ULI Infrastructure Forum Building 15-Minute Communities Leadership Strategies

ULI Mission Priorities

May 16, 2023 uli.org/infrastructure



Start at

8:15am

ULI Infrastructure Forum Spring 2023 Land Acknowledgment

Richard Joy Executive Director, ULI Toronto

ULI Curtis Infrastructure Initiative A Global Resource to Transform Cities into Equitable, Resilient and Thriving Communities

Craig Lewis ULI Curtis Infrastructure Initiative Global Board Chair, Principal, Arcadis

ULI Curtis Infrastructure InitiativeResearchForumExchange

Co-Benefits Creation

A Leadership Guiden and Aleadership Aleade

Framework

Strategies

Implementation



ULI Curtis Infrastructure Initiative Infrastructure Forum Leadership Team

Bill Anderson, Principal, CITECON, Lecturer on Urban Economics, University of California, San Diego

Kevin Augustyn, Senior Vice President and ESG Lead, Credit Ratings, North American CMBS, Morningstar DBRS

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Lucia Garsys, Senior Adviser for Community Partnerships, Hillsborough County Government Matthew Kwatinetz, Director, Urban Lab, New York University, Senior Real Estate Executive, Q Partners

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Yvonne Yeung, OLI Curtis Infrastructure Fellow



ULI 15-Minute Leadership Strategy to Build More 15-Minute Communities

ULI Mission Priorities

Yvonne Yeung ULI Curtis Infrastructure Fellow



A Mission to Build 10+ billion SF of Development

in 15-Minute Communities by 2030

Daily Vehicle Miles Traveled

Montreal

15,000 to 306,000 MILES
306,000 to 673,000 MILES
673,000 to 1,300,000 MILES
1,300,000 to 3,170,000 MILES
3,170,000 to 211,000,000 MILES

ULI District Councils

Urban Land Institute

A Mission to Build 10+ billion SF of Development

in 15-Minute Communities by 2030

Level of Human Impact

0 - 1	40 - 60
10 - 20	60 - 80
20 - 30	80 - 100
30 - 40	
40 - 60	

ULI District Councils
 ULI District Councils
 ULI Urban Land
 ULI Institute

Shape by Five Forces for Change

Align Actions with Innovative Initiatives Streamline Infrastructure Delivery

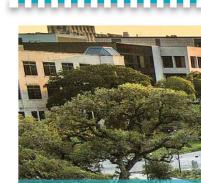
Make Infrastructure Multifunctional Apply Walkable Catchment Decisions Bringing Infrastructure to Life with "One"

Transform by Six Leadership Strategies



Align Leadership Actions with Initiatives

Infrastructure Initiatives (2021-2023)



Conservation

30x30

Restore forest and the natural environment, Expand parks & open spaces by 30% by 2030



Use 40% of funds to fill transit and service gaps, and extend site improvements in underserved communities

Justice40

Initiative





Healthy People

2030

Build healthy communities, with walkable access to care, education, and health service



Urban Land

Institute

remove parking & reduce waste

Combine Actions to Streamline Delivery



Infrastructure Initiatives (2021-2023)

Funding Structure and Eligibility (IIJA)

30x30 Conservation	Justice40 Initiative		
Metro region, special district, tribal, rural	Public, private, nonprofit	Plan, Engage, R&D, Capital, Operation	Infrastructure in categories
Av 3rd St S Vermont Ave Av 8th St S Hoover St S Hoover St E Vernon Ave 196 ft			
Create a multi- functional district	Form joint venture and community partnership	Fund roles and responsibilities to implement	Combine related infrastructure to streamline delivery

Make Infrastructure Multifunctional

Collocate multiple

services in hubs



Infrastructure **Initiatives** (2021-2023)

Funding Structure and Eligibility (IIJA)

Committee **Oversight** (IRA, ARPA)

30x30 Conservation	Justice40 Initiative	Healthy Peo 2030	ople 50% decarbonization by 2030
Metro region, special district, tribal, rural	Public, private, nonprofit	Plan, Engage R&D, Capital, Operation	
Child and senior car health and education		nway, active	Energy, building efficiency, drought mitigation, and water supply

Integrate multimodal

Create urban sponge and network in green streets decarbonize a district

Build 15-Minute Communities



Infrastructure Initiatives (2021-2023)

Funding Structure and Eligibility (IIJA)

Committee Oversight (IRA, ARPA)

Geography Type (walkable catchment)

30x30 Conserva	tion	Justi Initia	ice40 ative	Healthy People 2030		50% decarbonization by 2030		
Metro regi special dis tribal, rura	trict,	Publi nonp	c, private, rofit	Plan, Enga R&D, Capita Operation			Infrastructure in categories	
Child and se health and e			Transit, complete streets, regional greenway, active transportation, clean mobility			Energy, building efficiency, drought mitigation, and water supply		
425 Metro Regions	Over 1 Dowr	.85 1towns	Over 200 Edge cities	Over 110,000 Suburban Corridors		r 1,000 I lls	Exurbs 1/3 of the global agricultural land	

Bring Infrastructure to Life



Infrastructure Initiatives (2021-2023)

Funding Structure and Eligibility (IIJA)

Committee Oversight (IRA, ARPA)

Geography Type (walkable catchment)

Infrastructure Systems (human lens)

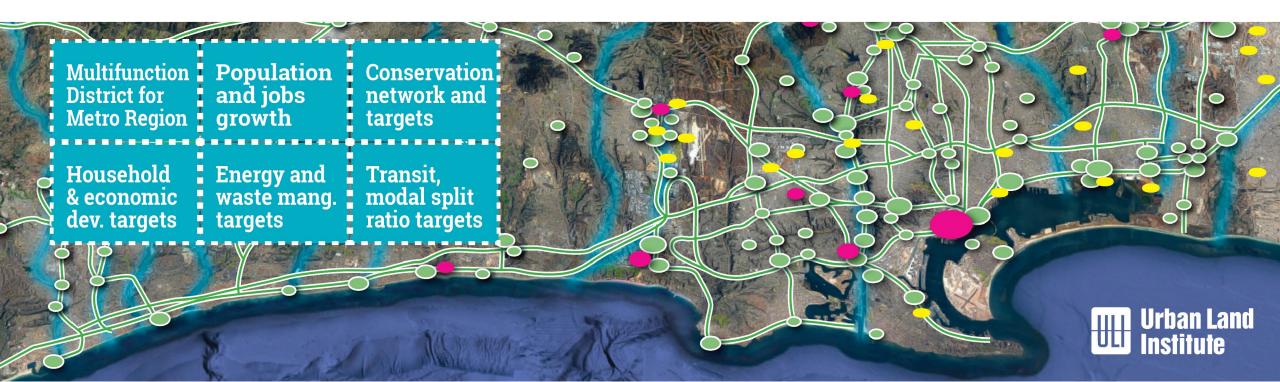
30x30 Conservati	ion	Justi Initia		Healthy People 2030		50% decarbonization by 2030		
Metro regio special dist tribal, rural	rict,	Public nonp	c, private, rofit	Plan, Enga R&D, Capit Operation	D, Capital, 💻 in		rastructure categories	
Child and ser health and ec								
425 Metro Regions	Over 1 Dowr	85 1towns	Over 200 Edge cities	Over 110,000 Suburban Corridors		r 1,000 lls	Exurbs 1/3 of the global agricultural land	
One Vision infrastructure		e vironmer astructure		munity	One ener infrastructu		One mobility infrastructure	



Metro Regions Decarbonize with a network of 15-minute communities

- Ensure reliable infrastructure
- Decarbonize the electricity system
- Repurpose transportation rights-of-way
- Use the circular economy to decarbonize supply chain
- Ensure Coordination of Integrated Planning

"Many components of municipal infrastructure, from roads to sewer to transit, have been built for tolerances and weather conditions that do not align with the new climate reality. In the short term, some of the work to mitigate climate risk could re-create more economic activities." —Larry Fink, chairman and CEO of BlackRock, letter to CEOs



15-Minute Communities Leadership Strategies Urban Land DOWNTOWNS Create Diversified, Decarbonized, Affordable, Live-in CBDs



Stage 1

Create a special district

Government

Establish a district commission

Real estate

Create a community decarbonization vision

Nonprofit

Establish a local advisory group

15-Minute Communities Leadership Strategies Urban Land DOWNTOWNS Create Diversified, Decarbonized, Affordable, Live-in CBDs



Stage 2

Convert gray infrastructure to green infrastructure

Government

Connect green spaces and implement road diets

Real estate

Convert spaces to accommodate pop-ups and socializing

Nonprofit

Host cultural programs

15-Minute Communities Leadership Strategies UI Institute Institute Downtowns Create Diversified, Decarbonized, Affordable, Live-in CBDs



Government

Reduce parking; expand bikeways and increase transit

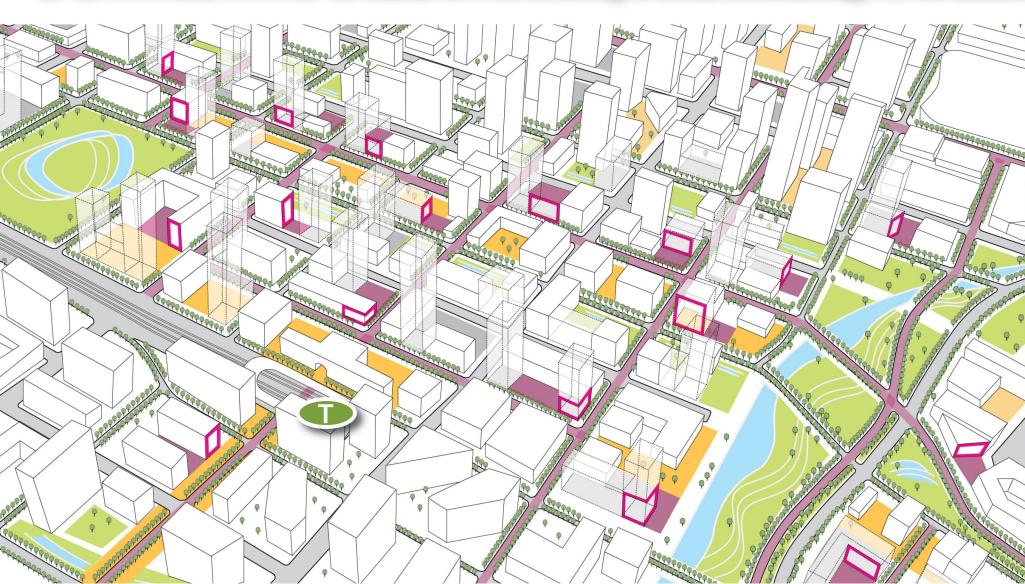
Real estate

Convert vacant spaces into housing; add micro-mobility options

Nonprofit

Develop a districtwide "one-trip" crowdsource app

15-Minute Communities Leadership Strategies UI Institute Institute Downtowns Create Diversified, Decarbonized, Affordable, Live-in CBDs



Stage 4

Create a network of community hubs with a variety of services

Government

Identify hub locations, and co-locate public services in hubs

Real estate

Lease ground/lower floors and adjoining outdoor space for hubs

Nonprofit

Fund an executive director for hubs; coordinate a walking school bus

15-Minute Communities Leadership Strategies UI Institute Institute Downtowns Create Diversified, Decarbonized, Affordable, Live-in CBDs

Stage 5

Decarbonize the district

Government

Set carbon budget; add district energy and automated waste collection

Real estate

Add solar photovoltaics and biophilia elements; build with mass timber; update operation practices

Nonprofit

Run urban agriculture and waste-reduction programs



Edge Cities Create Heat-proof, All-ages-Friendly communities



Stage 1

Reduce heat risks; develop a plan for extremeheat response

Government

Develop a local extremeheat response plan; conduct financial planning for reducing heat risk

Real estate

Work with financers and insurers to create sustainable capital for heat reduction

Nonprofit

Create a three-dimensional GIS-based communityscale performance model to plan for heat response



Edge Cities Create Heat-proof, All-ages-Friendly communities



Stage 2

Heat-proof the community and add green infrastructure

Government

Implement road diet; install street trees and broadband; designate cooling centers

Real estate

Install green walls and rooftop gardens; improve accessibility and digital connectivity

Nonprofit

Convert parking lots into green spaces; arrange extreme-heat and blackout support



Edge Cities Create Heat-proof, All-ages-Friendly communities



Stage 3

Decarbonize the area; improve livability for all age groups

Government

Create a decarbonization plan; switch to renewable energy and reduce waste

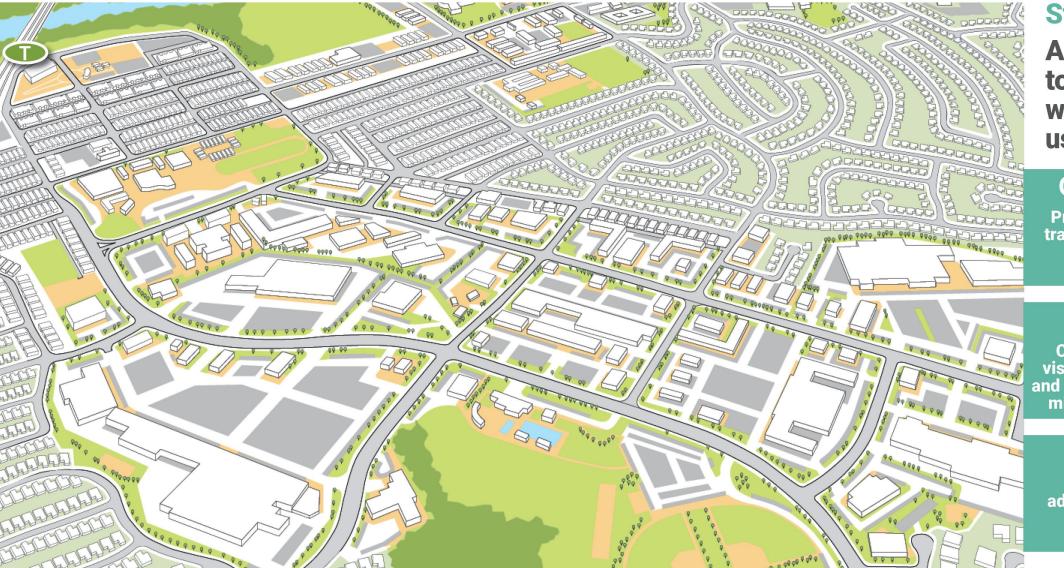
Real estate

Decarbonize buildings; provide on-site child care, senior care, and health care facilities

Nonprofit

Host recycling, composting, and planting campaigns

15-Minute Communities Leadership Strategies Urban Land Institute Suburban Corridors Densify into Walkable, Mixed-use Innovation Districts



Stage 1

Align decisions to build dense, walkable, mixeduse development

Government

Prioritize vehicle-miles traveled (VMT) reduction to drive mixed-use densification

Real estate

Create a district-scale vision; assist government and landowners in delivering mixed-use development

Nonprofit

Establish a local advisory group; develop ways to improve last-mile delivery

15-Minute Communities Leadership Strategies Urban Land Suburban Corridors Densify into Walkable, Mixed-use Innovation Districts



Stage 2

Reduce daily trips by residents

Government

Deliver a network of walkable hubs; add broadband service

Real estate

Deliver hubs with new multifamily housing; add micro-mobility

Nonprofit

Coordinate walking school bus and school streets programs

15-Minute Communities Leadership Strategies Urban Land Suburban Corridors Densify into Walkable, Mixed-use Innovation Districts



Stage 3

Reduce daily trips by workers; add innovation jobs

Government

Install urban greenways; increase public green spaces

Real estate

Build mixed-use development with indoor and outdoor event spaces

Nonprofit

Create an innovation hub to boost innovation economy

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Malls Transform into Transit- and Trail-Oriented Mixed-use Communities



Real estate

Densify development with onsite services; add multisensory experiences; knit together new and existing places

Nonprofit

Host cultural programs; boost healthy food and wellness culture

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Malls Transform into Transit- and Trail-Oriented Mixed-use Communities



Combine ownerships and easements for redevelopment

Government

Connect communities; prioritize infill development on parking lots or full reuse of malls; extend streets, trails, and green-space networks

Real estate

Convert driveways into urban mixeduse streets; shift to renewable energy; blend uses to provide a healthy, active, open-air environment

Nonprofit

Provide community car-sharing and active mobility; set up a community hub and introduce programming

15-Minute Communities Leadership Strategies Urban Land EXULTS Activate as Working Landscape of Agrihoods and Nature-Based Solutions



Stage 1

Create an agricultural heritage district

Government

Establish a district commission; update policies; facilitate partnerships

Real estate

Create investment opportunities for carbon credits, vertical farming, and solar PV

Nonprofit

Establish a community land trust to conserve natural resources

EXULDS Activate as Working Landscape of Agrihoods and Nature-Based Solutions



Stage 2

Decarbonize and restore nature

Urban Land Institute

Government

Connect ecosystems; restore forests; expand trail and cycling networks

Real estate

Implement regenerative farming and food-based planting in community

Nonprofit

Host agribusiness and youth enterprise programs

15-Minute Communities Leadership Strategies Urban Land EXULDS Activate as Working Landscape of Agrihoods and Nature-Based Solutions



Stage 3

Add amenities; promote research on nature-based solutions

Government

Arrange on-demand transit service; streamline permitting

Real estate

Build agriculture-focused main streets; add renewable energy infrastructure; create agrihoods

Nonprofit

Set up a large-scale naturebased solutions research campus with highereducation institutions

15-Minute Communities Leadership Strategies Success comes from six key decision shifts

TOD to TOC

Shift from building buildings to building communities.

Automobilecentric to people centric

Making walking and cycling the top choices.

2D decisions to 3D decisions

Mega facility to

walkable catchments.

local facility

Plan facilities with

Create joint use by sharing space and sharing time.

Gray to green

Replace gray infrastructure like parking lots with parks and regional greenways.

"Just in time" to "just in case"

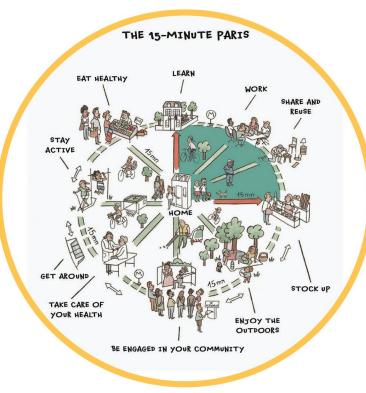
Make proactive decisions. Start building 15-minute communities today. "Thoughtful leaders get results through people by making clear what needs to be done, why it should be done, and how each person can contribute." —Jim Fisher, University of Toronto Rotman School of Management



In a transit-oriented community, every block acts as a miniature neighborhood, and every building and outdoor space contributes to enhanced livability. (ULI Toronto)

15-Minute Communities Leadership Strategies Success comes from walk-centric leadership







In Clarence Perry's neighborhood unit plan, schools and parks are at the center of a walkable, mixed-use community with walkable streets and local shops. (Clarence Perry, New York City Planning Department, 1929)

In Carlos Moreno's 15-minute Paris plan, one place has several uses, each use bring new creativity. It provides a journey to find humanity at the end of every street, to give a heart to the heart of the city. (N. Bascop for Paris En Commun, 2019) **Los Angeles's** Livable Communities Initiative aims at solving our housing crisis while delivering the beauty and convenience of a 15-minute city. (Livable Communities Initiative, 2022)

15-Minute Communities Leadership Strategies Success comes from effective partnerships

6 Geographies 15-Minute Communities Leadership Strategies 3 to 5 Stages Stage 1: Create a special district Downtowns Create Diversified, Decarbonized, Affordable, Live-in CBDs "As a kid, I carried my cello to school, rode my bike to workforce commuting into the downtown area, entails Vision Typical • • after-school programs at the fieldhouse in the park, extensive parking facilities and automobile-centric roads that are costly to maintain. Often, insufficient funds remain for ran errands to the corner grocery store, and safely community infrastructure to serve local residents played on the sidewalk until the streetlights came on. conditions It was a 15-minute complete community." In recent years, with more people choosing to work from home The 15-Minute developers in cities such as Philadelphia. Chicago, New York • -Lucia Garsys, ULI Infrastructure Forum Leadership City, and elsewhere have pushed to convert office space into North America has hundreds of downtowns that serve as housing. According to a December 2022 report, more than economic drivers for cities. In the largest 30 downtowns, most 11.000 multifamily units were created from office conversions community Government in 2021-2022, and 77,000 additional units are in the pipeline.4 • buildings are used as office space, with the rest used for cultural institutions, tourism, and retail space, supported by rapid transit This growth in residential populations requires immediate and some multifamily housing. This model, with much of the solutions to shift CBDs into "live-in" downtowns. experience role Establish a local advisory Stage 1: Establish a district Create a community Infrastructure Real estate • • Create a special district decarbonization visio aroup commission Stage 2: Connect green spaces Convert spaces for Convert gray infrastructure to Host cultural program pop-ups and socializing needs implement road diets role green infrastructure Convert vacant snaces into Stage 3: Reduce parking: expand Develop a districtwide "one housing; add micro-mobility Improve walking and cycling bikeways; increase transit trip" crowdsource app ontions Real estate Nonprofit • Stage 4: Create a network of Lease ground/lower floors Fund an executive director Identify hub locations and • for hubs; coordinate a walking school bus community hubs offering a co-locate public services and adjoining outdoor variety of community services in hubs space for hubs Add solar photovoltaics and opportunities Set carbon budget; add district energy and role Stage 5: Run urban agriculture and biophilia elements: build with mass timber; update waste-reduction programs Decarbonize the district automated waste collection operation practices Building 15-Minute ior care, and health care Edge Citie Building 15-Minute add innovation jobs Suburban Corridor **Downtowns** extend streets, trails, and healthy, active, open-air introduce programming Malls infrastructure Building 15-Minute Communities: A Leadership Guide Building 15-Minute Communities: A Leadership Gu energy infrastruc on nature-based solution **Edge Cities Exurbs** Building 15-Minute Communities: A Leadership Guide Frurbs Fruth Building 15-Minute Communities: A Leadership Guid framework and a parking and modal split ratio. trip, and parking red An example of transit-oriented communities organized at the metro region scale. Transit lines connect a network of local walkable reduction plan **Suburban Corridors Metro Regions** Metro Region Ruilding 15-Minute Communities: A Leadership Guid Metro Region Ruilding 15-Minute Communities: A Leadership Guid

Urhan I and

15-Minute Communities Leadership Strategies from ULI Curtis Infrastructure Global Board



"Walkable urbanism can be accomplished at many scales – from small towns to large metropolitan cities. Compact critical mass is the key – having many places to walk or bike to in 15 minutes."

"We have the opportunity to repair environmental damage with new green infrastructure that delivers a more human and ecologically supportive place."

Craig Lewis

ULI Curtis Infrastructure Initiative Global Board Chair

15-Minute Communities Leadership Strategies from ULI Infrastructure Forum Leadership.

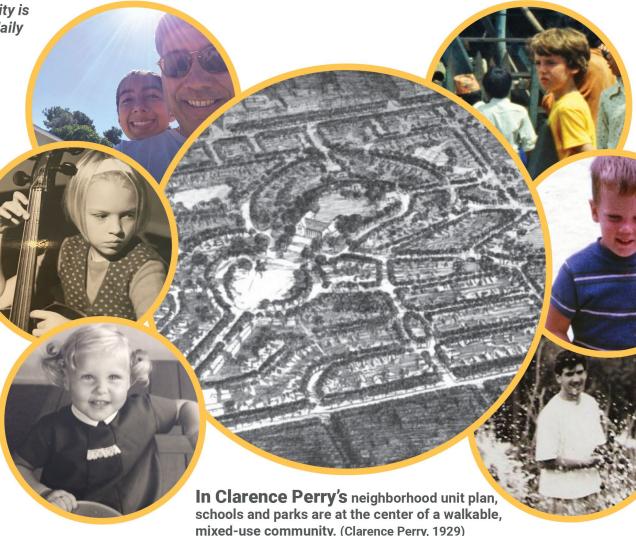
"A 15-minute complete community is where I can access most of my daily life when I'm young and old." William Anderson

"As a kid, I carried my cello to school, rode my bike to afterschool programs at the fieldhouse in the park, ran errands to the corner grocery store, and safely played on the sidewalk until the streetlights came on. It was a 15-minute complete community."

Lucia Garsys

"A 15-minute community is a place where I do not need a car to get around and have all I need within walking distance of my home. Such places exist, and we can apply what we have learned from these places as we conceive of future communities."

Renee Schoonbeek



"In a world that can be dominated by pro forma, performance goals, and delivery methods, the concept of 15-minute communities brings the important dimension of scale back into city building." **Gullivar Shepard**

"15-minute communities can free their users from the isolation of automobile travel. Neighbors, retail clerks, business owners, and educators become friends, and their community becomes a place of gathering."

Jrban Land

Kevin Augustyn

"Effective urban planning leadership for 15-minute communities requires combined budgets and strategic thinking, collaborative skills, and a commitment to sustainability, equity, and resilience." **Stephen Engblom**

"Cities are integrated and living organisms; siloed planning is no longer effective. Human-centric cities take into account the relationship between new location decisions for infrastructure that are essential for integrated local area planning." **Matthew Kwatinetz**

Download Report from ULI Knowledge Finder

Building 15-Ninute Building ities Company Guide Aleadership Guide

To learn more, scan this QR code



Join the movement at uli.org/infrastructure



Now is your turn . . .

Case Studies & Audience Q & A

Leadership Framework & Audience Workshop



ULI Infrastructure Forum Case Studies Panel

Financing Transit-Oriented Communities

Dr. Morteza Farajian

Executive Director, Build America Bureau Office to Housing Conversion

Eric Tao

San Francisco District Chair SPUR, Managing Partner L37 Development Repositing Malls to Mixed-use

Erich Dohrer

Principal, Arcadis

Low Carbon Energy Solutions

Morrigan McGregor

Senior Vice President of Energy Planning and Development, Enwave De-risk with Green Infrastructure

Sameer Dhalla

Director of Dev. and Eng. Services, Toronto and Region Conservation Authority

UL Urban Land

Facilitators:

Craig Lewis Principal and Placemaking Group Manager Arcadis, and Kevin Augustyn Senior VP and ESG Lead, Morningstar DBRS



BUILD AMERICA BUREAU

U.S. DEPARTMENT OF TRANSPORTATION

Executive Director Morteza Farajian, PhD Urban Land Institute Spring Meeting

About the Build America Bureau

Advancing investment in America's transportation infrastructure by providing **financial** and **technical** assistance

Financial Assistance

Flexible, low-cost, long-term credit assistance (loans, loan guarantees, and lines of credit) – \$100 B available – for a wide range of eligible projects; and taxexempt bonds – \$15 B available – for public-private partnerships.

Technical Assistance

Grants for project planning and development, community solutions, and advisory services; and opportunities for training and education on the use of innovative project planning, financing, and delivery techniques

Major Bureau Programs

TIFIA

Transportation Infrastructure Finance & Innovation Act of 1998

- Surface transportation and public infrastructure
- Airports can finance up to 33% of eligible project costs

RRIF

Railroad Rehabilitation & Improvement Financing

- Passenger, freight, and commuter rail and transit-oriented development (TOD)
- Finance up to 100% of eligible project costs

Private Activity Bonds

- State/local governments issue tax-exempt bonds
- Private entity responsible for debt service
- Can be used alone or in combination with TIFIA and RRIF

Key Features

- Highly customizable to meet borrower needs
- Borrow up to 33% of eligible project costs, and up to 49% for rural, transit, and TOD projects
- Long-term repayment period up to 35 years (some 75!)
- Accrues interest when funds drawn
- Optional five-year deferral after completion
- No pre-payment penalty
- Also offer loan guarantees and lines of credit

LOW INTEREST RATE **3.69%** for 35-year loan as of 5/3/23

TIFIA 49 Initiative for Transit & TOD

New policy initiative announced by U.S. Transportation Secretary Pete Buttigieg on October 4 that maximizes TIFIA's lending authority **up to 49%** (vs. historical 33%) of total eligible project costs for:



PUBLIC TRANSPORTATION

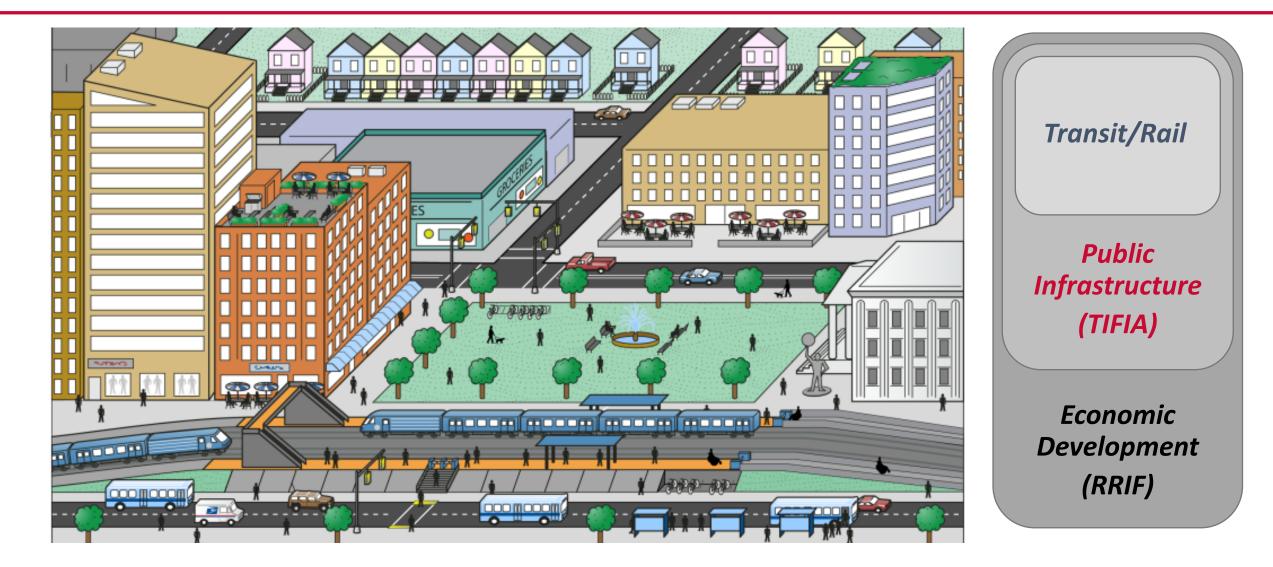


TRANSIT-ORIENTED DEVELOPMENT

Until now, the only projects eligible for financing of up to 49% were rural and "Extra" projects



Transit-Oriented Development (TOD)



Surface Transportation – Putting the "T" in TOD

- Projects eligible under U.S. Code: Title 23 (FHWA grant programs) or Title 49, Chapter 53 (FTA grant programs), including but not limited to:
 - Stations or facilities for *fixed guideway transit**
 - Stations or facilities for *intercity bus***
 - Stations or facilities for *intercity passenger rail****
 - Intermodal stations or facilities including one of the above modes

- Joint Development
 Joint development is an eligible "capital project" under all FTA (Title 49, Chapter 53) grant programs
- Joint development projects must satisfy certain eligibility criteria:
 - Create an economic benefit
 - Create a **transit benefit**
 - Provide a fair share of revenue for transit
 - Occupants pay a fair share of the costs to operate/maintain
 - Sponsor collects fees for use of ZEV fueling equipment, if installed
- Joint development projects that satisfy these criteria are eligible for TIFIA credit assistance, per 23 U.S.C. § 601(a)(12)(E)

TIFIA Public Infrastructure

"Public" means:

- owned, occupied, developed, or operated/maintained by the public sector; or
- open to the public, support a public service, or serve a public purpose

"Infrastructure" means:

- "Horizontal" elements of projects, such as land acquisition, demolition of existing structures, site preparation, environmental mitigation, utilities, foundations, parks and open space, roads, pedestrian and bicycle facilities, or transit access improvements
- "Vertical" development of *public* buildings and facilities, such as government buildings, civic centers, or facilities that include community services such as daycare, health care, education, job training, etc.

Must be located within walking distance of, and accessible to, a fixed guideway transit, intercity passenger rail, intercity bus, or intermodal station or facility

Moynihan Train Hall

- Underground access to connect the newly-built Moynihan Train Hall in Midtown Manhattan to Penn Station across Eighth Ave.
- New home of Amtrak; serves as the arrivals/departures hall
- Ticketing for MTA's Long Island Rail Road service
- Retail Space

TIFIA Assistance

\$607 Million
Project Cost
\$1.85 Billion
Project Delivery/Contract Method
Design-build subcontract and 99-year
lease to a private developer to
construct the facility.



Multimodal Infrastructure Investments

Case Study: Bel-Red Neighborhood - Bellevue, WA



Image Source: Sound Transit

Major Investments

- New light rail corridor
- Light rail O&M facility
- Multimodal upgrades to construct and improve street grid: "Complete Streets"
- Joint development affordable housing
- Other private commercial development

Key Partners

- Sound Transit
- City of Bellevue, WA
- Federal Transit Administration
- Federal Highway Administration
- Build America Bureau
- Private developers: affordable housing, office



East Link Extension



Bel-Red Neighborhood Projects



O&M Facility East





Image Sources: Sound Transit, City of Bellevue

Mount Vernon Library Commons TIFIA - "Public Infrastructure"

- Design-bid-build project to construct:
 - Public library & community space
 - Parking garage with 270+ parking spaces, including 75 EV public charging stations
 - Electric bicycle charging stations
 - Transit stop
 - Power generation facilities

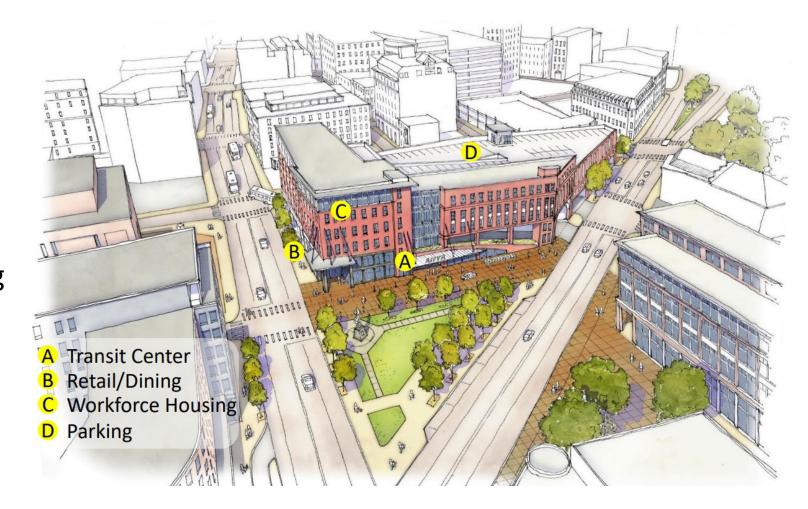


Project Rendering – Library Component (source: City of Mount Vernon, WA)

Dorrance Street Transit Center TIFIA - Joint Development

- мixed-use development above a transit facility.
- Exploring a P3 and are currently out for bid.
- Technical assistance with RIPTA on P3 requirements and potential TIFIA financing





City of Austin Emerging Projects Agreement

- \$22 billion in projects over five years
- Dedicated funding source
- Multi-jurisdictional projects
- Legislative authority to borrow



Technical Assistance Programs/Resources

Build America Center

- \$5 M FHWA/Bureau partnership
- University of Maryland and four other universities provide TA
- Web <u>BAC.UMD.EDU</u>

Regional Infrastructure Accelerators

- \$10 M awarded to 10 RIAs in the first two rounds
- \$24 M NOFO just released Due May 30!

Thriving Communities

- \$21+ M just awarded
- Grants to build the capacity of disadvantaged 64 communities



- New resource to help communities identify grant and TA opportunities
- Web <u>transportation.gov/grants/</u> <u>dot-navigator/</u>

Rural & Tribal Assistance

- 5-year pilot program (\$10 M total)
- \$3.4 M will be available in the first round - <u>NOFO coming soon!</u>



- 5-year program (\$100 M total)
- \$40 M will be available in the first round - <u>NOFO coming soon!</u>

https://www.transportation.gov/buildamerica/technicalassistance

Thank you!

Questions? Contact us!

202.366-2300

BuildAmerica@dot.gov

https://www.transportation.gov/BuildAmerica

https://public.govdelivery.com/accounts/USDOT/subscriber/new?topic_id=USDOT_77 Subscribe to email updates!

ULI Infrastructure Forum at the 2023 Spring Meeting

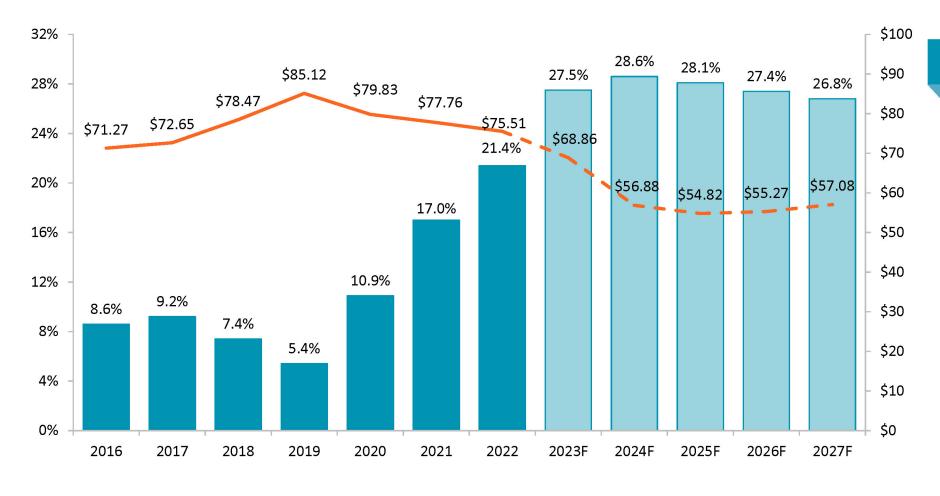
Office to Housing Conversion Downtown San Francisco

May 16, 2023



Gensler

San Francisco CBD Overall Office Trends



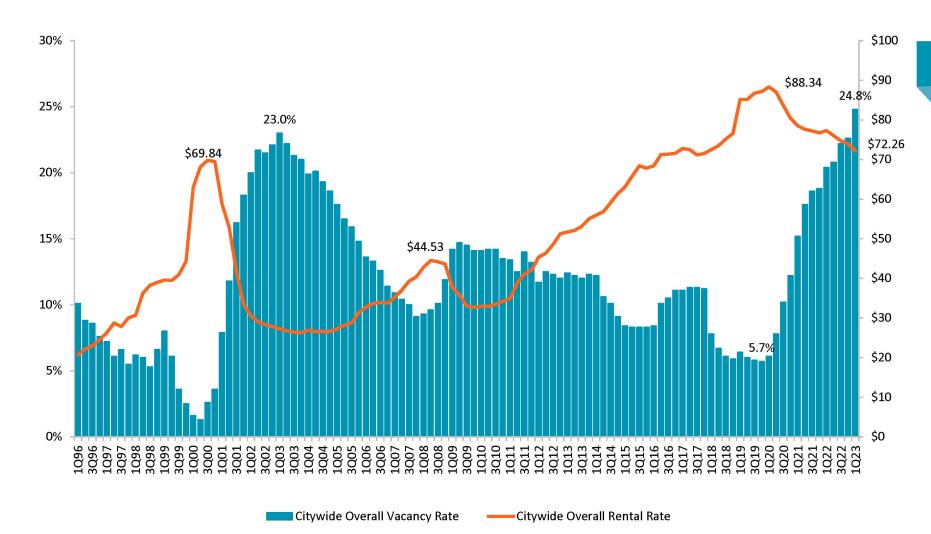
S.F. CBD Overall Vacancy Rate ——S. F. CBD Overall Rental Rate

Baseline Forecast

- Asking rent is forecast to drop through YE 2025 (down 35.6% from the high at YE 2019) then some recovery through YE 2027.
- The vacancy rate is forecast to rise to 28.6% by YE 2024 then slowly fall through YE 2027.
- Inventory for the CBD forecast to remain flat at 54.7 msf through the forecast period.

Source: Cushman & Wakefield Research; rents are annual full-service gross

San Francisco Overall Rent and Vacancy Trends



Key Takeaways

- The overall asking rent declined 2.3% in Q1 to \$72.26 and is down 18.2% from the record high of \$88.34 in Q1 2020.
- Overall vacancy rate climbed 180 bps in Q1; it remains higher than the peak recorded during the dot-com downturn of 23.0% in Q2 2003.
- There is now 21.1 msf of vacancy in San Francisco.

Source: Cushman & Wakefield Research

Downtown is not a Neighborhood

NIMBY -> CBD

How did we get here . . .

Prior to the pandemic, two-thirds of the City's total jobs were located downtown, representing more than three-quarters of the City's total GDP. At the same time, downtown-based businesses generated nearly half of the City's sales tax revenue and almost all, 95%, of the City's business tax revenue. This revenue funds many of the City's key services such as public safety, cleaning, open space, transportation and many other essential resources

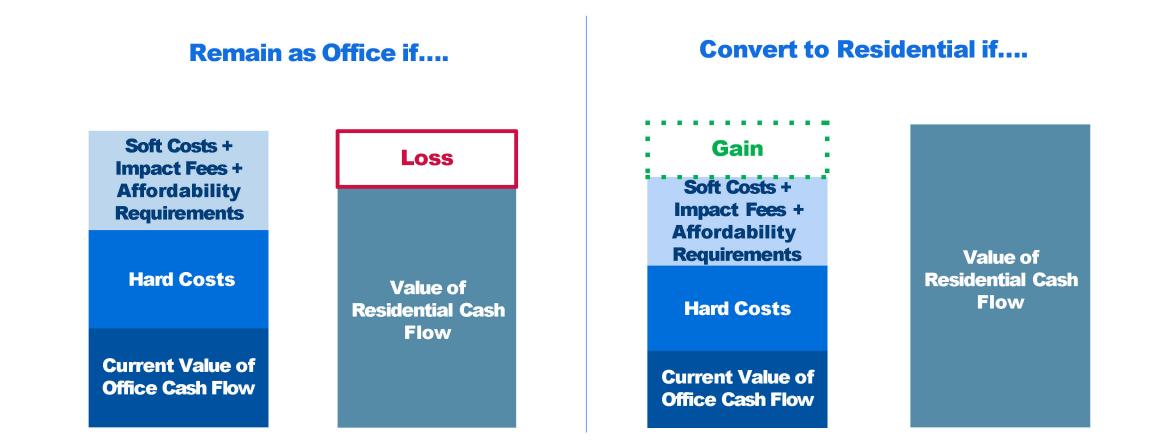
Property Location Map

09

- 1. 350 California St 2. 123 Mission St 3. 343 Sansome St 4. 580 California St 5. 71 Stevenson St 6. 111 Sutter St 7. 300 Montgomery St 8. 199 Fremont St 9. 1 Post St 10. 353 Sacramento St 100 Bust St 11. 180 Sansome St 12. 417 Montgomery St 13. 14. 1 Embarcadero Ctr
- 15. 225 Bush St
- 16. 18-22 Battery St
- 17. 220 Sansome St
- 18. 625 Market St
- 19. 500 Sansome St
- 20. 55 New Montgomery St
- 21. 536 Mission St
- 22. 111-115 New Montgomery St
- 23. 576-580 Market St
- 24. 530 Howard St
- 25. 222 Sutter St

APPROACH

Conversions happen only when the future value of a residential building exceeds the existing office value plus the cost of conversion.



*Individual owner decision making will be driven by this and countless other building specific factors, including existing debt and overall portfolio considerations.

HR&A Advisors, Inc.

APPROACH | METHODOLOGY

- **1. Identified typologies** for lowest performing buildings in San Francisco's CBD
- 2. For each typology, modeled a scenario where the building remains as office ("maintain"), and one where it converts to residential rental ("convert")
 - Drew on physical conversion tests from Gensler and cost estimates from Turner
 - Calculated NPV of cash flows over 20 years -- including time to empty and convert the building -using different discount and cap rates for maintain vs. convert
 - Compared NPV of maintain and convert cash flows

3. Tested sensitivities

- Changes in future office and residential performance
- Changes to impact fees and affordability requirements

Gensler OFFICE TO RESIDENTIAL

All Project Summary

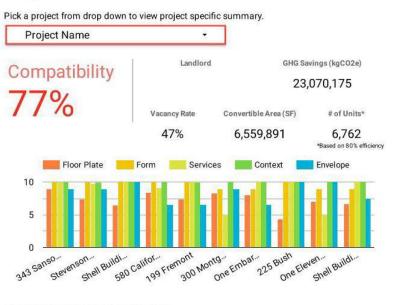
Pick landlord name to filter by landlord. Uncheck to view



Ranked Compatibility by Project

	Address of building	Compatibilit y *	Floor Plate	Form	Services	Context	Envelop
1.	343 Sansome Street	95%	9	10	10	10	9
2.	71 Stevenson Street	90%	7	10	10	10	9
3.	100 Bush Street (Lev	89%	6	10	10	10	10
4.	580 California Street	87%	8	10	9	10	7
5.	199 Fremont Street	85%	7	10	10	10	7
6.	300 Montgomery Str	85%	8	9	5	10	9
7.	1 embarcadero center	84%	8	9	10	10	7
8.	225 Bush Street	83%	4	10	10	10	10
9.	111 Sutter Street	83%	7	9	5	10	10
10.	100 Bush Street (Lev	82%	7	9	10	10	8
						1-10/27	< >

Project Scorecard



Drop "yellow figure" to view street view of property



Definitions & Explanations:

Compatibility: Average compatibility rate of all properties assessed. For individual results, please refer to individual property assessments.

- Properties that score above 80% is a good candidate and will likely succeed but requires further study on an individual basis to validate.
- Properties that score between 70% and 80% can possibly succeed but will likely require some compromises, and requires further study on an individual basis to validate.
- Properties that score under 70% are unlikely to succeed. If good qualitative reasons to pursue a conversion are present, it is likely that substantial compromises will be required for a successful conversion. Further study on an individual basis will be required.

Vacancy Rate: Average vacancy rate of all properties assessed. For individual results, please refer to individual property assessments.

Convertible Area: Total convertible area of all properties assessed. For individual results, please refer to individual property assessments.

GHG Savings: GHG (Greenhouse Gas) savings refers to a high-level analysis of the potential repositioning project to save embodied carbon emissions by retaining the existing structure. Based on Gensler's experience in sustainable design and low-carbon alternatives to in-situ concrete structures, 300 kgCO2e/m2 represent a conservative GHGI (Greenhouse Gas Intensity) for the embodied carbon emissions of concrete structure. Thus, assuming a GHGI of nominally 300 kgCO2e/m2, the carbon reduction potential of not building a new structure of comparable size and reusing the existing instead calculated.

of units: Estimated total number of potential units of buidlings in the dataset. Number of units is the average unit size (ranging between 650 - 825 sqf) divided by 80% of the convertible area.

The unit count is based on an 80% efficiency ratio. 80% of the convertible area is assumed as saleable area and the remaining 20% of the total area is reserved for servicing, circulation, elevators, MEP etc.

20 55 New Montgomery Street | COMPATIBILITY ASSESSMENT

Typology 4

Owner: Swift Real Estate Partners, Built: 1912, Zoning: C-3-O, Site Area: 11,761SF For Sale: No



FLOOR PLATE Ideal area of 750 SM (8000 SF)

- 10,454 SF Floor plate Larger than ideal area for residential use
- Core to window depth: 22'



BUILDING FORM Shape of typical floor plate



Structure

No parking available on site
No loading area available on

SERVICES

Loading, Parking, MEP,

site



Walkability and proximity to transportation

- Walkable area
- Excellent transit



ENVELOPE

Performance, sight & distance between adjacent buildings

 3 facades unobstructed windows.

GFA +/-

100,183 SF

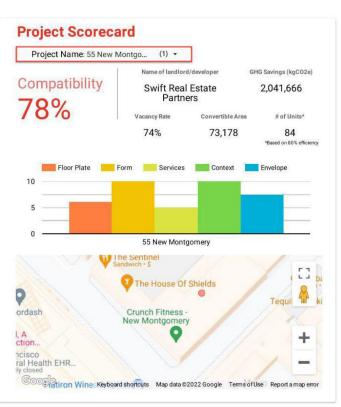
AVAILABLE ELEVATORS: 3 Elevators

2 Elevators are needed

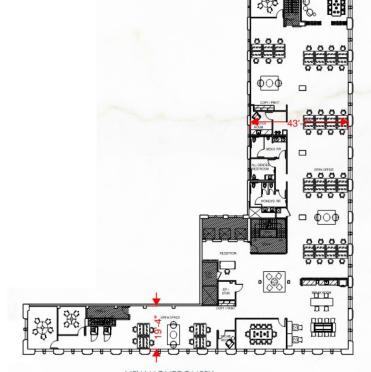
Floors 2-8 : The L shape floor plate of the building with core on the corner suits residential planning, however, the narrow floorplate will along New Montgomery will be difficult to plan and will likely need to be a single unit. This will affect the average unit size and mix

Residential allowed as-of-right. Meeting open space requirements will be a challenge and may require a variance or dispensation.

Property is potentially suitable for conversion to Residential.







NEW MONTGOMERY



111-115 New Montgomery Street COMPATIBILITY ASSESSMENT

Typology 6

Owner: Wong 1997 Revoc. Living Trust, Built: 1907, Zoning: C-3-O, Site Area: 4,792SF For Sale: No



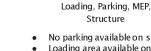
FLOOR PLATE Ideal area of 750 SM (8000 SF)

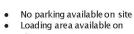
- 4,305 SF Floor plate smaller than ideal area for residential use
- Core to window depth: 41²



BUILDING FORM Shape of typical floor plate

Rectangular





SERVICES

site



Walkability and proximity to transportation

Walkable area . • Excellent transit



ENVELOPE

Performance, sight & distance between adjacent buildings

 2 facades unobstructed windows.

AVAILABLE ELEVATORS: 2 Elevators

GFA +/-

1 Elevators are needed

Floors 2-7 : The L shape floor plate of the building with side core and single corridor suits residential planning, however the small floor plate and floor plate proportions will result in inefficiencies which will have a substantial impact on the overall floorplate efficiency due to the small floorplate.

Residential allowed as-of-right. Meeting open space requirements will be a challenge and may require a variance or dispensation.

Property is potentially suitable for conversion to **Residential.**

Project Name: 111-11	5 New M (1) 👻		
	Name of landlord	/developer Gl	lG Savings (kgCO2e)
Compatibility	Wong 1997 Living T	' Revoc. rust	720,657
72%	Vacancy Rate	Convertible Area	# of Units*
	66%	25,830	30 *Based on 80% efficiency
Floor Plate	Form Services	Context	Envelope
10			
5			_
0	111-115 New Montg	omery Street	
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30,974 SF

Gensler

4 530 Howard Street COMPATIBILITY ASSESSMENT

Typology 7

25,000 SF

Gensler

Owner: One Timberlake, Inc, Built: 1941, Zoning: C3OSD, Site Area: 5,227SF For Sale: No



FLOOR PLATE Ideal area of 750 SM (8000 SF)

- 5,000 SF Floor plate smaller than ideal area for residential use
- Core to window depth: 83'



BUILDING FORM Shape of typical floor plate

 Rectangular with substantial steps in the facade line



SERVICES Loading, Parking, MEP, Structure

No parking available on site
No loading area available on

site



Walkability and proximity to transportation

- Walkable area
- Excellent transit

•



ENVELOPE

Performance, sight & distance between adjacent buildings

- 2 facades unobstructed windows.
- Windows may have to be replaced, to allow for operable panes.



GFA +/-

AVAILABLE ELEVATORS: 1 Elevators

1 Elevators are needed

Floors 1-4: The narrow and long floor plate of the building with only having window access at 2 ends result in inefficient residential planning

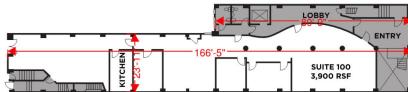
Residential allowed as-of-right, however, there may be a limitation on the total number of dwelling units that can be accommodated in this area and needs further investigation. Meeting open space requirements will be a challenge and may require a variance or dispensation.

Property is not suitable for conversion to Residential.

Project Scorecard







One Embarcadero Center | COMPATIBILITY ASSESSMENT

Typology 3

Owner:Boston Properties, Architect: Portman Holdings Built: 1970, Zoning: C-3-O, Site Area: 74,488SF For Sale: No



FLOOR PLATE Ideal area of 750 SM (8000 SF)

- 20,168 SF Floor plate larger than ideal area for residential use
- Core to window depth: 41'



BUILDING FORM Shape of typical floor plate

- Rectangular with substantial steps in the facade line
- Accommodates residential and hotel unit planning



SERVICES Loading, Parking, MEP, Structure

• Parking available on site

- Loading area available on
 site
- s residential site planning



Walkability and proximity to transportation

- Walkable area
- Excellent transit



ENVELOPE

Performance, sight & distance between adjacent buildings

Z

- 4 facades unobstructed windows.
- Windows may have to be replaced

AVAILABLE ELEVATORS: 16 Elevators

10 Elevators are needed

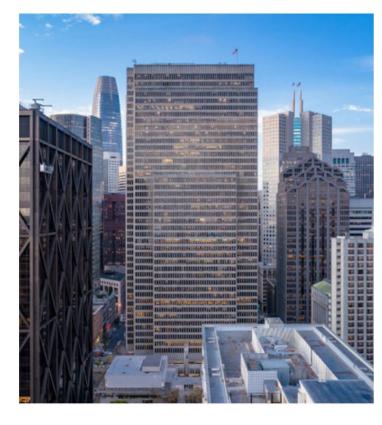
Floors 2-42 : Although the building floor plate is larger than ideal its central core and close to good core to window depth allows good unit efficiency.

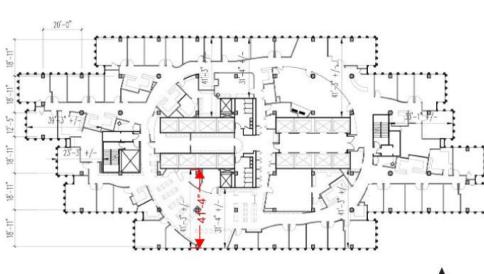
The core has a high- and low-rise configuration, and this, potentially allows for partial conversion to allow for a mixed-use offering, but the façade type will make this challenging.

Residential allowed as-of-right. Meeting open space requirements will be a challenge and may require a variance or dispensation.

Property is potentially suitable for conversion to Residential. Project Scorecard







che.

Gensler

GFA +/-

841,000 SF

343 Sansome Street (Level 7~16)| COMPATIBILITY ASSESSMENT

Typology 1

Owner: AEW Capital Management, Architect: Johnson Burgee Architects, Built: 1929, Zoning: C-3-O, Site Area: 23,958SF For Sale: No



FLOOR PLATE Ideal area of 750 SM (8000 SF)

- 14,105 SF Floor plate larger than ideal area for residential use
- Core to window depth: 40'



site

BUILDING FORM Shape of typical floor plate

 Rectangular
 Accommodates residential and hotel unit planning



SERVICES Loading, Parking, MEP,

StructureParking available on site

Loading area available on



Walkability and proximity to transportation

SACRAMENTO STREET

- Walkable area
- Excellent transit

•



ENVELOPE

Performance, sight & distance between adjacent buildings

- 4 facades unobstructed windows.
- Windows may have to be replaced, to allow for operable panes.

GFA +/-

262,910 SF

AVAILABLE ELEVATORS: 5 Elevators

5 Elevators are needed

Floors 7-16: The rectangular floor plate of the building with a centered core suits efficient residential planning. The floor plate will likely yield good average unit sizes and mix and good floor plate efficiency

Residential allowed as-of-right. Meeting open space requirements will be a challenge and may require a variance or dispensation.

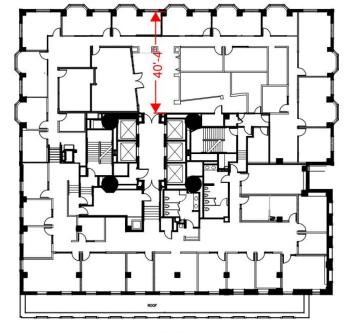
Property is potentially suitable for conversion to Residential.

Project Scorecard





EIDESDORFF STREET



HALLECK STREET

4 580 California Street | COMPATIBILITY ASSESSMENT

Owner: J. P. Morgan Asset Management, Architect: Philip Johnson/Alan Ritchie Architects, Built: 1986, Zoning: C-3-O, Site Area: 16,117SF For Sale: No



FLOOR PLATE Ideal area of 750 SM (8000 SF)

- 14,019 SF Floor plate larger than ideal area for residential use
- Core to window depth: 38'



BUILDING FORM Shape of typical floor plate

Rectangular
Accommodates residential and hotel unit planning



SERVICES Loading, Parking, MEP,

- StructureParking available on site
- Loading area available on site



Walkability and proximity to transportation

- Walkable area
- Excellent transit

•



ENVELOPE

Performance, sight & distance between adjacent buildings

- 3 facades unobstructed windows.
- Windows may have to be replaced, to allow for operable panes.



357,700 SF

Typology 1

AVAILABLE ELEVATORS: 6 Elevators

4 Elevators are needed

Floors 2-23: The rectangular floor plate with windows on 4 sides of the building and a central core allows for residential unit planning but some floor plate efficiency will be lost on the lower 6 floors where the northerm façade has no windows.

Residential allowed as-of-right. Meeting open space requirements will be a challenge and may require a variance or dispensation.

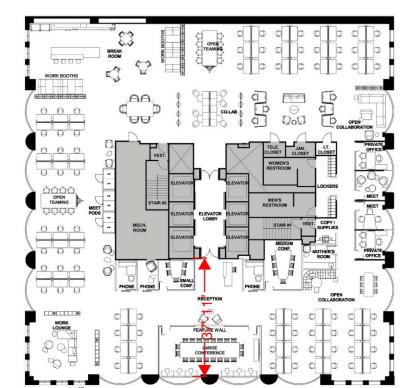
Property is potentially suitable for conversion to Residential.

Project Scorecard



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Kearny Street





100 Bush Street (Level 1~10)| COMPATIBILITY ASSESSMENT

Typology 2

Owner:Brothers International Holdings Corporation, Built: 1930, Zoning: C-3-O, Site Area: 17,424SF For Sale: No



FLOOR PLATE Ideal area of 750 SM (8000 SF)

- 11,830 SF Floor plate larger than ideal area for residential use
- Core to window depth: 28'

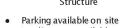


BUILDING FORM Shape of typical floor plate

- Rectangular with substantial steps in the facade line
- Accommodates residential and hotel unit planning

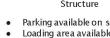
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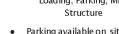




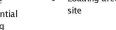


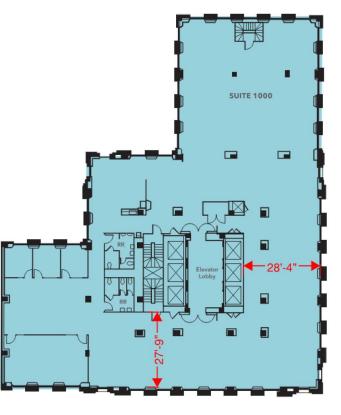












CONTEXT

Walkability and proximity to

transportation

Walkable area

Excellent transit

•



ENVELOPE

Performance, sight & distance between adjacent buildings

4 facades unobstructed windows.

GFA +/-

233,654 SF

AVAILABLE ELEVATORS: 6 Elevators

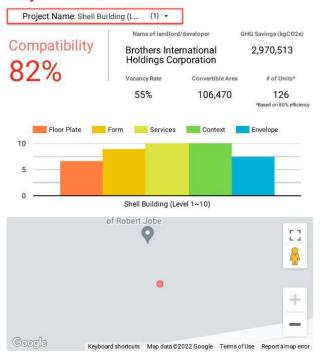
2 Elevators are needed

Floors 2-10: Although the floorplate is irregular, the central core and good core to window depth makes for good unit efficiency and avg unit size. Windows on all 4 sides of the building allows good unit layouts.

The core has a high- and low-rise configuration, and this, together with the façade type potentially allows for partial conversion to allow for a mixed-use offering.

Residential allowed as-of-right. Meeting open space requirements will be a challenge and may require a variance or dispensation.

Property is potentially suitable for conversion to Residential. Project Scorecard



Gensler

5 225 Bush Street | COMPATIBILITY ASSESSMENT

Typology 3

Owner: Genzon Inverstment Group, Architect: George W. Kelham Built: 1922, Zoning: C-3-O, Site Area: 28,357SF For Sale: No



FLOOR PLATE Ideal area of 750 SM (8000 SF)

- 20,168 SF Floor plate larger than ideal area for residential use
- Core to window depth: 27'





BUILDING FORM Shape of typical floor plate

- Rectangular
 Accommodates residential and hotel unit planning
- Loading, Parking, MEP, Structure • Parking available on site
 - Parking available on site
 Loading area available on site

SERVICES



Walkability and proximity to transportation

- Walkable area
- Excellent transit



ENVELOPE

Performance, sight & distance between adjacent buildings

• 4 facades unobstructed windows.

GFA +/-

501,686 SF

AVAILABLE ELEVATORS: 14 Elevators

7 Elevators are needed

Floors 2-22 : The rectangular U shape floor plate of the building with a side core suits double loaded residential planning.

The two-core configuration of the building also allows the option to consider partial conversion to create a mixed-use offering.

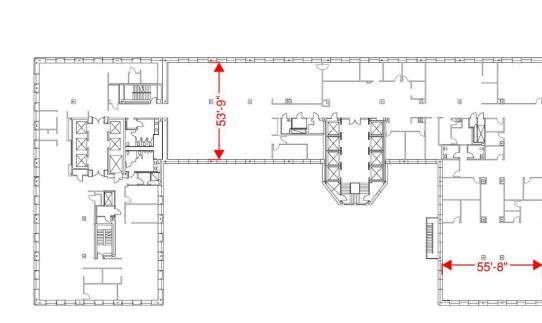
Residential allowed as-of-right. Meeting open space requirements will be a challenge and may require a variance or dispensation.

Property is potentially suitable for conversion to Residential.

Project Scorecard



Gensler



ASSUMPTIONS | KEY FINANCIAL DRIVERS

The decision to convert an office building to residential use is highly dependent on key inputs. HR&A included certain assumptions about real world variables that will impact financial performance.

DRIVERS



Floorplate Size & Efficiency



Senior Debt, Capital Gains, Transfer Taxes (Not Included)



Development Costs for Residential



Performance of Office v Residential Uses



Timing: Building Emptying, Regulatory Approvals

INCLUDED ASSUMPTIONS



%

Office Repositioning/Upgrades



3-Year Building Emptying

Tax Assessment Event

ASSUMPTIONS | OFFICE TYPOLOGIES

Today's underperforming office buildings (vacancy > 30%) in the San Francisco CBD can be broadly categorized based on building size.

	<image/> <text></text>	High Rise 12-20K Floorplate	High Rise Up To 12K Floorplate	Low-Mid Rise Over 20K Floorplate	Low-Mid Rise 6-20K Floorplate	<image/>
Underperforming Building Stock in CBD	3	20	12	3	8	8
Avg. Age*	77	57	88	99	103	105
Avg. Floors*	32	21	20	6	19	6
Avg. FAR*	14	16	13	4	9	6
Avg. Floorplate*	20,000	15,000	7,000	27,000	14,000	5,000

*Based on Gensler's study of 25 underperforming office buildings within San Francisco's CBD.

HR&A Advisors, Inc.

DRAFT - CONFIDENTIAL

ASSUMPTIONS | OFFICE TYPOLOGIES

Where low office rents for low performing buildings minimize the attractiveness of certain typologies to be maintained as office, these are offset by high conversion costs that also minimize attractiveness for residential.



HR&A Advisors, Inc.

SF Office to Residen tial Conversion Study | 8

ASSUMPTIONS | SCENARIOS TESTED

We modeled 3 future office performance scenarios to capture uncertainty around the pace and scale of office and residential recovery in San Francisco.

Scenario A		Scena	Scenario B		Scenario C	
Current state for buildings	low performing	Office repositioni vacancy, residenti improves	•	Lowest perform empty out, resid improves	0 0	
Vacancy	45% Low end 2022	Vacancy	20%	Vacancy	75% High end 2022	
Office Rent/SF	2022 Rents (\$27-\$61/gsf)	Office Rent/SF	10% decrease from 2022 rents (\$24-\$55/gsf)	Office Rent/SF	40% decrease from 2022 rent (\$16-\$34/gsf)	
Office Upgrades	\$25/SF	Office Upgrades	\$100/SF	Office Upgrades	\$25/SF	
Residential Rent/SF	Current (\$6.50)	Residential Rent/SF	2019 (\$7.25)	Residential Rent/SF	2019 (\$7.25)	

HR&A Advisors, Inc.

FINDINGS | SCENARIO OUTCOMES

Under Scenario C, conversion to residential is much more rational relative to maintaining office, though the economics of conversion remain challenging.

	Scenario A	Scenario B	Scenario C
	Current state for low performing buildings	Office repositioning for reduced vacancy, residential market improves	Lowest performing buildings empty out, residential market improves
Does residential conversion generate net value than maintaining as	ΝΟ	NO But Closer	YES
office? Does residential	ΝΟ	NO	ΝΟ
conversion pencil?		But Closer	But Closer

WHAT DO WE WANT



The Market to correct itself? Readjust as in the past?

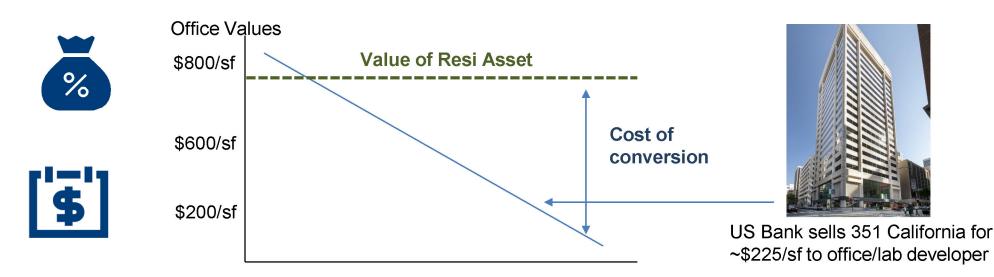
Do Nothing



Use opportunity to make Downtown a Neighborhood?

Public private partnership needed

WHERE DOES IT NEED TO BE TO CONVERT



WHAT DO WE DO



Code Changes underway:

- Lot Coverage,
- Open Space,
- Streetscape and Pedestrian Improvements,
- Dwelling Unit Exposure,
- Bicycle Parking, and
- Dwelling Unit Mix
- Streamlining

What More Is Needed – *politically painful*:

- Current Affordability requirement is 22% = \$500k/unit burden ~ 20% tax on cost. Needs to be reduced or eliminated temporarily.
- Current Transfer Tax on \$25MM+ transactions is 6% = 30bp drag on cap rates, i.e., it adds ~10% to the cost of the project in achieving target returns (5 cap exit)

ULI Infrastructure Forum at the 2023 Spring Meeting

THANK YOU

Office to Housing Conversion Downtown San Francisco

May 16, 2023





Victor Gruen, the father of the early mall, had a vision for shopping centers to be the civic heart of the community...

		-	The lines
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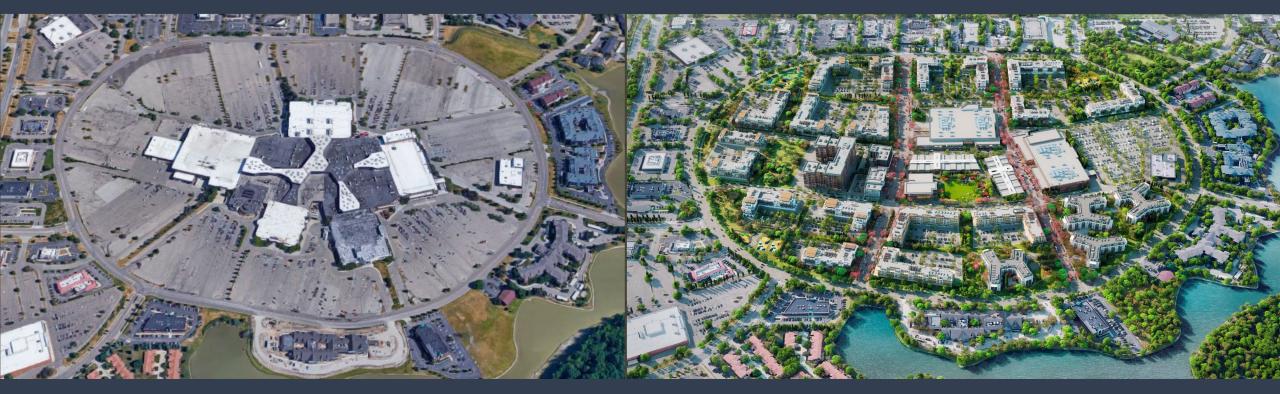
"Commerce is the engine of urbanity"...

5 UNIVERSAL TRUTHS ABOUT MALL REPOSITIONING

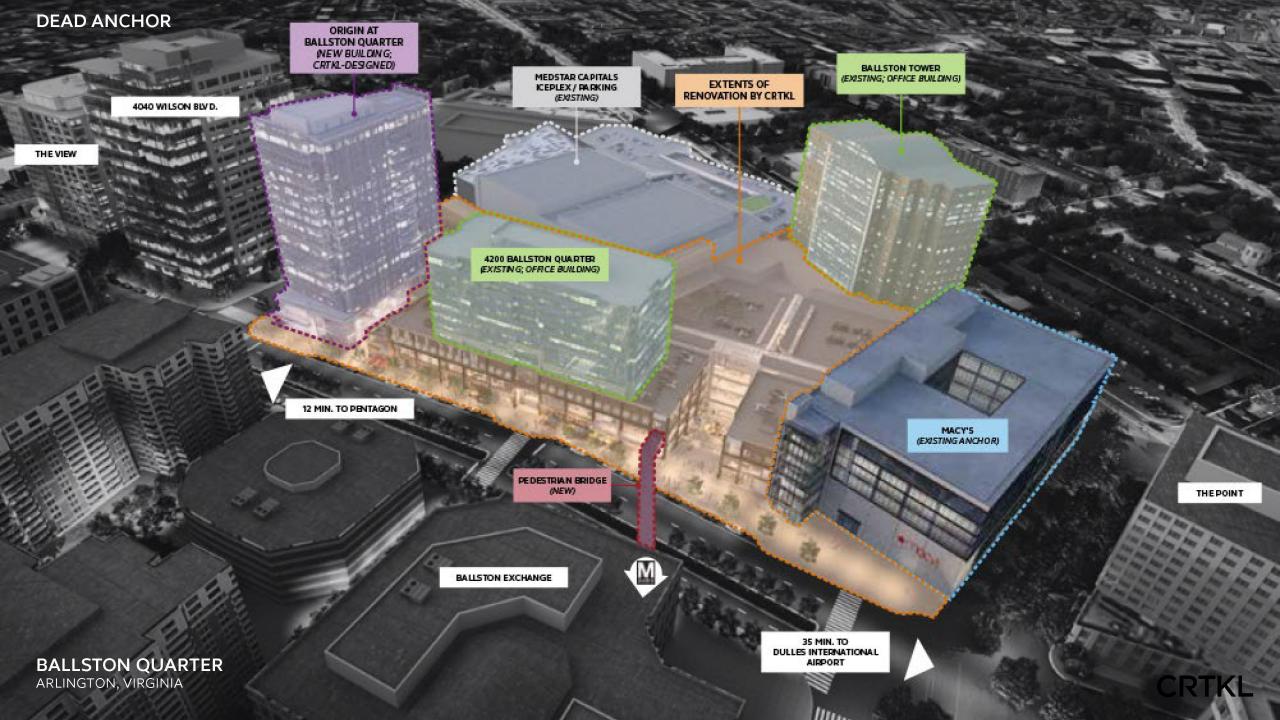


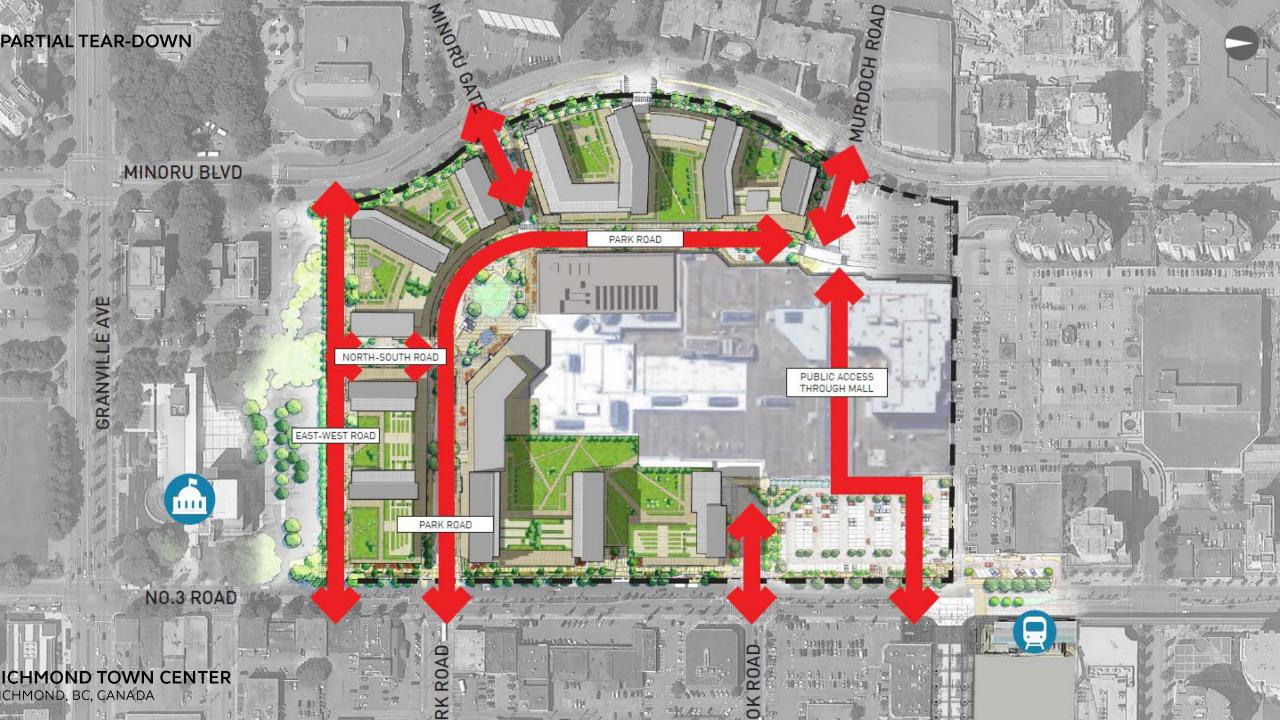
 / CONTEXT IS KEY / ESTABLISHING THE URBAN FABRIC / EXISTING INFRASTRUCTURE IS THE **BIGGEST CONSTRAINT (OR OPPORTUNITY)** 4/LIVE + DIE BY YOUR PHASING STRATEGY / BUILD FOR CITIZENS, NOT CONSUMERS

FULL MALL REPOSITIONING 100% VACANCY



LAKESIDE MASTER PLAN STERLING HEIGHTS, MICHIGAN





THE BOTTOM LINE:

- THERE is no "one size fits all" approach to mall repositioning
- Ownership structures will drive repositioning strategy
- Context will define the scope of intervention, mix of uses, and scale/density of redevelopment

2 / ESTABLISHING THE URBAN FABRIC
3 / EXISTING INFRASTRUCTURE IS THE BIGGEST CONSTRAINT (OR OPPORTUNITY)
4 / LIVE + DIE BY YOUR PHASING STRATEGY
5 / BUILD FOR CITIZENS, NOT CONSUMERS

ESTABLISHING THE URBAN FABRIC

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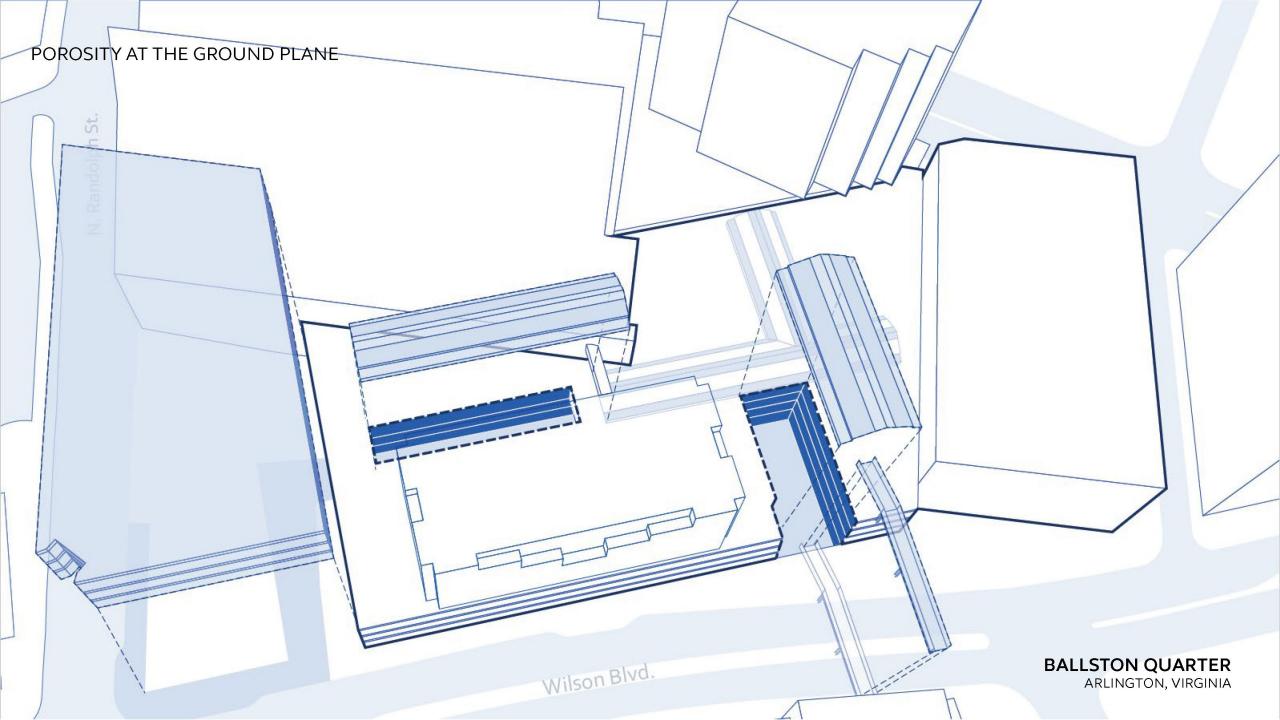
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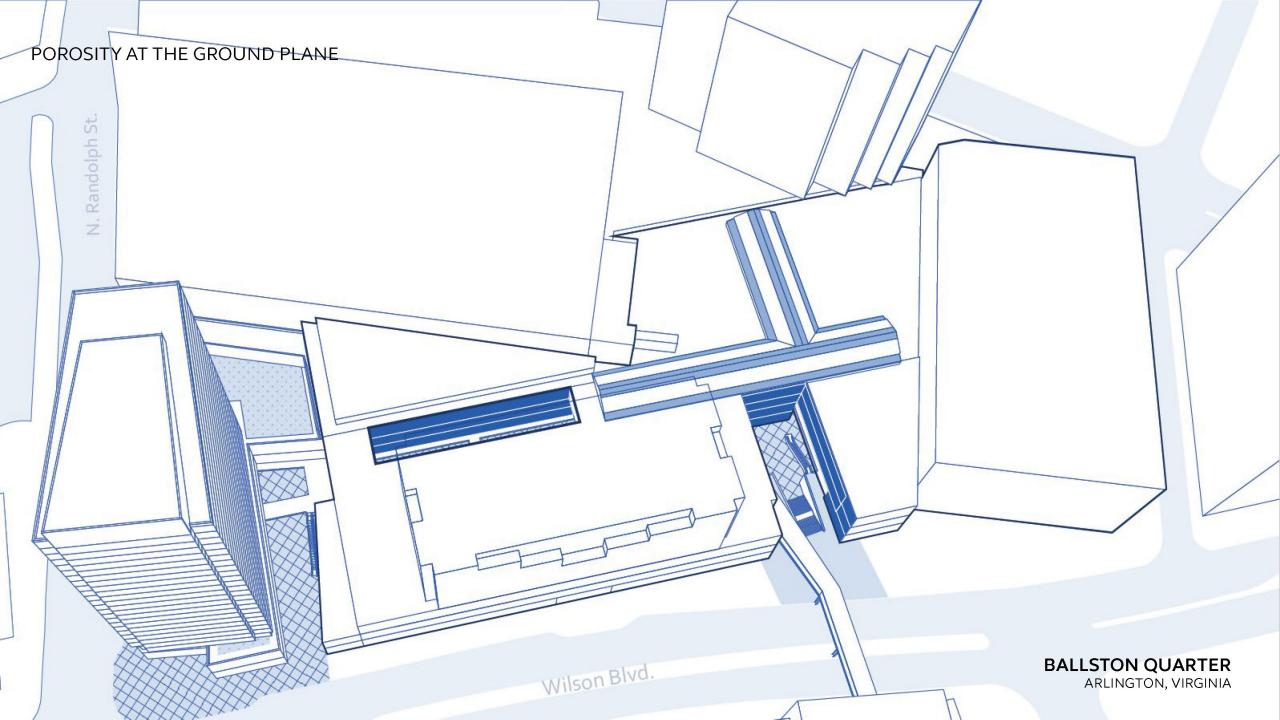
AND A CONTRACT

SH COLUMBIA

METROP BURNABY, E

STREET NETWORK





POROSITY AT THE GROUND PLANE

C

141

BALLSTON QUARTER ARLINGTON, VIRGINIA

HIT

COPAC

2 / ESTABLISHING THE URBAN FABRIC

THE BOTTOM LINE:

- Malls are (by design) structured like fortresses parking is the moat.
- Breaking down the scale of the mall creates connections to the surrounding urban fabric and builds the framework for redevelopment.
- Create porosity using new and existing street connections and open spaces break down the fortress.
- Extend development to the edges of the site to strengthen connections to the surrounding community fill in the moat.
- Traditional mall retail diagrams are point to point (dumbbell anchors), use the urban fabric to create a series of loops.

3 / EXISTING INFRASTRUCTURE IS THE **BIGGEST CONSTRAINT (OR OPPORTUNITY)**

3/ EXISTING INFRASTRUCTURE IS THE BIGGEST CONSTRAINT (OR OPPORTUNITY)

UTILIZE EXISTING INFRASTRUCTURE

STATISTICS.

MILITARY CIRCLE MALL NORFOLK, VIRGINIA

UTILIZE EXISTING BUILDINGS

NORTHLAND CENTER Southfield, Michigan



UTILIZE EXISTING PARKING

CONFIDENTIAL PROJECT

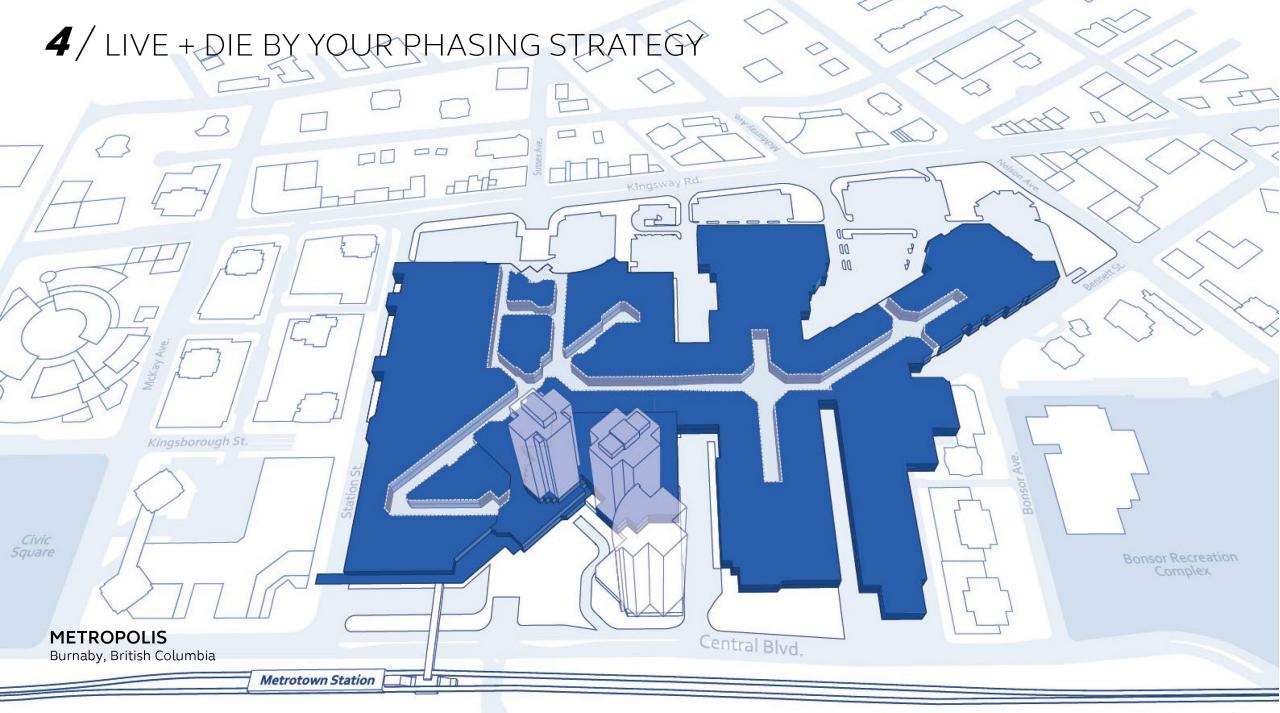


3/ EXISTING INFRASTRUCTURE IS THE BIGGEST CONSTRAINT (OR OPPORTUNITY)

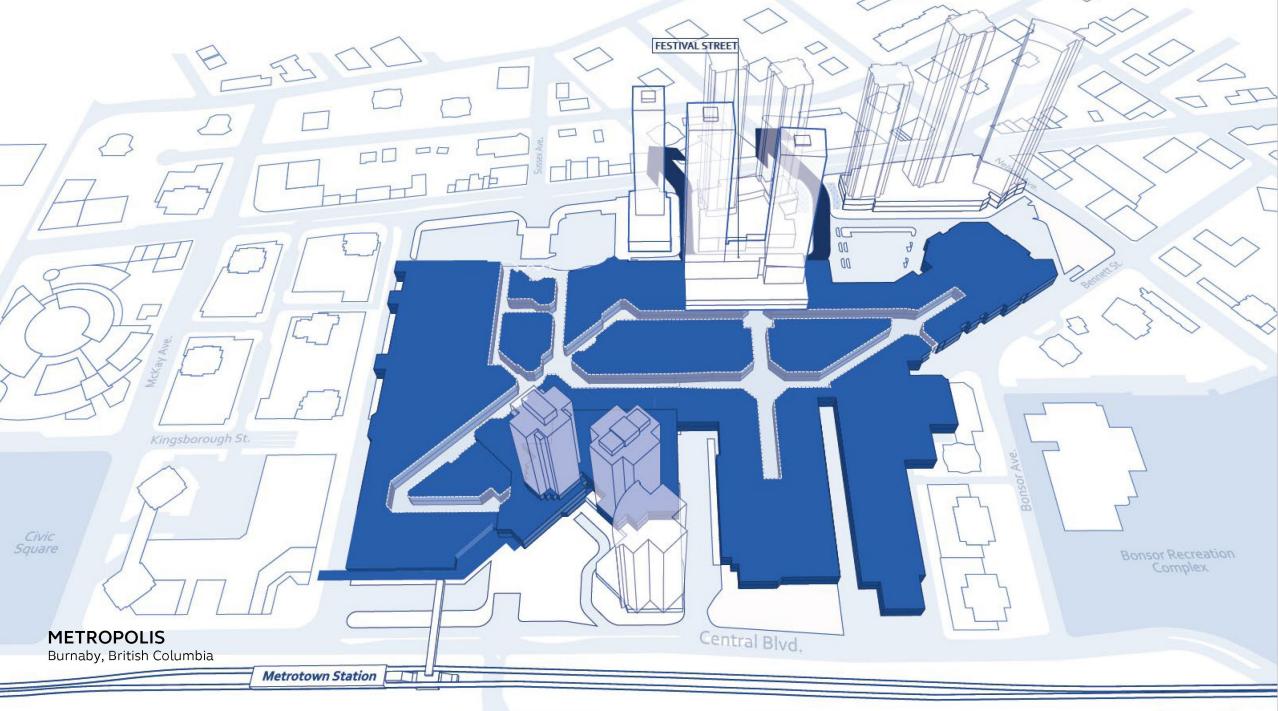
THE BOTTOM LINE:

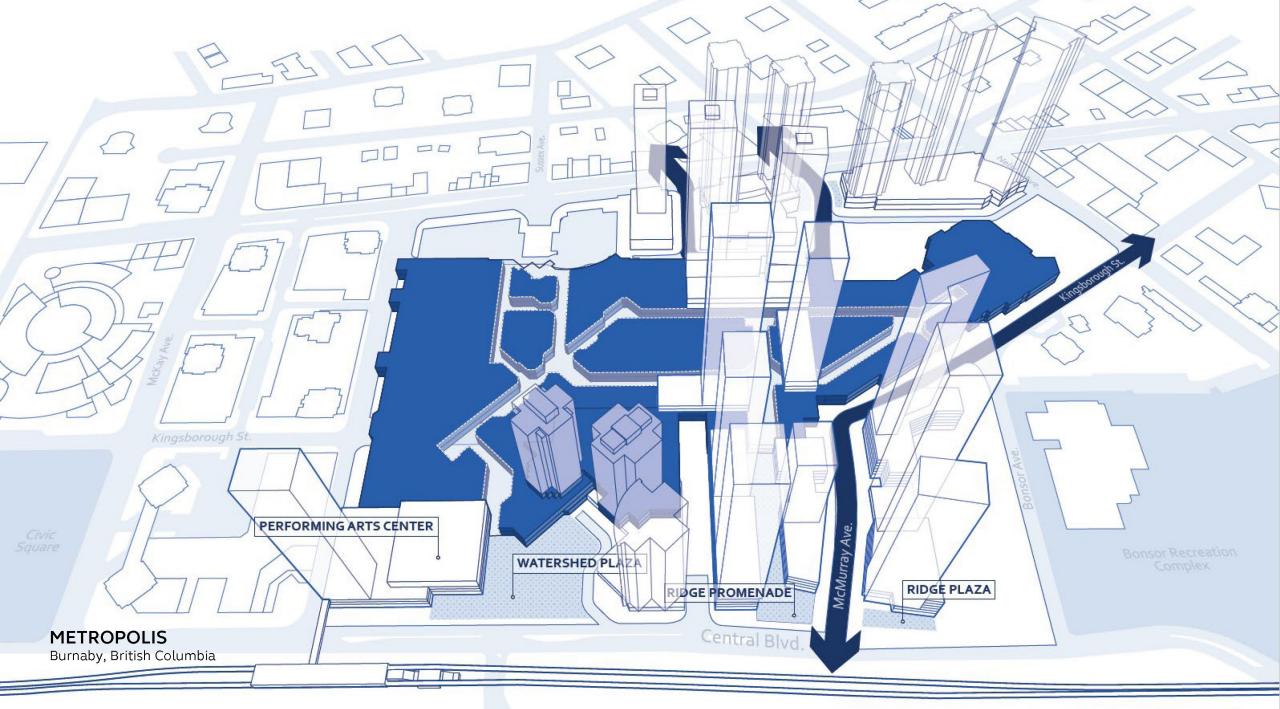
- **Parking is an asset** it is either a source of unencumbered land, or it is a reservoir for future parking supply. It is rarely located where you want it.
- Infill development in unused parking will not fundamentally address the decline of a mall without a plan.
- Placemaking, building critical mass, and a complementary mix of uses in a location that builds vibrancy with the existing mall are required to support the existing tenants.

4/LIVE + DIE BY YOUR PHASING STRATEGY

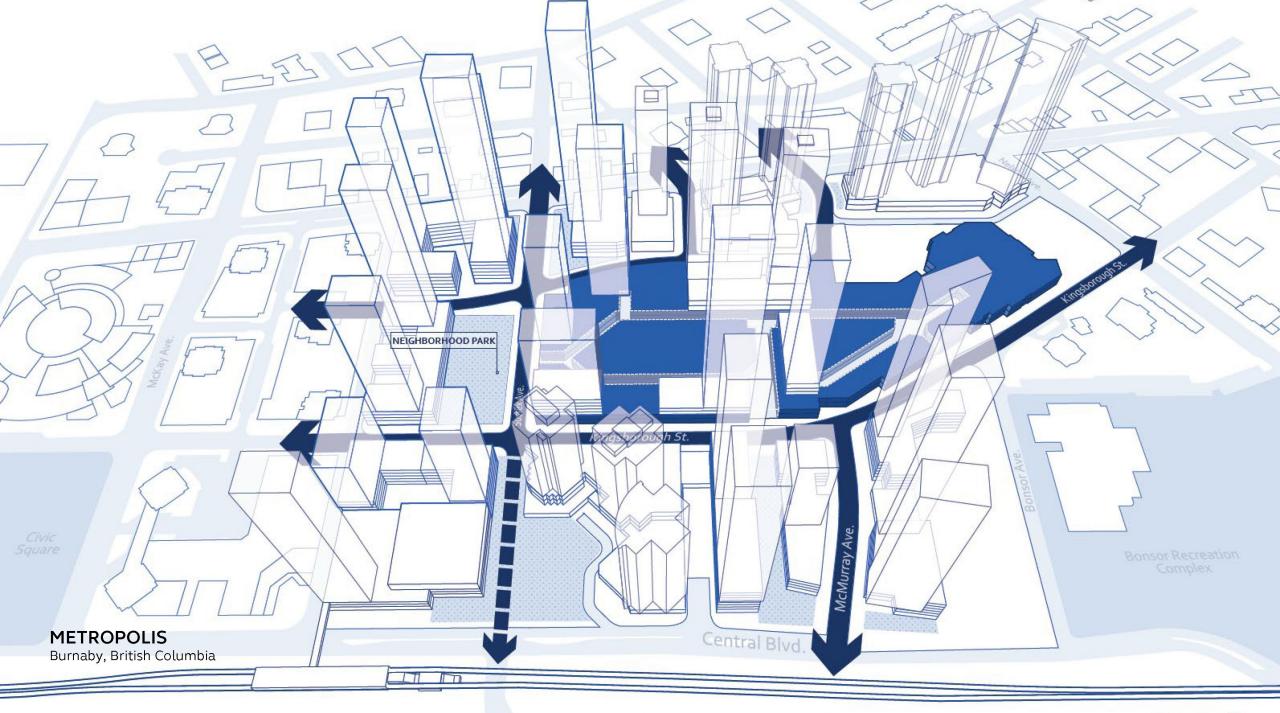


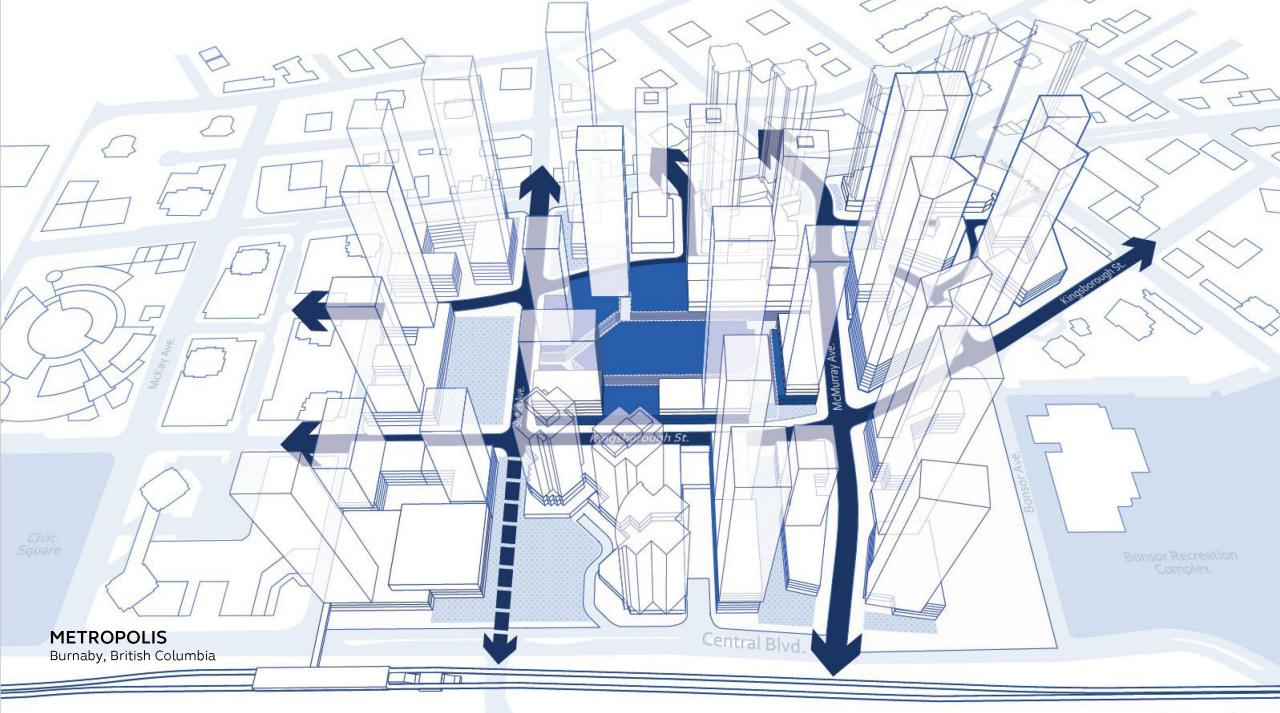
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4/LIVE + DIE BY YOUR PHASING STRATEGY

THE BOTTOM LINE:

- The phasing strategy builds the case for accretive growth
- Allow for flexibility in the phasing to adapt to future uncertainties
- Phase one must "deliver the promise" of the future vision placemaking and critical mass are critical in early phases

/ BUILD FOR CITIZENS, NOT CONSUMERS

57 BUILD FOR CITIZENS, NOT CONSUMERS

YATT REGE

TYSONS CORNER CENTER Mclean, Virginia

Jusons CORNER C

/ POSTSCRIPT

Malls today are being designed with these principles in mind....fulfilling Gruen's original vision.

CONFIDENTIAL PROJECT Riyadh, KSA

THANK YOU

ERICH DOHRER, AICP ARCADIS

ERICH.DOHRER@ARCADIS.COM

ARCADIS

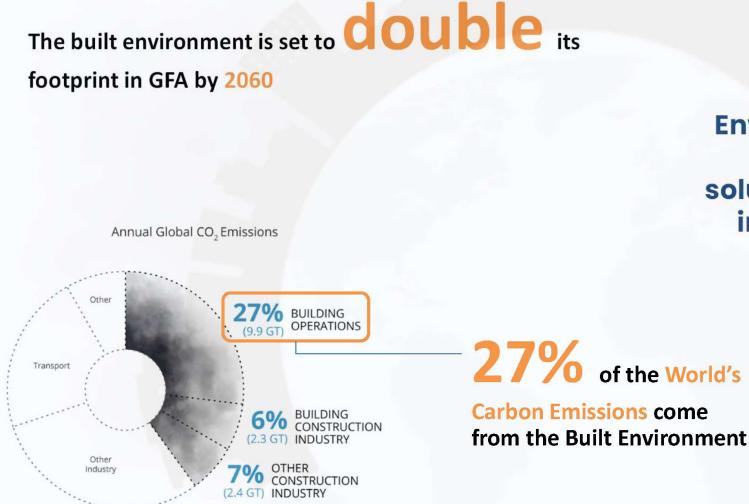


Enwave | Sustainability at Scale

May 16, 2023



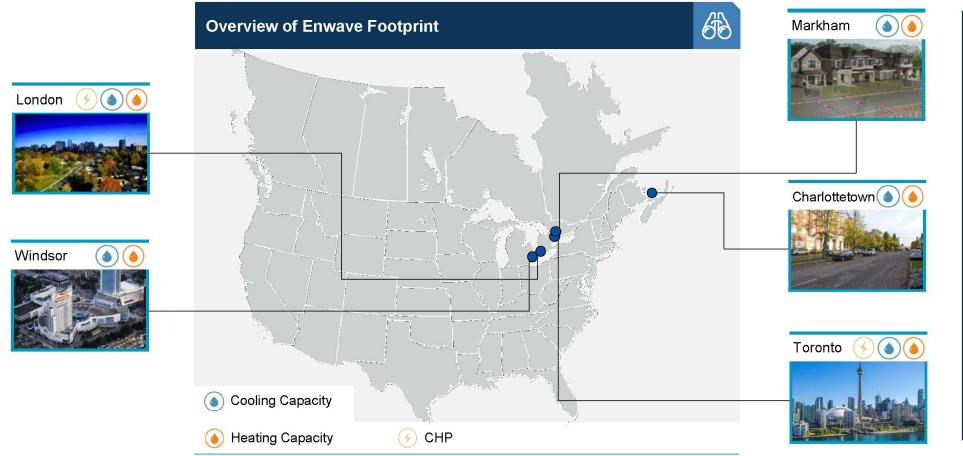
The Challenge of Decarbonizing the Built Environment



Enwave is a leading platform that enables low carbon energy solutions which will create positive impact in our communities for generations to come

Enwave | What We Do

Enwave is a developer-owner-operator of low carbon energy systems. We are aggregators of demand load and application specialists for integrating low carbon technologies.



400+ buildings served >96M sq. ft. served

One of North America's largest commercial operators of energy from waste and biomass (PEI)

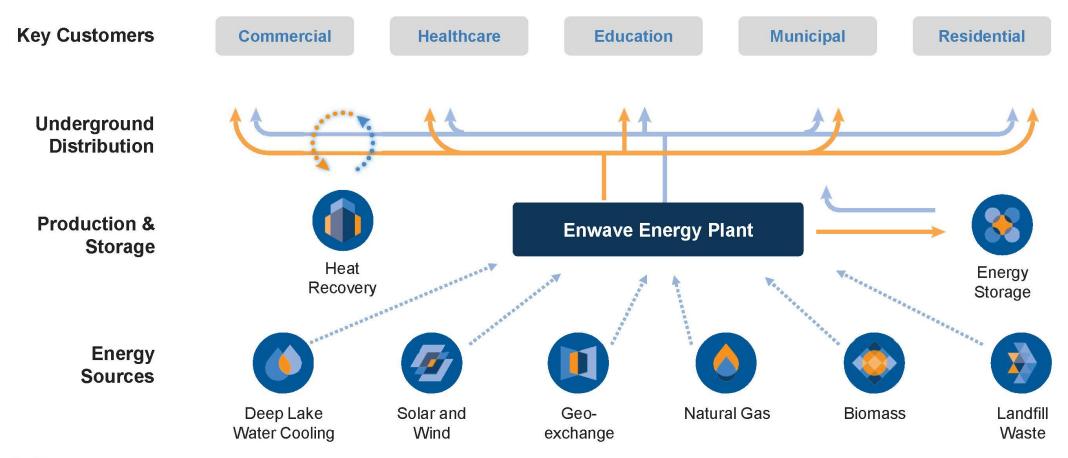
World's largest commercial cooling system using Deep Lake Water Cooling (Toronto)

North America's largest dual service (cooling and heating) thermal battery (The Well)



Enwave | Sustainability at Scale

We integrate a variety of low carbon technologies on a commercial basis that we can make available to our customers based on the scale of our districts.





Enwave | Downtown Toronto



DE E CAN

America's Largest Dual Service Thermal Battery

North

Cass Con Con



Enwave Toronto

North America's Largest Recycler of Building Waste Energy



Deep Lake Water Cooling, Toronto

World's Largest Commercial Cooling System with Deep Lake Water Cooling

Deep Lake Water Cooling

DLWC cools ~100 buildings in downtown Toronto, saving enough electricity to power a town of 25,000. Due to the system's success, Enwave is constructing a 4th intake pipe in the lake to expand the capacity of the system by 33%.



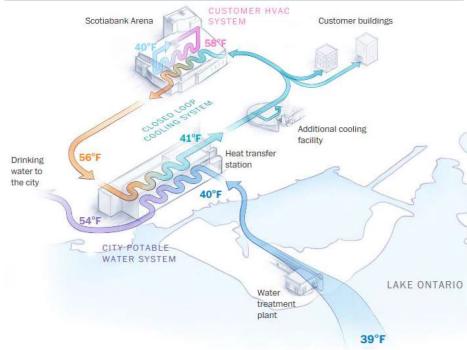
THE ASPIRATION

 Meet growing demand for cooling in the downtown core while supporting the City of Toronto's GHG targets of 65% reduction by 2030 and net zero by 2040



THE APPROACH

- Instead of relying on energy-intensive equipment to cool buildings, DLWC uses water from Lake Ontario
- Cold, dense water is drawn from the lake, treated and than passes through heat exchangers prior to circulating through the City's potable water system
- DLWC can reduce electricity use by ~80% compared to traditional systems and saves an estimated 220 million gallons of water annually
- A fourth intake is currently being constructed that will expand system capacity by >30%



"Scotiabank Arena uses some 3 million kilowatt-hours less electricity annually than if it cooled using traditional methods — a reduction of about 70 percent."
Kyle Lamkey, Director of Engineering for

Scotiabank Arena



Enwave Community Energy Planning | Building Sustainable Communities

Municipalities and developers turn to Enwave to build sustainable, forward-thinking communities that reduce carbon emissions at scale through Community Energy Planning capabilities



Enwave's approach to community energy planning...

- Enwave partners with municipalities, planners, developers, and building owners to implement district energy at the local community level
- By partnering during early-stage master planning, Enwave can embed an optimized sustainable energy network into community design
- This approach allows connected buildings to realize the benefits of scale that come with district energy and make transformative sustainable energy solutions viable

Etobicoke Civic Centre

As the City of Toronto's low carbon thermal energy network partner, Enwave is working with the City to develop a new community energy system for the Etobicoke Civic Centre Precinct, a 13.8-acre site in the west end of Toronto



THE ASPIRATION

- Meet the City of Toronto's GHG targets of 65% reduction by 2030 and net zero by 2040, while supporting growth
- Provide heating and cooling for the Etobicoke Civic Centre Precinct, a 3 million ft² mixed-use development on City land that can transition to net-zero



THE APPROACH

- Geoexchange system to provide heating, cooling, and domestic hot water for the precinct
- Geoexchange borefields located throughout the development will be tied into a central energy centre located beneath the City's new Etobicoke Civic Centre building
- Low carbon thermal energy produced in the energy centre will be distributed throughout the community, achieving >80% carbon savings compared to conventional heating and cooling systems





Lakeview Village

Enwave is working with Lakeview Community Partners Limited to develop a low carbon wastewater energy recovery system for Lakeview Village, which will be highlighted as one of the key sustainability features in this vibrant community



THE ASPIRATION

- Transform a 177-acre brownfield remediated coal plant site on Lake Ontario's shore into a vibrant, sustainable, worldclass, mixed-use community
- Develop a low carbon district energy system that supports the City of Mississauga's carbon reduction targets and LCPL's vision for sustainable living while enabling growth



THE APPROACH

- Enwave is developing an innovative district energy system that will incorporate wastewater energy recovery from the adjacent wastewater treatment plant to supply heating, cooling and domestic hot water to Lakeview Village
- Thermal energy will be produced at the Sustainability Centre located in the district's new Innovation Corridor, as a showcase of sustainability
- Energy will be distributed through the development via a piping distribution network located in the rights-of-way and integrated into the overall design and construction of the development





Springwater

Enwave worked with Mattamy Homes to develop a low carbon geoexchange system that includes boreholes under public streets for their residential development of over 300 homes



THE ASPIRATION

- Mattamy Homes, North America's largest privately owned home builder, is building a new neighborhood in Markham, Ontario and wanted to develop a new model for sustainable development
- The City of Markham has set out to become a netzero emissions city by 2050



THE APPROACH

- A geoexchange system that supplies sustainable heating and cooling to the neighbourhood of approximately 300 net-zero-ready homes
- The system is based on an innovative design that has been integrated into standard right-of-way construction and is designed to achieve a >90% GHG reduction when compared to traditional in-home heating and cooling systems
- Geoexchange boreholes are distributed throughout the community within the public rights-of-way and interconnected within an ambient loop, and all infrastructure is buried, preserving space and maintaining the aesthetic vision of the community





Keys to Success

Setting the Stage...

- Right **partners** and right **people** with the vision and mandate to get the project delivered
- Early engagement and ongoing collaboration
- Government partners with a strong carbon reduction vision and supporting actions

...For Successful Execution

- Integration into the development, design, and construction processes
- Support and engagement from approval agencies
- Leveraging infrastructure synergies
- Easement and access rights
- Targeted funding, incentives and policies





Thank You

Morrigan McGregor SVP, Energy Planning & Development Enwave Energy Corporation morrigan.mcgregor@enwave.com

ULI Infrastructure Forum 2023 Spring Meeting

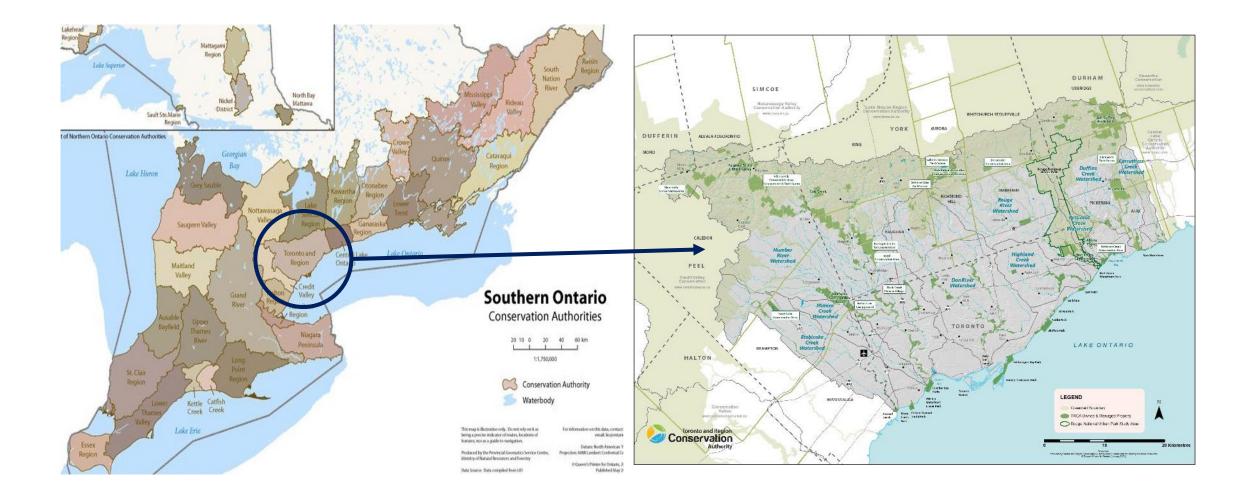
Toronto and Region Conservation Authority

Presented by:

Sameer Dhalla, P.Eng. Director, Development and Engineering Services

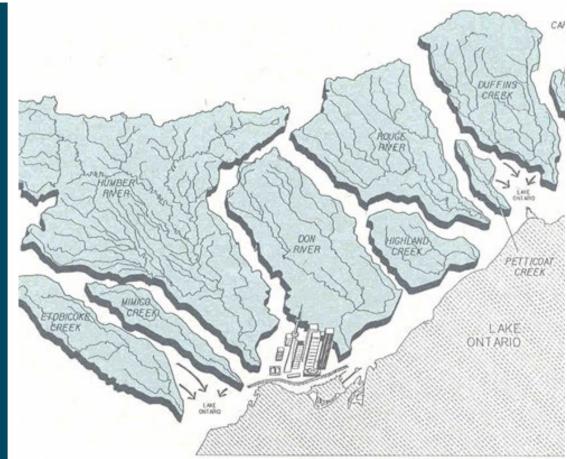


What is a Conservation Authority (CA)?

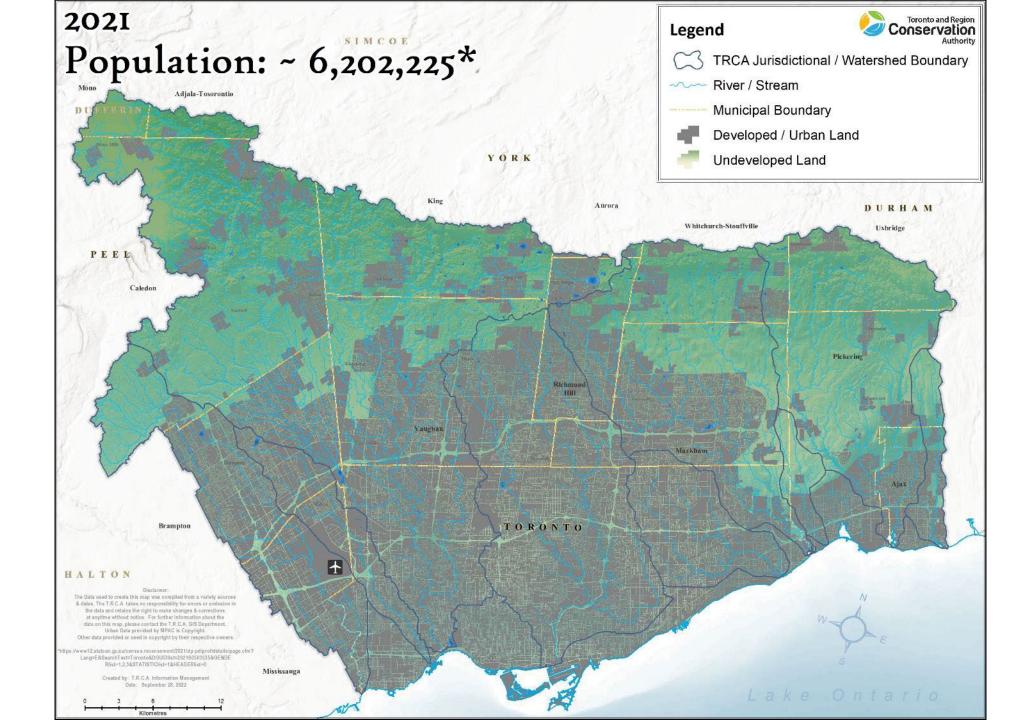


TRCA's Jurisdiction

- 3,467 km² (2,506 km² on land; 961 km² water-based
- 6.2 Million Greater Toronto Population (2021 Census, Statistics Canada)
- 4th largest city in North America
- 6 upper tier (i.e., Toronto, York, Peel, Durham) and 15 lower tier municipalities (i.e., Toronto, Markham, Vaughan, Mississauga)
- 9 watersheds
 - Rouge River
 - Petticoat Creek
 - Duffins Creek
 - Carruthers Creek
 - Etobicoke Creek
 - Mimico Creek
 - Humber River
 - Don River
 - Highland Creek



The TRCA's jurisdiction also extends into Lake Ontario to a point defined by the Territorial Divisions Act, R.S.O. 1980



Impacts from Urbanization

• Degraded aquatic and

terrestrial habitat

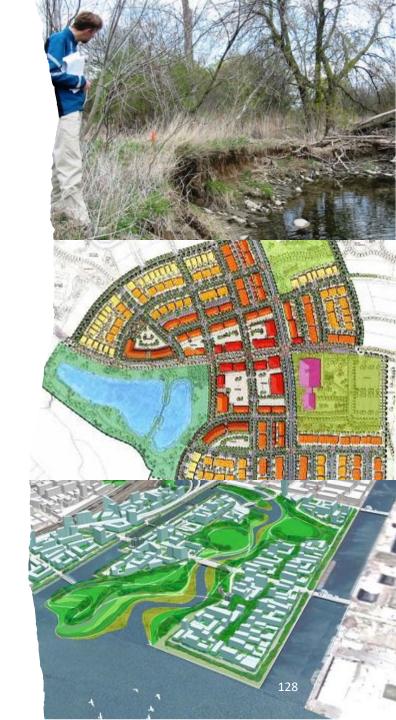
- Degraded water quality
- (Risdedd state de state ante, n n e

informations & property



What we do

- We protect life and property from natural hazards; shoreline, flooding, erosion.
- We secure lands into public ownership for the long-term protection of valley corridors and natural systems, and for the benefit of the current and future communities in which they are located.
- We are utilizing the opportunities that are generated from new development and redevelopment, working with our municipal partners and the development community, to enhance the function of adjacent natural systems, and integrate green infrastructure measures into the new development.

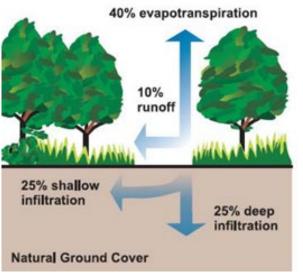


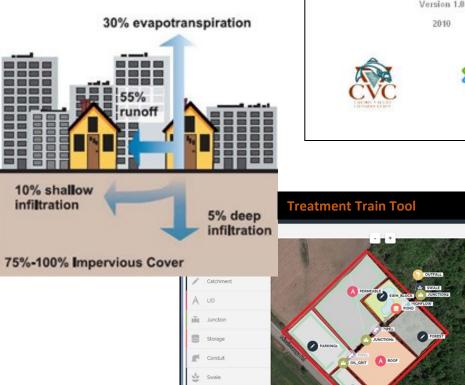
Championing GREEN Infrastructure











23 Weir

Dutfall

Project Summary

0



LOW IMPACT DEVELOPMENT STORMWATER MANAGEMENT PLANNING AND DESIGN GUIDE

Version 1.0



Drawn Elements

SWM_Block

Uutfall

Forest

A Roof

P Parking2

Parking1

i OiLgrit

A Permeable

Junction1

o x

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Toronto and Region Conservation Authority 129



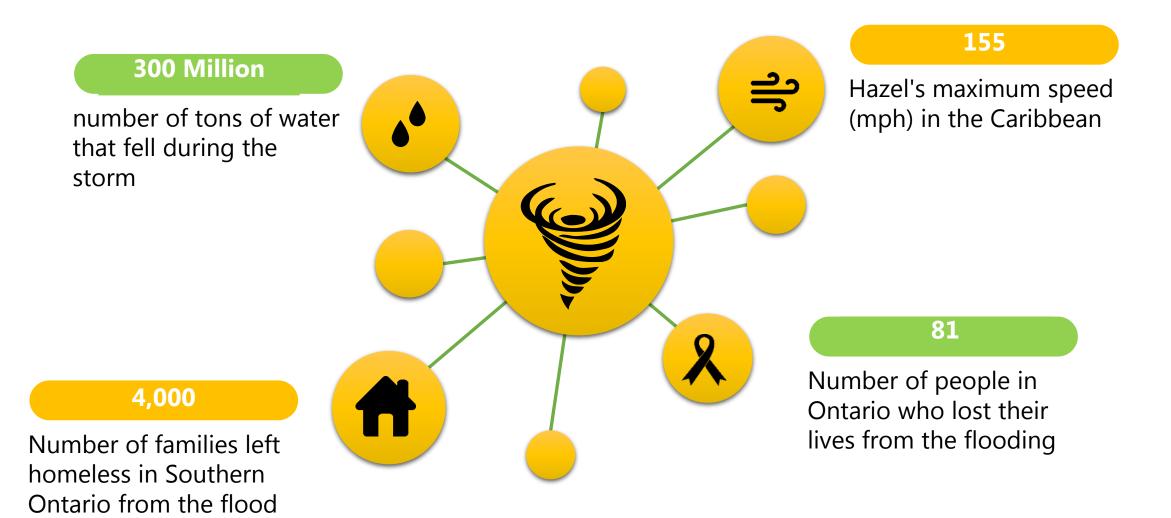
Harrow 1989 264mm 50mm/h Hazel 1954 285mm i2mm/h Aug 7 2018 74.4mm 76.8mm/h August 19 2005

2005 122mm 237mm/h

7

Hazel in numbers

(1,868 in Toronto)



STRUCTURAL

Traditional flood protection:

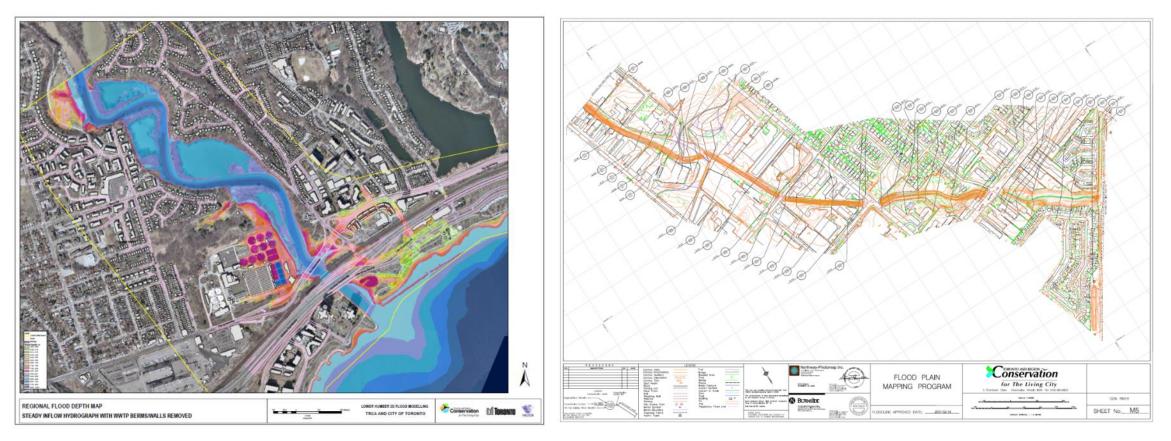
- Dams
- Dykes
- Diversions
- Channels
- Erosion protection

NON-STRUCTURAL Beyond structural measures:

- Acquisition of flood prone areas
- Development of hazard land policies
- Integration into municipal planning
- Flood plain mapping
- Flood warning and forecasting

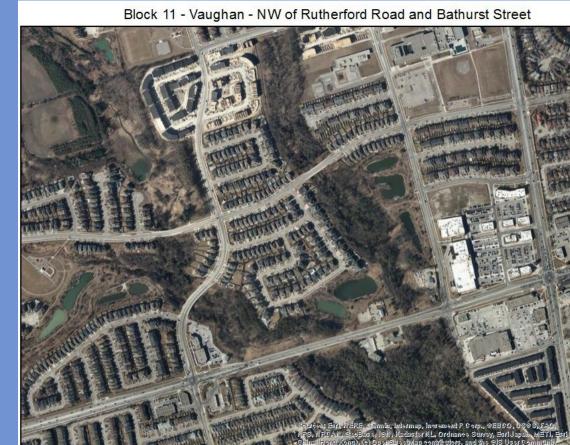
Floodplain Mapping

Floodplain Map: Riverine flood extents of a storm event – most commonly done for the regulatory storm (either 100-yr storm or regional storm (e.g., Hurricane Hazel))



Reducing risk = preserving greenspace and shaping the built environment



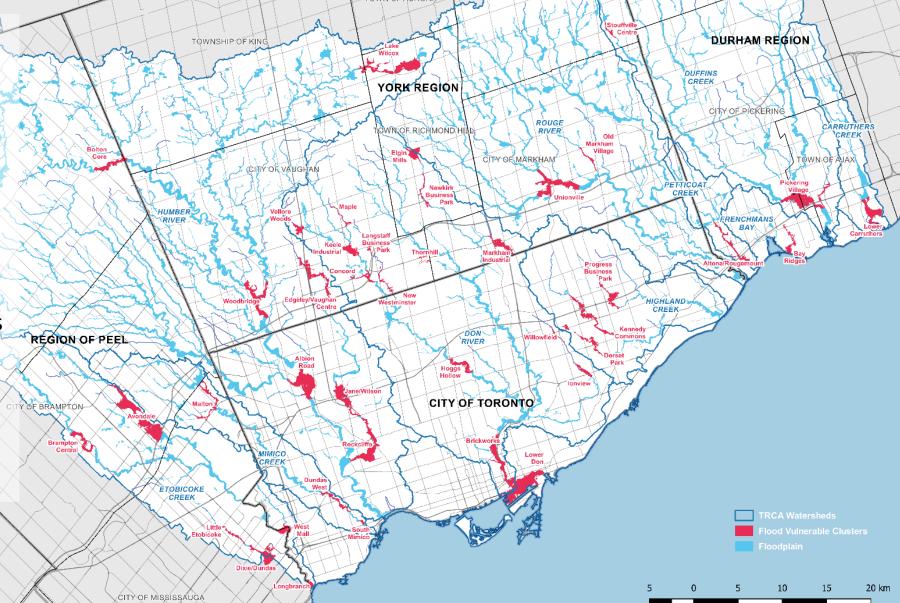


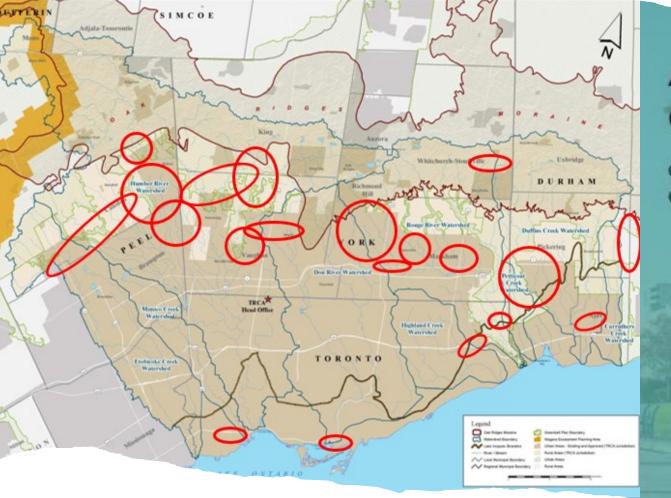
What about areas settled prior to land-use planning?

>14,000 Hectares of flood plain **41** Flood-vulnerable clusters >43,000 Residents affected in the regulatory storm event >41,000 Employees affected in the regulatory storm event >9,900 Buildings affected in the regulatory storm event **195km** of Impassible road segments in the regulatory storm **~\$3 Billion** in risk from structure, contents, business interruption and population displacement (not counting infrastructure repair)

Toronto and Region

Authority





A Place to Grow

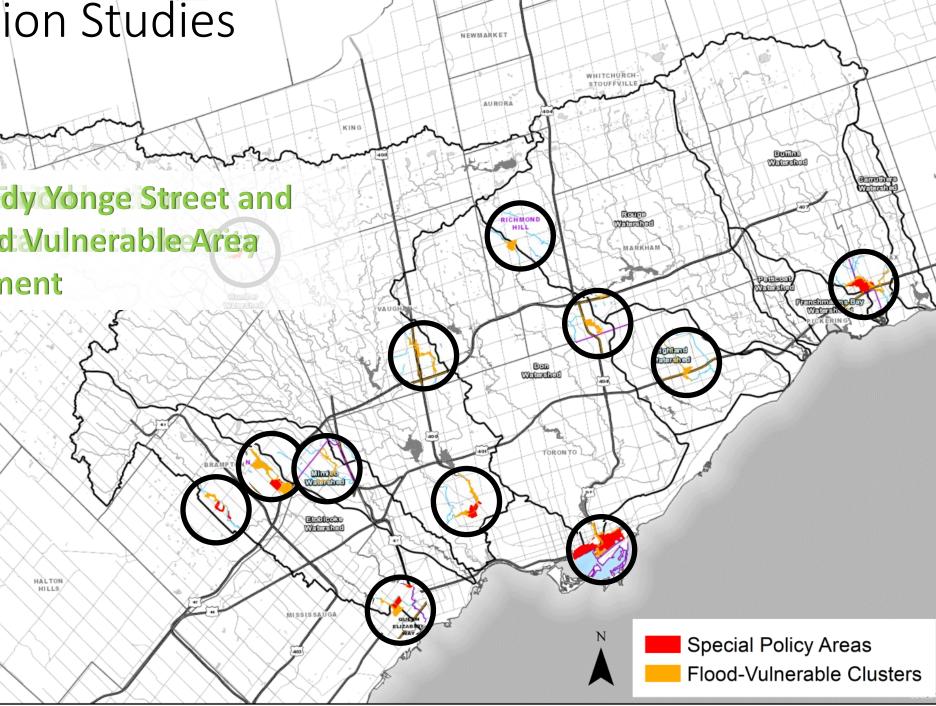
Growth Plan for the Greater Golden Horseshoe

Many Urban Growth Areas are in Flood Plains Constraint or Opportunity?

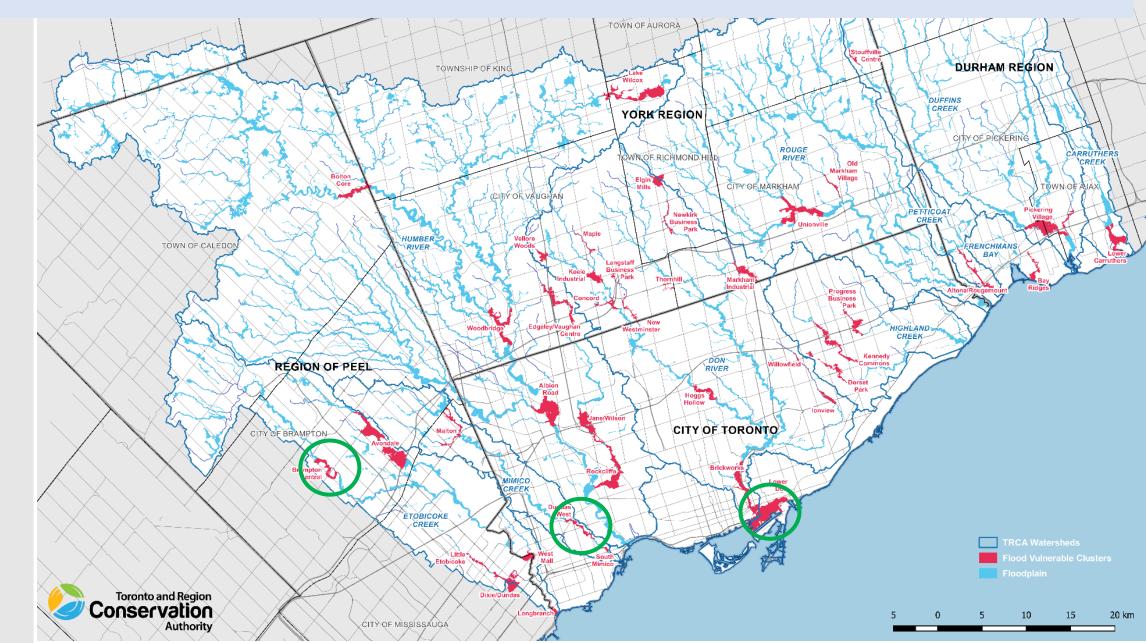
Flood Remediation Studies

VaughanBlack Greektudy Yonge Street and RenewallProject Flood Vulnerable Area Environmental Assessment

- Cluster: Biggetiggs, ne
- Gubiggbie Hokk 82
- **Chustelle Rach ka 201**6 2018



Closer look at three case studies . . .

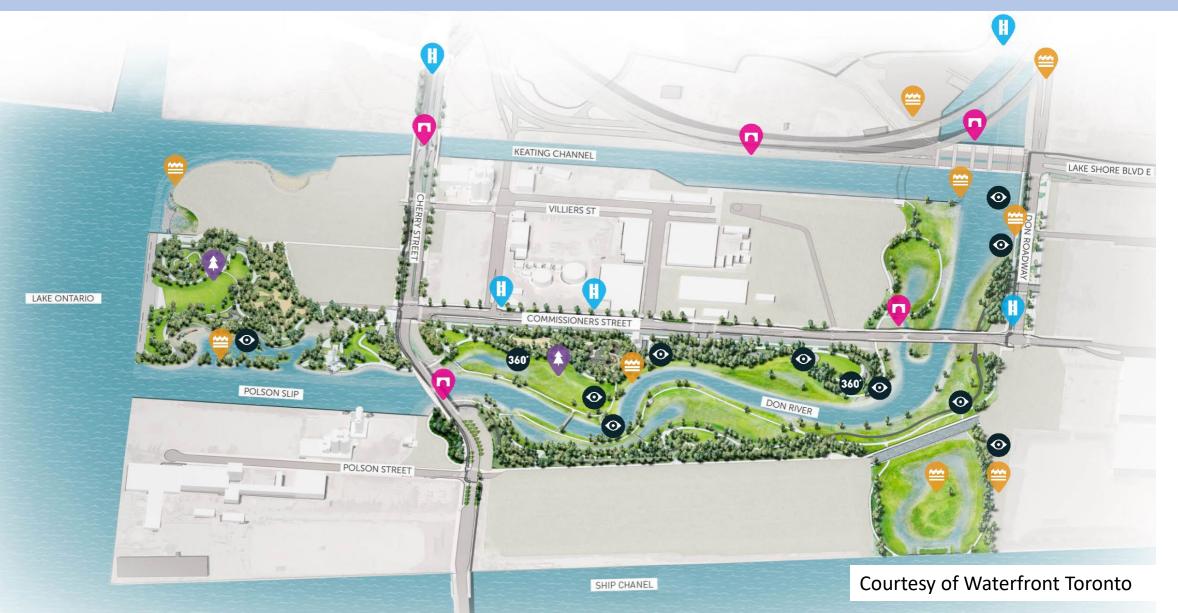


Flood Remediation: Port Lands Flood Protection (Public)

- Waterfront Toronto implementing the solution in close partnership with TRCA, City of Toronto, and other stakeholders
- Project allocated \$1.25 billion of funding from all three levels of government to implement solution
- Valley construction and detailed design underway to remove 290 ha flood plain
- Target date for full flood protection is 2024



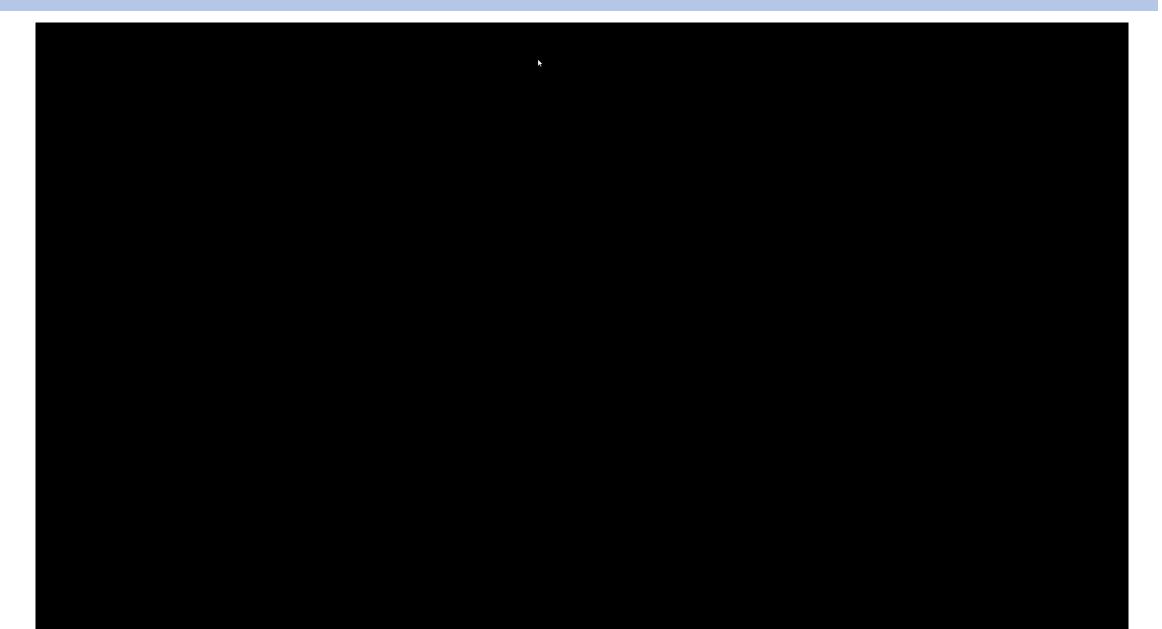
Flood Remediation: Port Lands Flood Protection



Flood Remediation: Port Lands Flood Protection



Flood Remediation: Toronto Portlands



Toronto Portlands – Summary of Benefits

- 29 hectares of parkland, wildlife habitat and natural areas along portions of the northern and southern banks and mouth of the new river valley
 - includes 13 hectares (32 acres) of new coastal wetland and four hectares (10 acres of terrestrial habitat) and 1,000 m of new river channel and flood plain
- Construction has a direct \$1.1 billion in value added to Canadian economy.
- \$4 billion economic impact of all future development unlocked by flood protection.
- Construction progress: https://www.youtube.com/watch?v=urm2JDZFUxI

Flood Remediation: Brampton Riverwalk (Public / Private)

- Development is restricted in Downtown Brampton because of flood risk.
- Reducing flood risk will create the opportunity to remove the flood plain (in part) which would allow revitalization of the downtown core and reconnect the public to the river and enhanced open space.



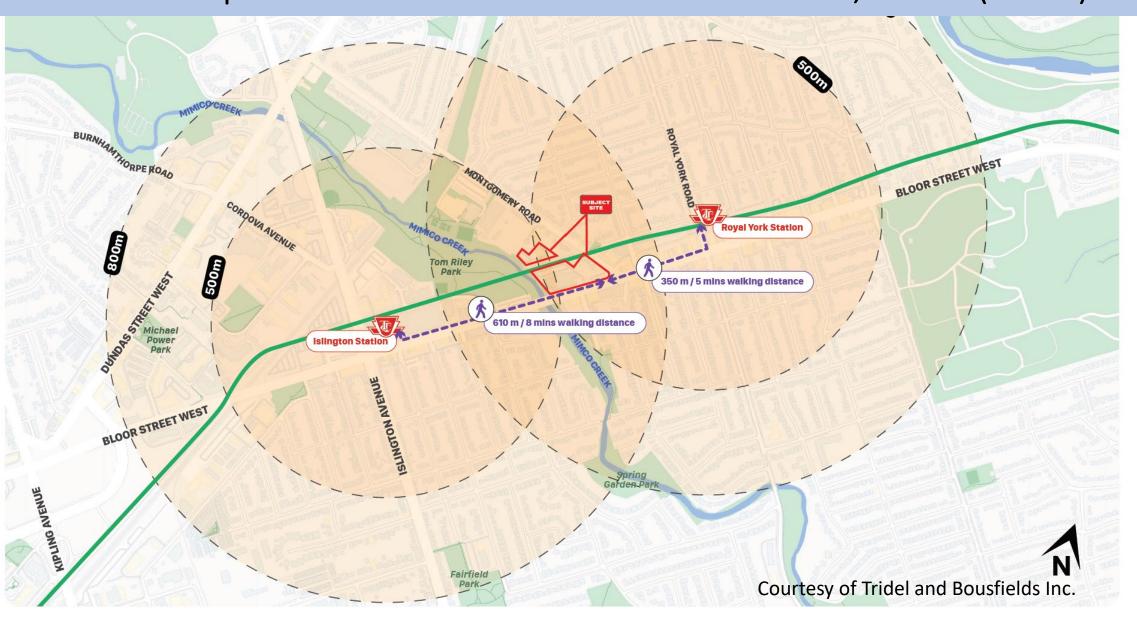
An Urban Design (Open Space) Master Plan is being developed to complement the project with focus on the open space and public realm opportunities.

Flood Remediation: Brampton Riverwalk

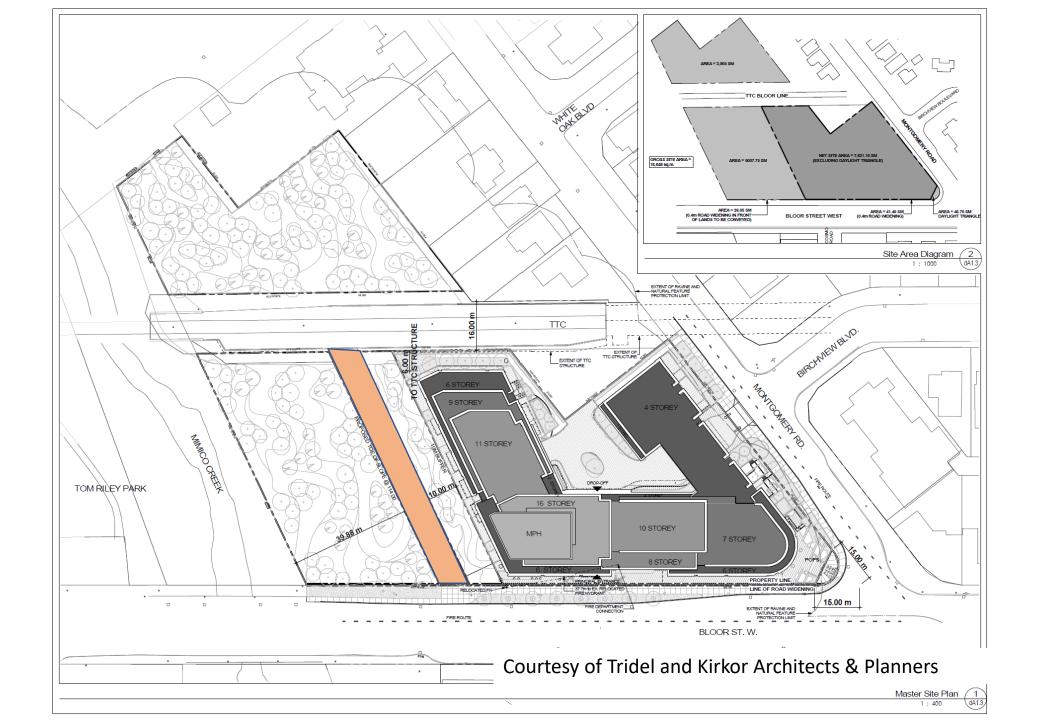
• Play City's video from here: <u>City of Brampton | Riverwalk | Riverwalk</u>



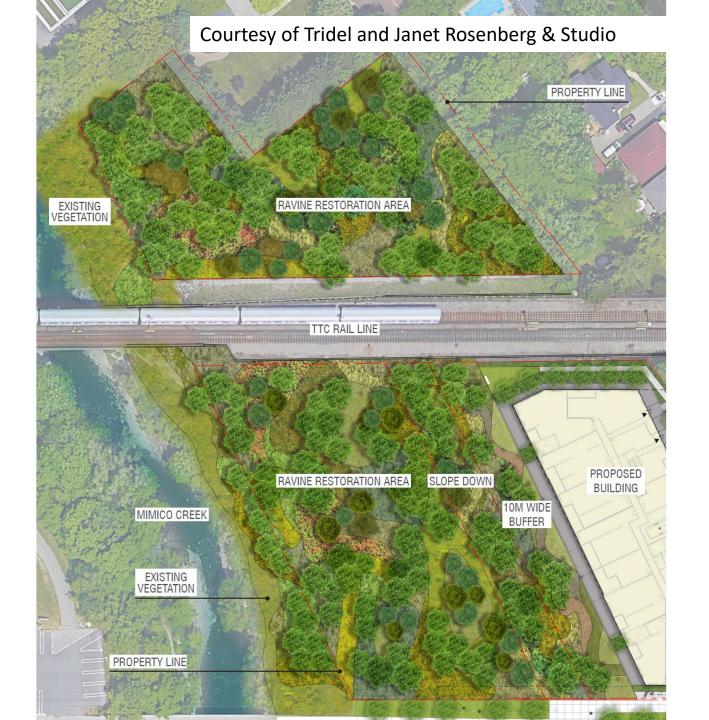
Chestnut Hills Park















www.trca.ca

ULI Infrastructure Forum Case Studies Panel

Financing Transit-Oriented Communities

Dr. Morteza Farajian

Executive Director, Build America Bureau Office to Housing Conversion

Eric Tao

San Francisco District Chair SPUR, Managing Partner L37 Development Repositing Malls to Mixed-use

Erich Dohrer

Principal, Arcadis

Low Carbon Energy Solutions

Morrigan McGregor

Senior Vice President of Energy Planning and Development, Enwave De-risk with Green Infrastructure

Sameer Dhalla

Director of Dev. and Eng. Services, Toronto and Region Conservation Authority

UL Urban Land

Facilitators:

Craig Lewis Principal and Placemaking Group Manager Arcadis, and Kevin Augustyn Senior VP and ESG Lead, Morningstar DBRS

After the Break: Leadership Strategy Breakout Session Connecting Leadership Strategies with Infrastructure Systems

Be back at 10:30am

Thoughtful Leadership Framework

Jim Fisher Professor Emeritus, **University of Toronto Rotman School of** Management

#1 One Vision **Facilitators:** Bill Anderson & **Kevin Augustyn**

CENTRAL BUSINESS AREA MALL

EDGE CITY

SUBURBAN CORRIDORS

One # Environmental

• Facilitators: **Gullivar Shepard &** Sameer Dhalla

One

Energy

Matthew Kwatinetz &

Morrigan McGregor

#4

Facilitators:

#3 Community EDGE

EDGE CITY

Facilitators: Lucia Garsys Paul Stevens

One Mobility #5

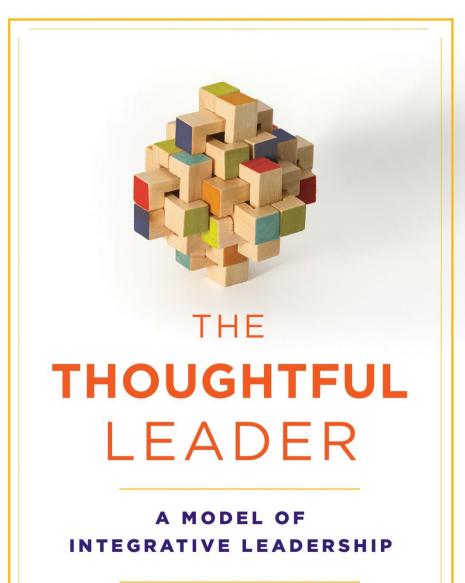
One

Facilitators: Renee Schoonbeek & **Stephen Engblom**

ULI Infrastructure Forum Framework for Thoughtful Leadership

Jim Fisher Professor Emeritus Rotman School of Management, University of Toronto

ULU Urban Land



JIM FISHER



copyright Jim Fisher 2014

Leadership is for Everyone

Think About It

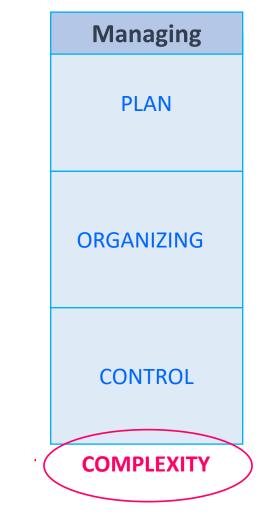




copyright Jim Fisher 2014

The 20th Century Classic

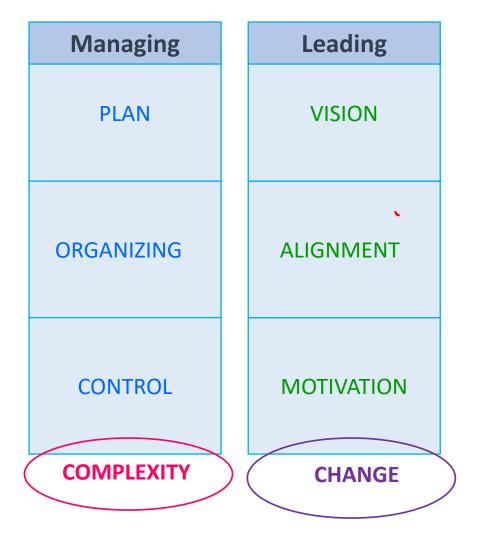
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The Kotter Leading/Managing Model

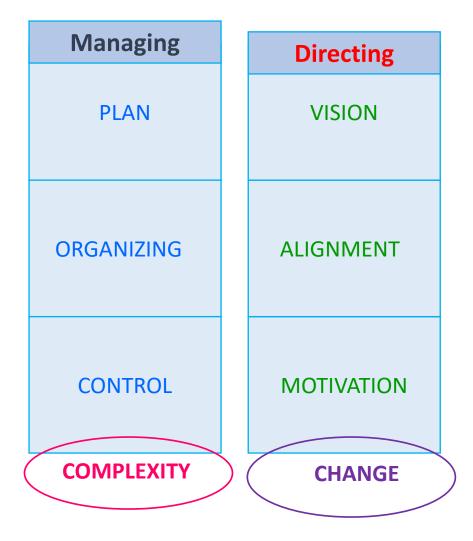


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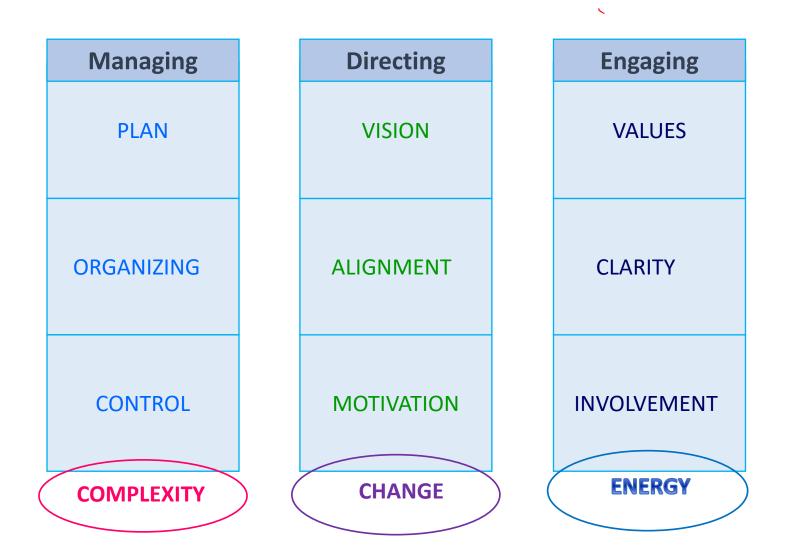
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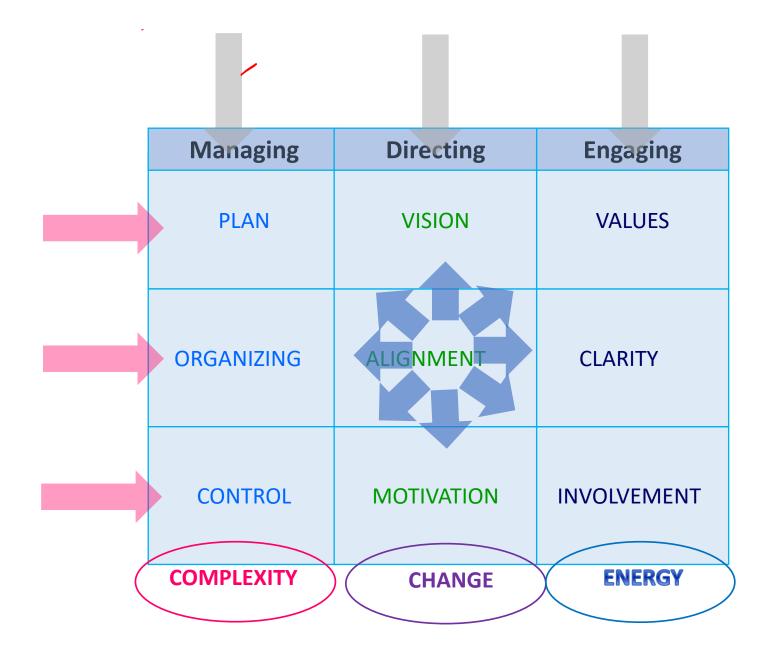




Leadership today means doing it all

Managing	Directing	Engaging
PLAN	VISION	VALUES
ORGANIZING	ALIGNMENT	CLARITY
CONTROL	MOTIVATION	INVOLVEMENT
COMPLEXITY	CHANGE	ENERGY



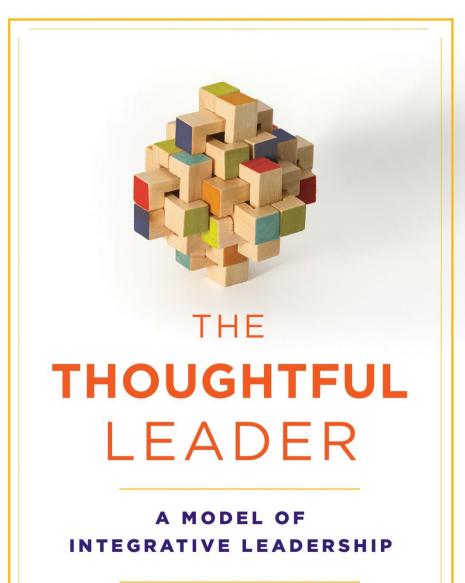




A Clear Compelling Vision is powerful







JIM FISHER

Leadership Strategy Breakout Session Connecting Leadership Strategies with Infrastructure Systems



Leadership Strategy Breakout Session

Background



You are the leadership team of **"One Environmental Infrastructure Group"**, a 501(c)(3) non-profit organization representing the **Metro Region of Game Changer,** in the **State of Low Carbon**.

The Infrastructure Investment and Jobs Act (IIJA), Inflation Reduction Act (IRA), and American Rescue Plan Act (ARPA), provide funds for **building parks**, green streets, flood protection, stormwater management, water, utilities, emergency preparedness, naturebased solutions, climate-smart agriculture, reforestation, habitat restoration, flood prevention, wildfire risk reduction, and other infrastructure related to climate mitigation, environmental remediation and resiliency.

This provides a once-in-a-century opportunity to:

- deliver parks, green streets, flood/drought protection, stormwater management, environmental restoration, naturebased solutions, utilities, and water supply in one project, and
- apply the method across 5 geographies within the metro regiondowntowns, edge cities, suburban corridors, malls and exurbs.

Leadership Strategy Breakout Session





The **People Council of Healthy People** is meeting on **Tuesday, May 16, at 11:20 am EST** to approve infrastructure allocations for the next 7 years. Council is accepting proposals in the form of a **4-Minute Delegation** with key points presented in **1 chart**.

The People Council is comprised of representatives from government, real estate and non-profit.

Over the next 15-minutes, come up with a proposal addressing: **Directing**

- New direction (what needs to change)
- Consequence (what will happen if we don't do it)

Managing

- How to implement this direction across all geographies Engaging
- Benefits to government (policies and public good)
- Benefits to developers (real estate market)
- Benefits to non-profit (community needs)

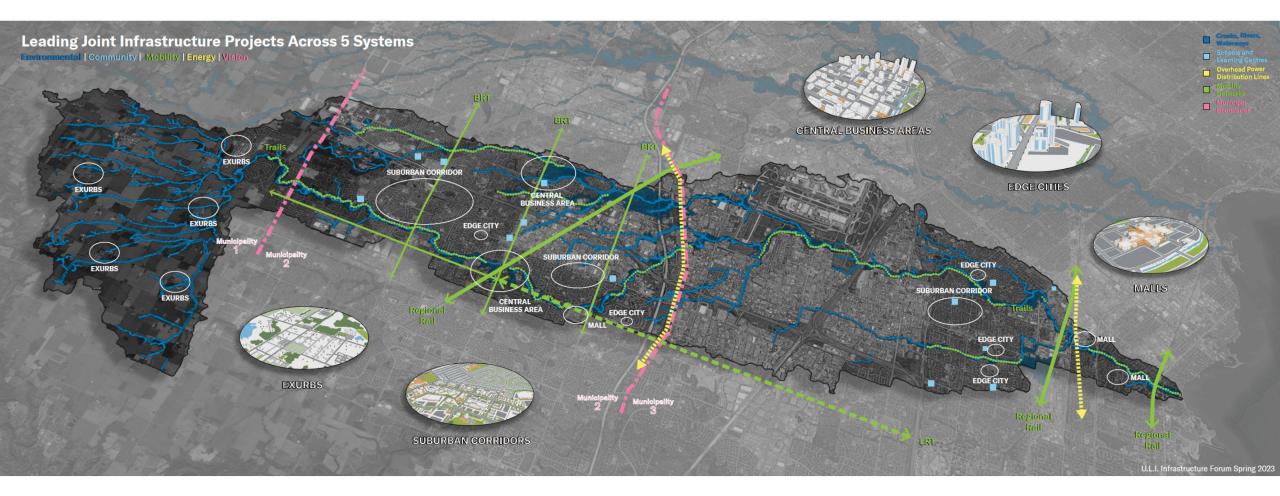
Leadership Strategy Breakout Session



Chart

One Environmental Infrastructure Implementation		
Directing		
To seek Council approval for		
In order to avoid		
Managing		
Within Metro Region, the top action is		
Within Downtowns, the top action is		
Within Edge Cities, the top action is		
Within Suburban Corridors, the top action is		
Within Malls, the top action is		
Within Exurbs, the top action is		
Engaging		
Benefits to government-		
Benefits to real estate-		
Benefits to community–		

Leadership Strategy Breakout Session Come back <u>BEFORE</u> 11:20am for Delegation . . .





ULI Infrastructure Forum

Closing Remarks

Billy Grayson Executive Vice President, Centers and Initiatives, Urban Land Institute

