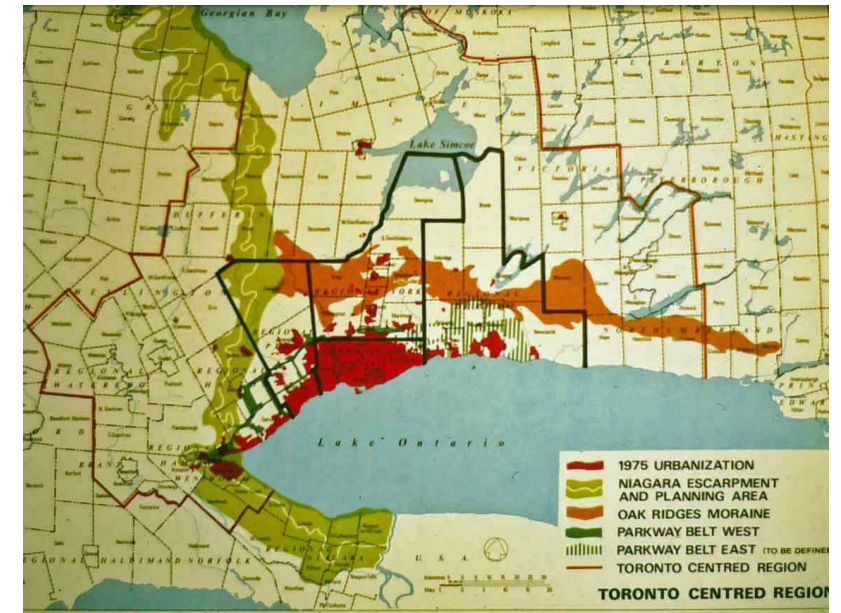


Map from the 1943 "Master Plan for City of Toronto and Environs"

[The Birth of Regional Planning | Neptis Foundation](#)

The Metropolitan Toronto Board was responsible for all aspects of physical planning throughout the entire metropolitan planning area:

- broad land use designations,
- transportation (highways and public transit),
- water and sewer infrastructure,
- parks and open spaces

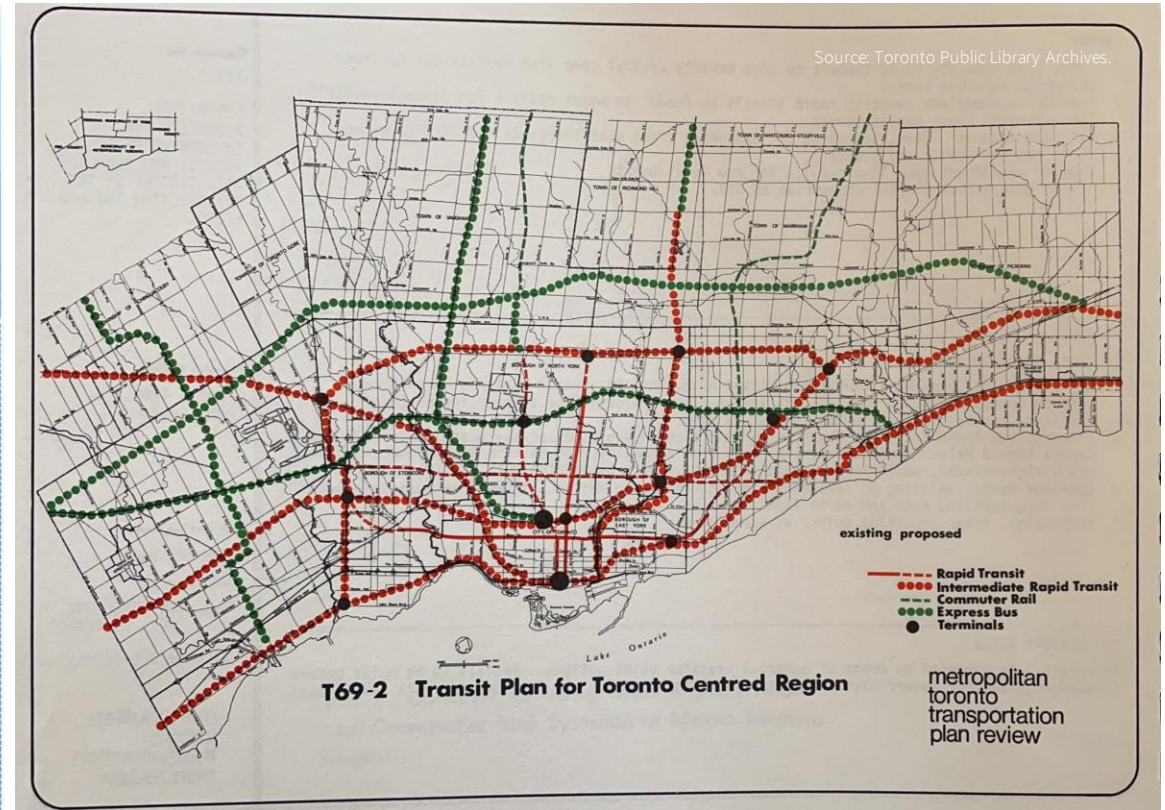


[The Birth of Regional Planning | Neptis Foundation](#)

FORMATION OF THE METROPOLITAN TORONTO PLANNING BOARD (1954)



Map of jurisdiction of the Metropolitan Planning Board, as defined in 1954.



Transit Plan for Toronto Centred Region, 1969.

YONGE STREET

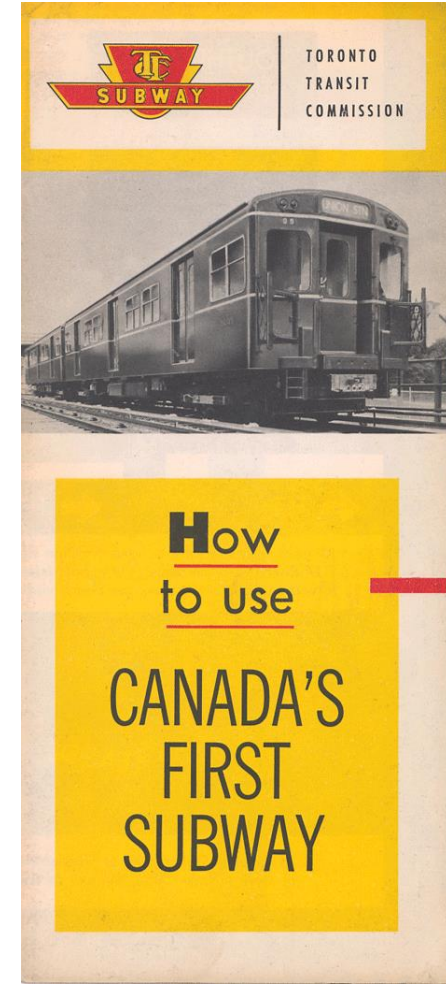
1960s - 1990s

AN URBAN GROWTH CORRIDOR, ROOTED IN TRANSIT



Aerial view of the Yonge Street Corridor, looking south.

Source: Menkes Developments



Source: City of Toronto Archives.



GROWTH PLAN, GREEN BELT, GO EXPANSION

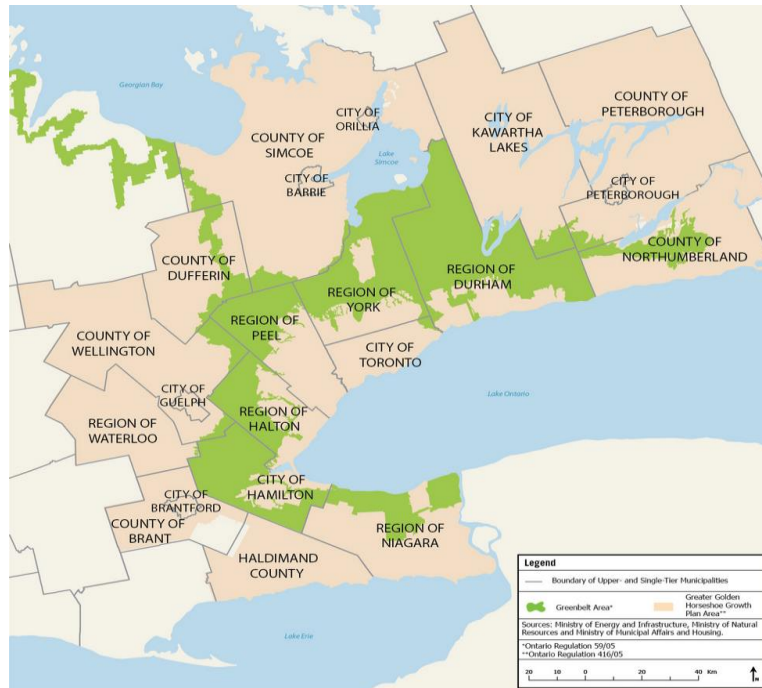
2006

2008

THE RETURN TO “GOOD PLANNING”

Since the introduction of the Growth Plan for the Greater Golden Horseshoe in 2006, the region has seen a shift to more compact development patterns, a greater variety of housing options, more mixed-use development in urban growth centres and other strategic growth areas, and greater integration of transit and land use planning.

– Gov't of Ontario



Growth Plan for the Greater Golden Horseshoe, 2006.



The Big Move Map, Metrolinx, 2008.

BUILDING AROUND TRANSIT NODES

The emergence of provincial-led transit-oriented development that prioritizes compact, mixed-use, and high-density around major transit nodes.



CIBC Square



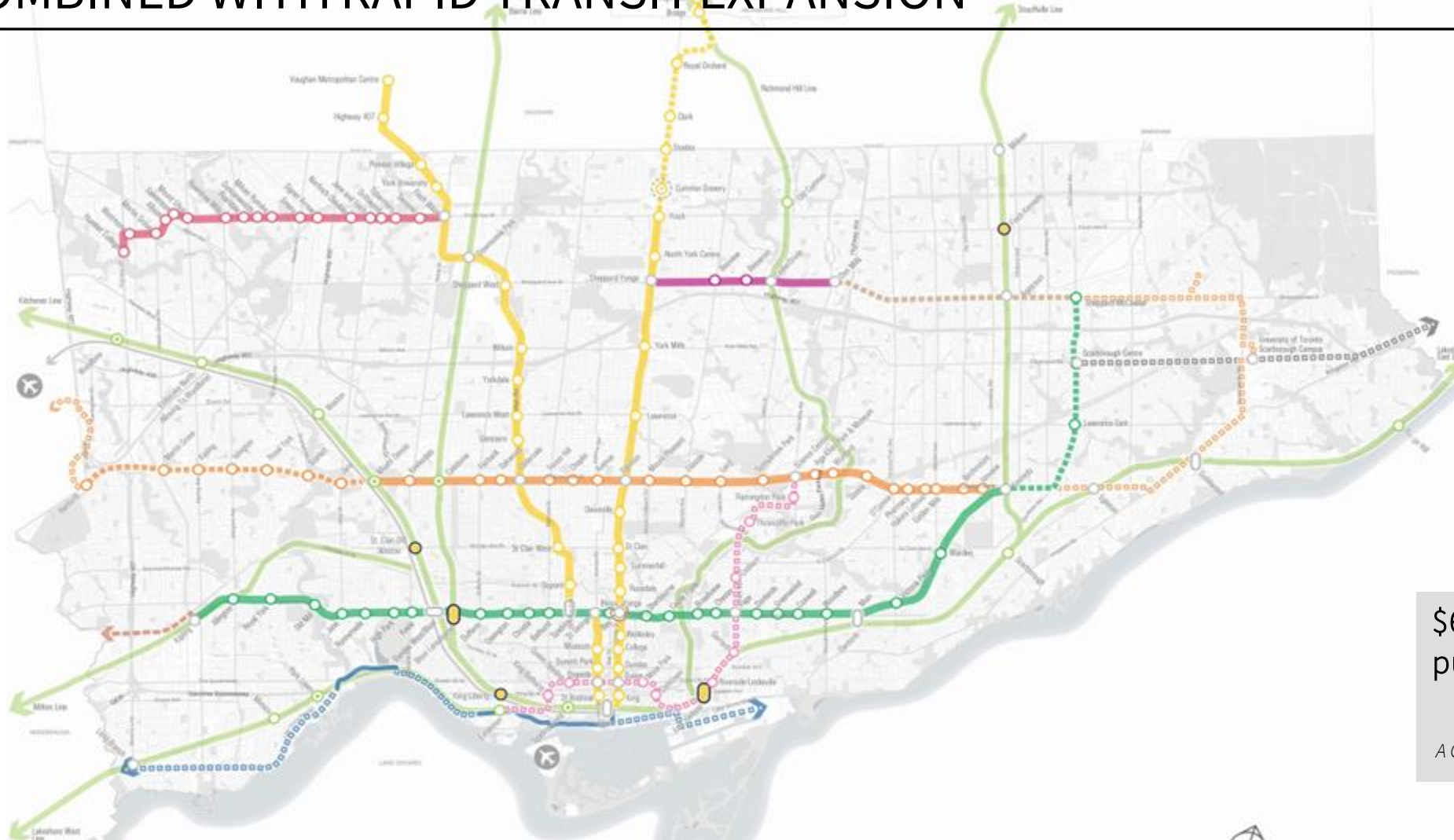
East Harbour Transit Hub



Park Lawn GO

COMBINED WITH RAPID TRANSIT EXPANSION

2010s



City of Toronto - Existing and Future Rapid Transit Network

Existing	Procurement & Construction	Preliminary Design & Engineering	Initiation & Development
Line 1 Yonge-University	Scarborough Subway Extension	West-Yonge Station Capacity Improvement	Dundas BRT
Line 2 Blue Danforth	Line 5 Eglinton Cross-town LRT	Eglinton Cross-town West Extension	Dundas Scarborough BRT
Line 4 Sheppard	Line 6 Finch West LRT	Eglinton East LRT	Sheppard Subway Extension
SP Express	Eglinton Cross-town West Extension	Ontario Line	
GO	SmartTrack Station	Waterfront Transit	
		Toronto North Subway Extension	
		Planned GO Station	
		Proposed Station	
		Interchange Station	

\$61.6 Billion over 10 Years for public transit investment.

A Capital Plan for Building Ontario, 2022.

Rapid Transit Expansion in Toronto, 2022.

Note: The alignment and stations of projects that we currently being planned are subject to change.
Last Update Date: 08/19/2022

COMPLETE TRANSIT-ORIENTED COMMUNITIES

2023

Transit-Oriented Communities that follow the same principles, but...

- Focus on a much larger-scale
- Rooted in big concept projects
- Drive new transit infrastructure



The Orbit, Innisfil



Caledon GO Station



TRANSIT



MIXED-USE



DENSITY

SUCCESSFUL MIXED-USE

HOW CAN WE BUILD GREAT, NOT JUST GOOD, PLACES?



Re-thinking Retail



Urban Open Space



Community Facilities

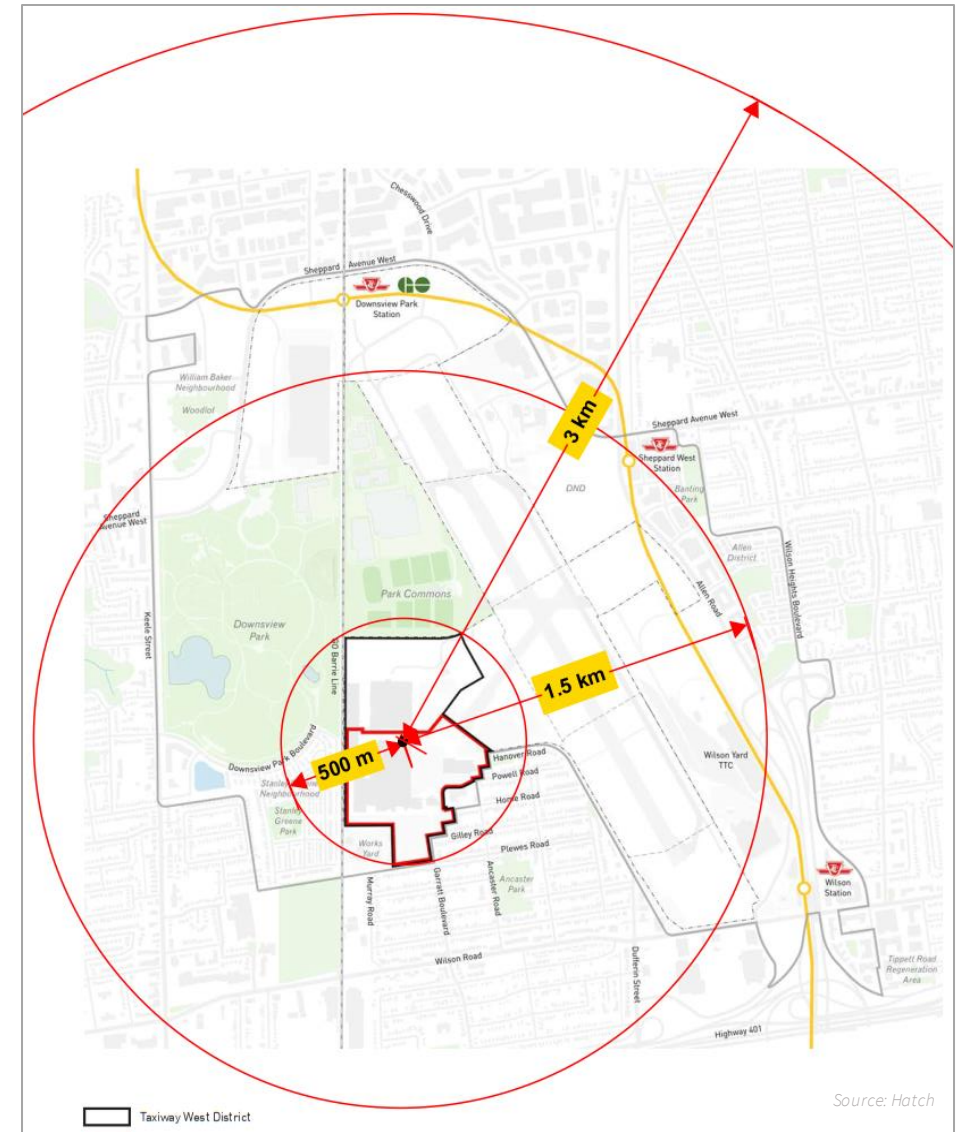
INTEGRATED MOBILITY

EMBRACING NEW MODES

Transit-oriented communities that plan for cycling, e-bikes, and e-scooters, and where parking is secondary.

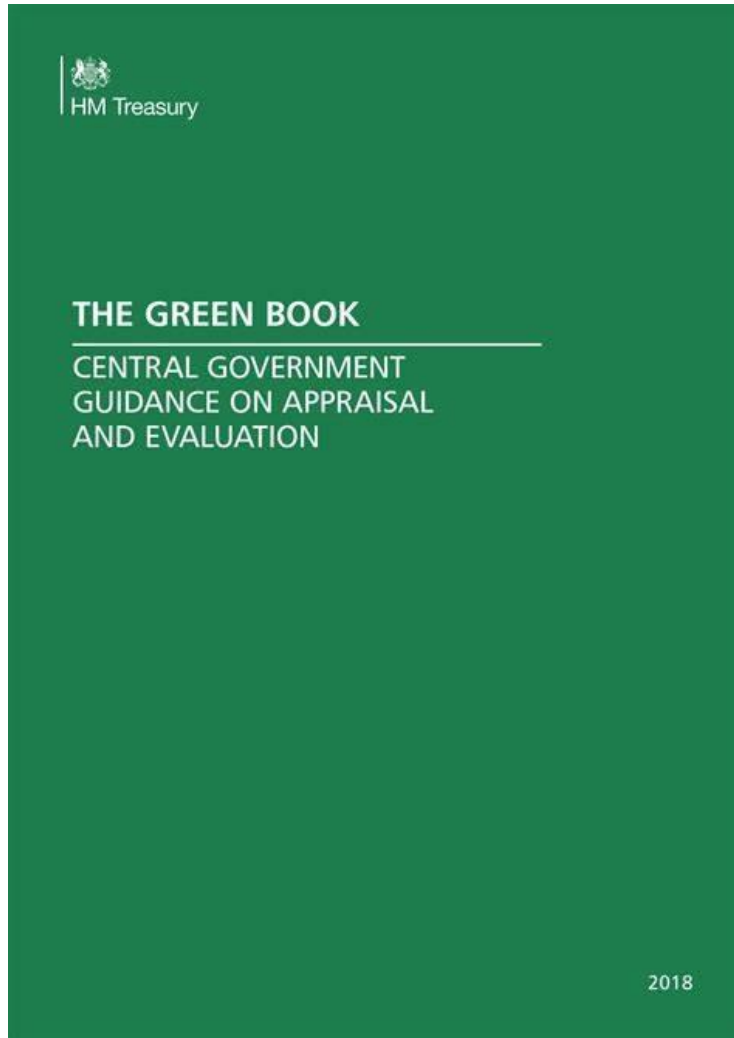


Compact communities

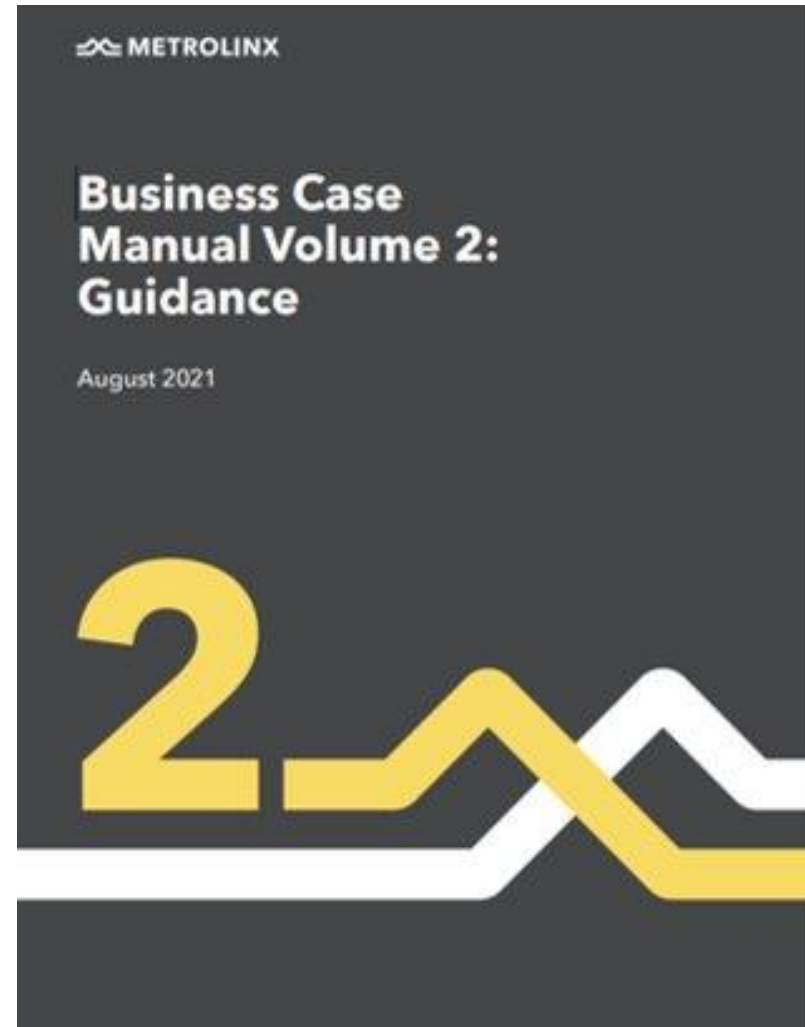


Increased accessibility

The foundation of planning and delivery is a strong business case and business plan...



The U.K. Green Book.



Metrolinx Business Case.

TRANSIT-ORIENTED DEVELOPMENT APPROACH



SOLVING THE HOUSING SUPPLY SHORTAGE?

TRANSIT CORRIDORS HAVE UNTAPPED DEVELOPMENT POTENTIAL

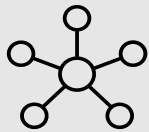
According to the Center for Urban Research and Land Development, there are almost 200 major transit nodes across Ontario that are either existing or are currently in the planning stages and/or are under construction, with almost 1,500 square kilometers of land that can support more density.



1.5 million homes in the next 10 years



1.5 billion sq.ft. of development space required

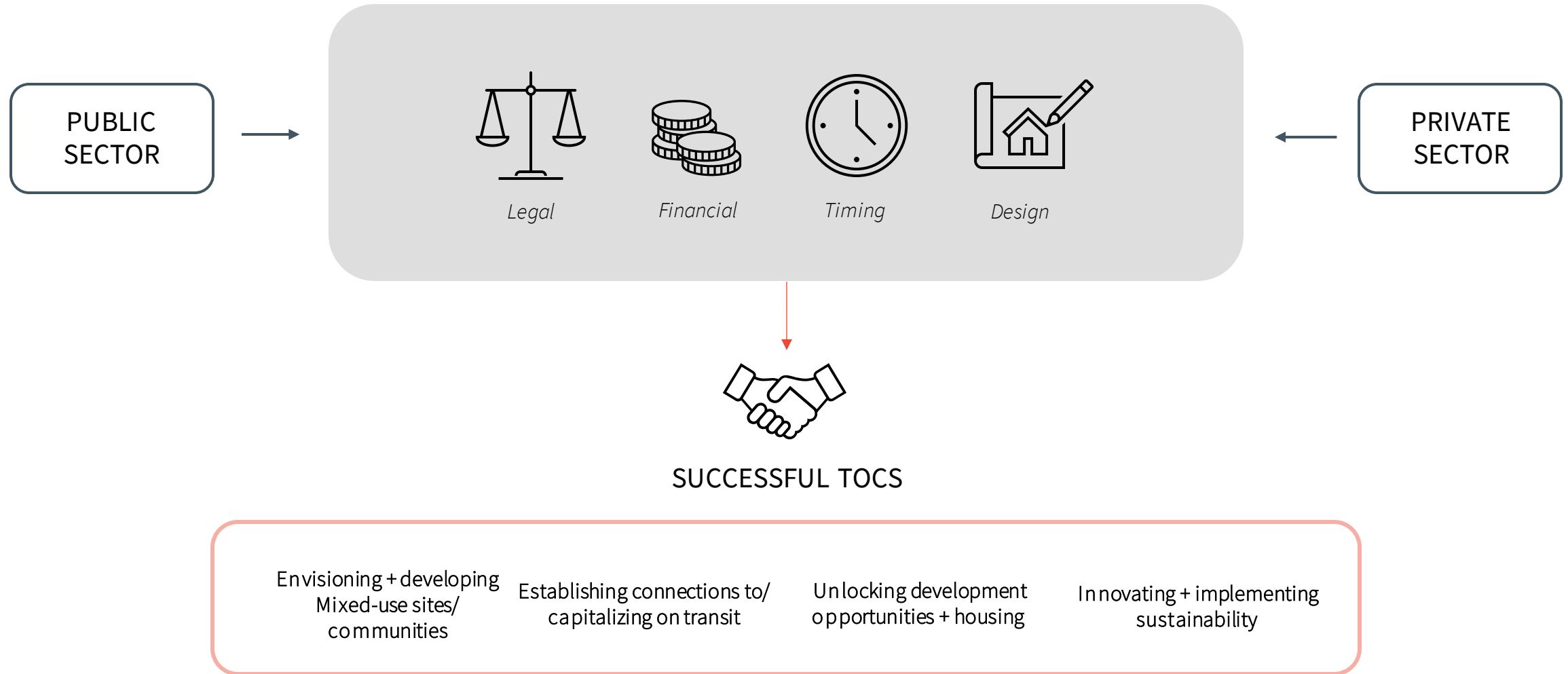


Need min. 214 TOD nodes to achieve housing goals



PUBLIC PRIVATE PARTNERSHIPS

The Ontario model demands partnerships which requires capacity on both sides.





Thank you.



Michael Sutherland
Director, Urban Solutions
Michael.Sutherland@hatch.com

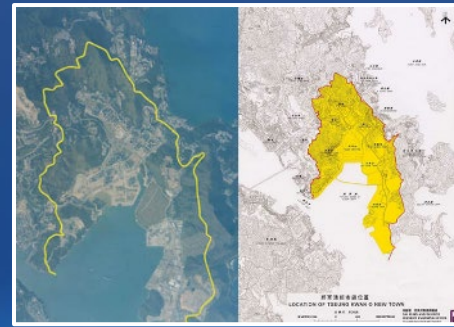
Hong Kong MTR Transit Oriented Communities – a Hong Kong Case Study (Tseung Kwan O)

June 2023

David Yam

General Manager - Business Development
MTR Corporation Limited

“Tseung Kwan O” New Town



Tseung Kwan O in 1990s.



- ✓ 11.9km, 8 stations (total 6 new stations)
- ✓ Ph 1 Construction: 1999 – 2002
 - ✓ Line opened in 2002
- ✓ Extension to LOHAS PARK in 2009
 - ✓ Construction started in 2006
- ✓ Target to serve 0.5Mil population
- ✓ The LOHAS – MTR’s largest TOC project

Background

1986

Development of TKO as a new town approved by the Government

1995

Feasibility Study by MTR

1999

Construction starts

2009

Opening of the extension line to LOHAS Park (Area 86)

1994

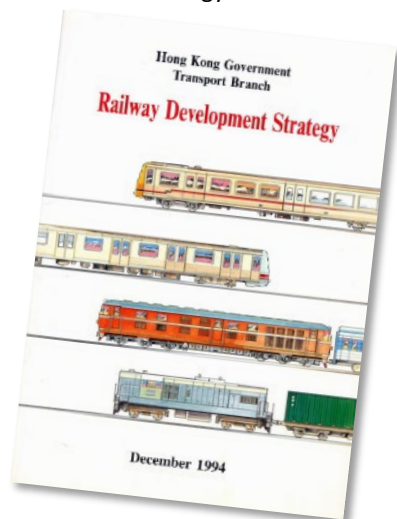
Issued "Railway Development Strategy 1994"

1996

MTR's New Line Proposal was approved by the Government (incl. a new depot at Area 86)

2002

Grand Opening of the new line



Four mixed-use communities along the line

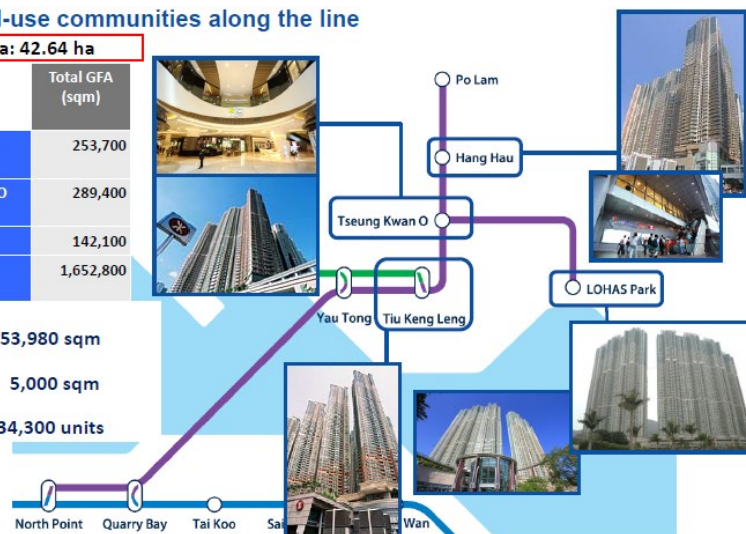
Total Land Area: 42.64 ha

	Total GFA (sqm)
Tiu Keng Leng	253,700
Tseung Kwan O	289,400
Hang Hau	142,100
LOHAS Park	1,652,800

Commercial: 153,980 sqm

Office: 5,000 sqm

Residential: 34,300 units



“LOHAS Park” – the largest TOC Project

Building a New “Garden City” Community



- Site Area: 32 hectares
- Total GFA: 1.6 M m² (Plot Ratio about 5)
- 50 residential towers
- 45,000 m² shopping centre
- Community facilities
- Transport interchange facilities
- Extensive landscaped open space

A township for 68,000 people
above a railway depot & station



Lifestyle
Of
Health
And
Sustainability

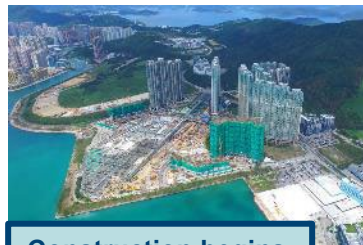
13 Residential
Packages

8 Developers

1 Shopping
Mall



Area 86 - Depot



Construction begins



2004 – 2020: 13 packages released



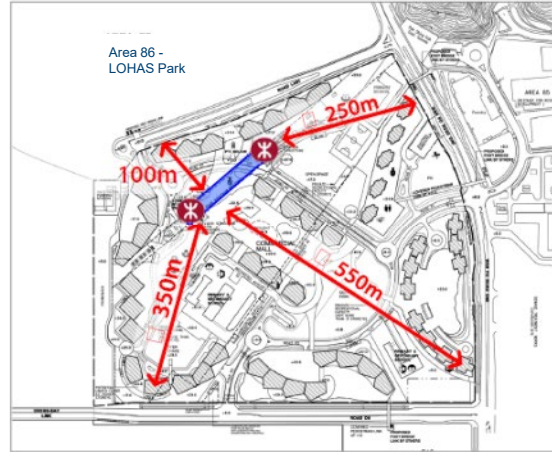
Today

“Seamless” - within a walkable distance to/from the MTR station

Pedestrian-friendly Local Planning



LOHAS Park Station
Major Station Entrance

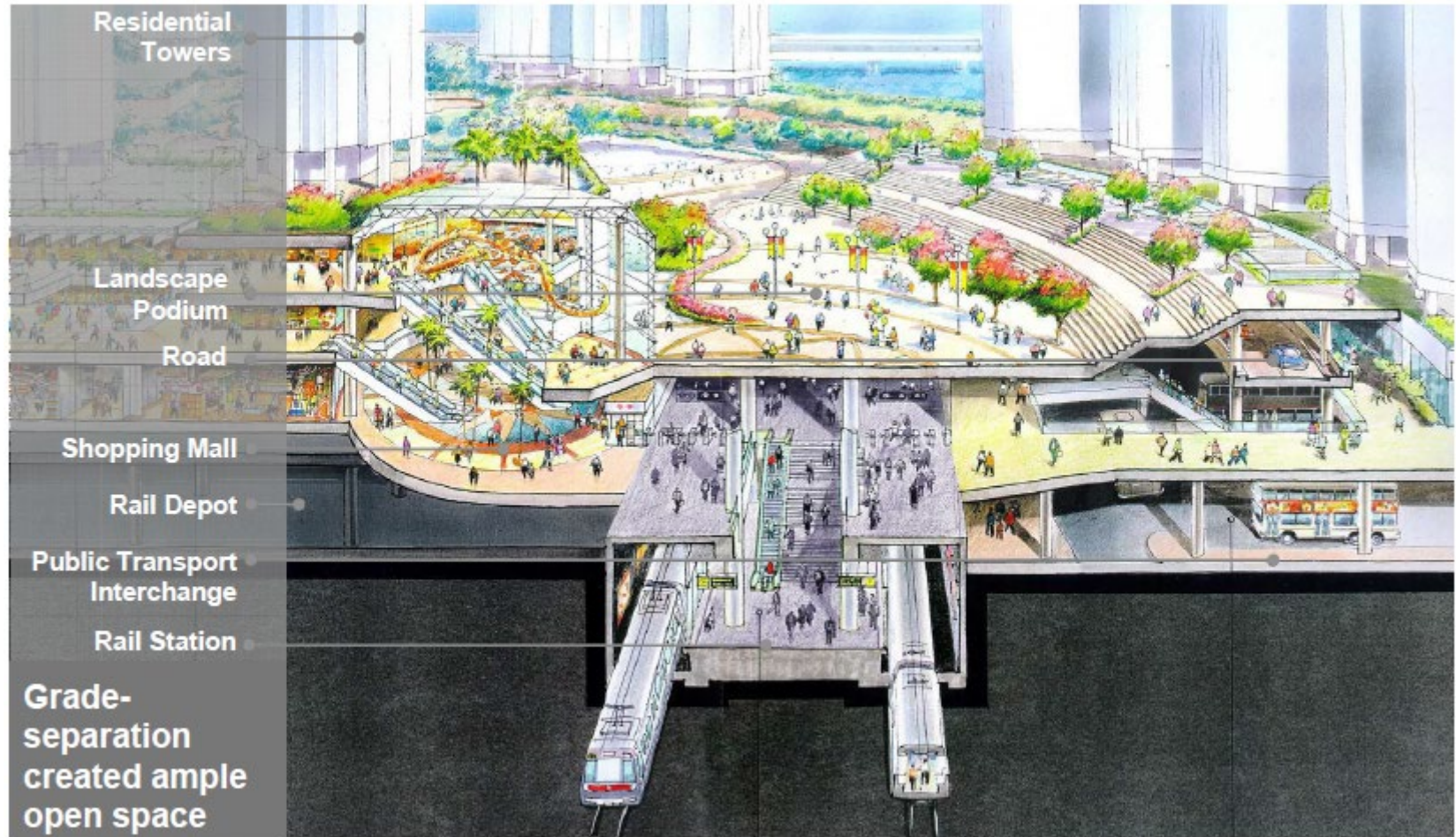


Pedestrian walk seamlessly connecting all parts of the community and traffic interchange



Convenient Covered Walkways

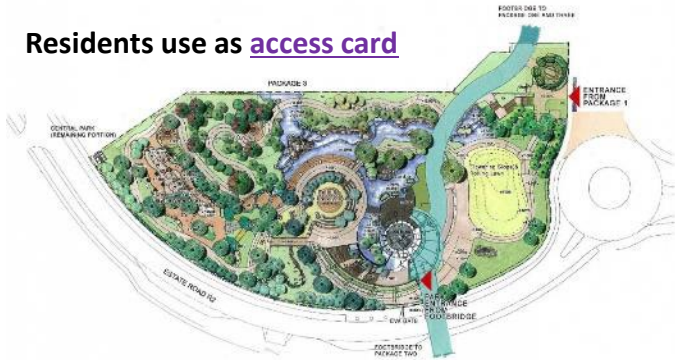
LOHAS Park - Putting People Above Vehicles



Grade-separation created ample open space

“Seamless” - Octopus Card

Residents use as access card



Easy Park Auto-Payment Service
at The LOHAS mall



One-stop service on your smartphone

Pay fares on public transport

Payments in shops/ supermarkets / retail outlets



The Joint Venture of Major Transport Operators



64.02%



22.1%

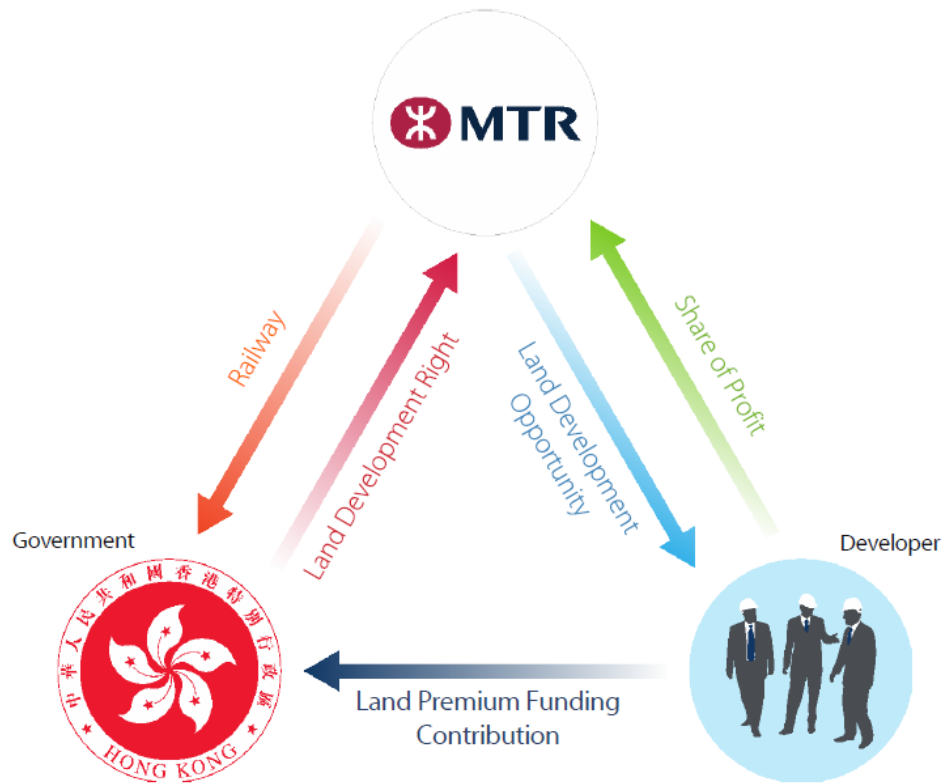


13.83%



0.05%

Our sustainable TOD model supports community development without public investment



MTR Integrated Property Developments

Tung Chung



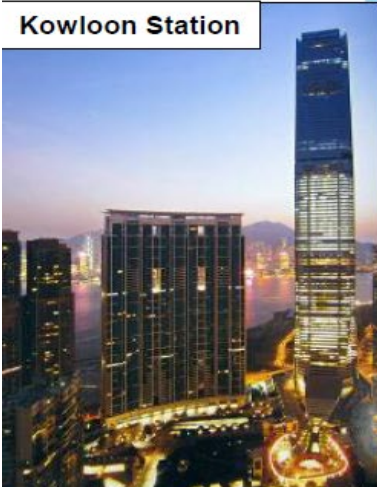
■ Total GFA **13 million m²**

> 50 Properties Owned/
Developed/Managed by
MTR
above its 99 stations
and depots

LOHAS Park



Kowloon Station



- Airport Extension
- East Rail Line
- Island Line
- MTR Tung Chung Line
- Ma On Shan Line
- Tseung Koon O Line
- Tsuen Wan Line
- Tung Chung Line
- West Kowloon Line
- Airport Express
- Light rail
- Express Rail Link (Cross Island)
- South Island Line (East)
- Airport Tung Chung Line Extension
- West Kowloon Line
- Ma On Shan Extension
- Through Rail Network
- Airport Extension
- Airport Extension
- Airport Extension
- Airport Extension



Hong Kong Station

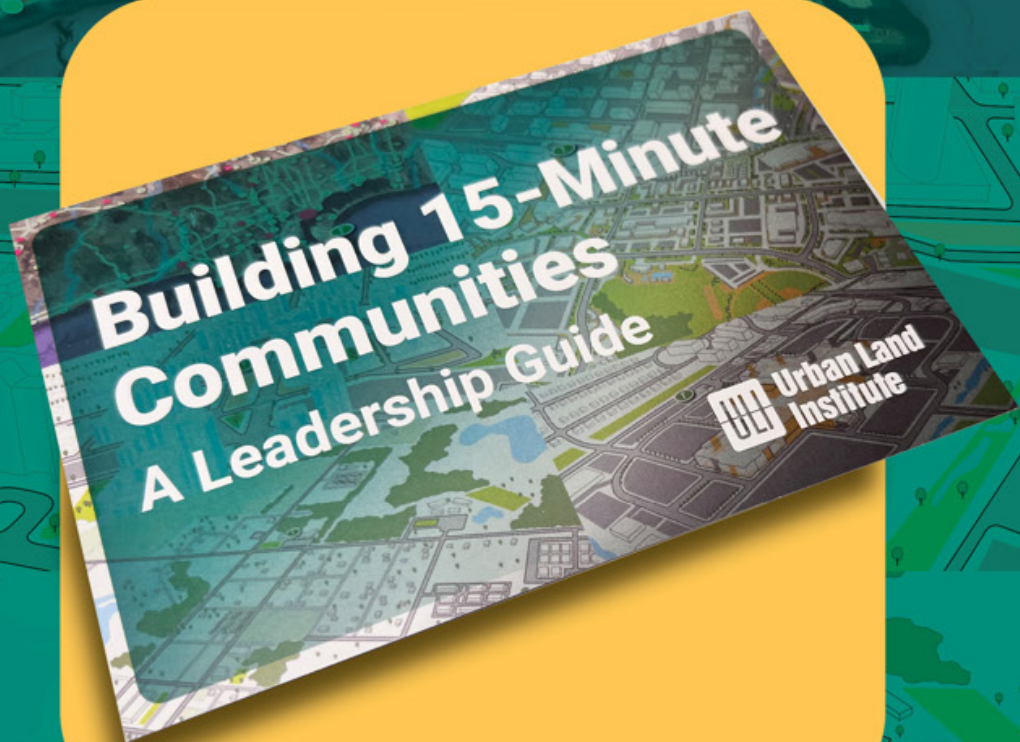


THANK YOU!



Download Report from ULI Knowledge Finder

To learn more,
scan this QR code



Join the movement at
uli.org/infrastructure



Shape by Five Forces for Change

Align Actions
with Innovative
Initiatives

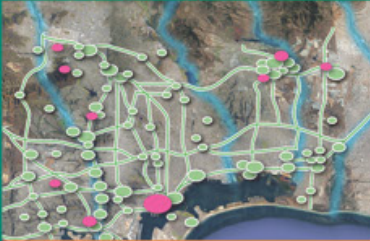
Streamline
Infrastructure
Delivery

Make
Infrastructure
Multifunctional

Apply Walkable
Catchment
Decisions

Bringing
Infrastructure to
Life with "One"

Transform by Six Leadership Strategies



Decarbonize
Metro regions
with TOCs



Diversify CBDs
into Live-in
Downtowns



Humanize &
Heat-proof
Edge Cities



Innovate
Suburban
Densification



Transform
Malls into
Communities



Activate
Exurbs as
Working NBS

Integrate by Five Infrastructure Systems

One
Vision

One
Environmental

One
Community

One
Energy

One
Mobility



Thank you!

ULI Global Webinar

September 13, 2023 1-2:30pm EST

uli.org/infrastructure

yvonne.yeung@uli.org 647 4661776



Building 15-Minute Communities Leadership Strategies

ULI Mission Priorities



**Urban Land
Institute**