

An aerial photograph of a city is overlaid with a semi-transparent green grid. The grid lines are thin and light green, creating a pattern over the city's streets and buildings. The text is centered over this grid.

Building 15-Minute Communities A Leadership Guide



Urban Land
Institute

About the Urban Land Institute

The Urban Land Institute is a global, member-driven organization comprising more than 45,000 real estate and urban development professionals dedicated to advancing the Institute's mission to shape the future of the built environment for transformative impact in communities worldwide. ULI's interdisciplinary membership represents all aspects of the industry, including developers, property owners, investors, architects, urban planners, public officials, real estate brokers, appraisers, attorneys, engineers, financiers, and academics. Established in 1936, the Institute has a presence in the Americas, Europe, and Asia Pacific regions, with members in 80 countries.

More information is available at uli.org. Follow ULI on [Twitter](#), [Facebook](#), [LinkedIn](#), and [Instagram](#).

About the ULI Curtis Infrastructure Initiative

The ULI Curtis Infrastructure Initiative aims to build a movement to promote infrastructure solutions that are equitable and resilient and that enhance long-term community value. By creating new global and strategic partnerships, providing technical assistance, building capacity at the local level, and acting as a feedback loop to promote the most innovative and effective best practices, the Curtis Infrastructure Initiative will ensure the success of ULI's mission to shape the future of the built environment for transformative impact in communities worldwide.

Learn more about the Curtis Infrastructure Initiative at uli.org/infrastructure.

About the Author

Yvonne Yeung, a ULI Curtis Infrastructure Fellow, is a professional planner, urban designer, landscape architect, LEED Accredited Professional, and project management professional. She has over 23 years of experience in the public, private, and nonprofit sectors delivering award-winning transit-oriented communities worldwide. Yeung is the recipient of the University of Toronto Rotman School of Management MBA Award, the American Society of Landscape Architects Honor Award, and numerous other industry planning and design awards. She is the principal, practice lead for planning sustainable cities and communities, at Hatch Urban Solutions, a global consulting firm based in Canada.

Learn more about Hatch Urban Solutions at hatch.com.

About This Report

Building 15-Minute Communities: A Leadership Guide shares promising insights and strategies for leveraging infrastructure investment and real estate development to create walkable, transit-oriented, sustainable, complete communities. Filled with community-scale illustrations backed by actionable decisions at different stages, this report provides leaders with a framework for setting agendas, asking the right questions, seizing opportunities, and informing the next 100 years of city building.

Learn more about the report at ULI Knowledge Finder, knowledge.uli.org.

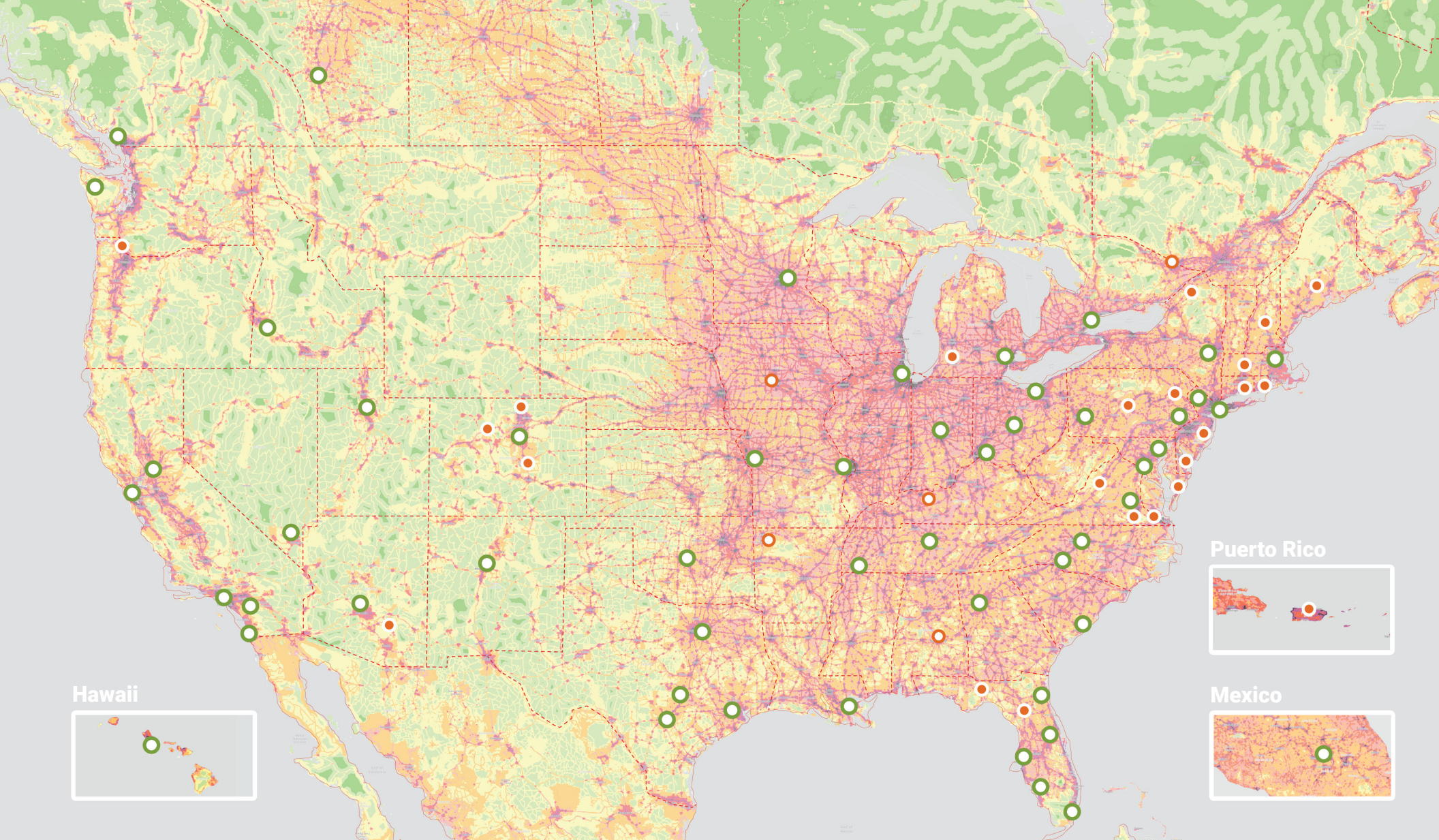
© 2023 by the Urban Land Institute

Printed in the United States of America. All rights reserved. No part of this publication may be reproduced in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage and retrieval system, without written permission of the publisher.

Recommended bibliographic listing:

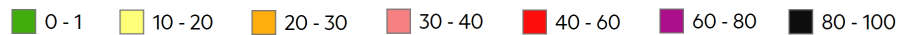
Yeung, Yvonne. *Building 15-Minute Communities: A Leadership Guide*. Washington, DC: Urban Land Institute, 2023.

Urban Land Institute
2001 L Street, NW, Suite 200
Washington, DC 20036-4948



The location of ULI district councils is overlaid on the *National Geographic* map of the “Human Footprint”—the level of impact people have in terms of pollution, carbon dioxide emissions, water consumption, etc. (*National Geographic*, using data from Wildlife Conservation Society and Center for International Earth Science Information Network–Columbia University; ULI)

Key: The color represents the level of human impact



- ULI District Councils
- Satellites
- Local Organizing Committees

Contents

Introduction	6
Part 1: The Promise of 15-Minute Communities	7
The History of an Idea	8
Origins of This Report	14
Part 2: Leadership Strategies for 15-Minute Communities	17
Five Forces for Change	18
Leadership Strategies in Metro Regions	28
Leadership Strategies by Geographic Type	33
Conclusion	57
Acknowledgments	58

Introduction

Building 15-Minute Communities: A Leadership Guide shares promising insights and strategies for leveraging infrastructure investments and real estate development to create walkable, transit-oriented, sustainable, and complete communities.

Fifteen-minute communities hold the promise of accelerating decarbonization, increasing affordability, reducing climate and health risks, and fostering social equity and inclusion. This walking-centered approach to city building lays the foundation for developing compact, mixed-use communities that can increase real estate value, create co-benefits with joint use and co-location, and generate new resources to invest in the community.

This report:

- **Highlights connections** among automobile-dependent land use decisions, climate risks faced by infrastructure and real estate, affordability, and quality-of-life challenges that metropolitan areas and communities are grappling with today;
- **Makes the case** for dense, transit-oriented, walkable, mixed-use development that decarbonizes real estate and the supply chain; and
- **Shares promising strategies** to accelerate infill development with holistic infrastructure, align community vision with an active lifestyle, and enable strategic partnerships that promote joint delivery of infrastructure and services.

Part 1 of this report lays out the history of the concept of 15-minute communities and the genesis of this report. It has two sections:

- **“The History of an Idea”**—describing how a 1920s-era planning idea sparked a 2020 global leadership movement by meeting core human needs in communities.
- **“Origin of This Report”**—explaining how a ULI Curtis Infrastructure survey and convenings informed this leadership guide.

Part 2 offers tools to prompt conversations about 15-minute communities. It includes community-scale illustrations backed by actionable decisions that can be taken at different stages of development. It includes:

- **“Five Forces for Change”**—presenting a five-forces model for deploying whole-government initiatives, historic levels of infrastructure funding, and real estate opportunities that, combined with leadership actions, can achieve better results faster.
- **“Leadership Strategies”**—examining, first in broader metro regions and then in five geographic types, shared challenges and real estate opportunities, and offering leadership strategies that can be employed to transform metro regions into networks of 15-minute communities.

Each section provides a focus for leaders to set agendas, ask the right questions, seize opportunities, and shape outcomes to strive for.



Part 1

The Promise of 15-Minute Communities

The History of an Idea

Living close to work, walking to meet daily needs, and having a social life in the community were the hallmarks of prewar cities in America and around the globe. The introduction of automobiles in the 1900s changed that model, but cities soon started a century-long effort to return to walkable communities.

The idea of 15-minute communities began to take shape in U.S. planning during the 1920s when Clarence Perry in New York City's planning department came up with the [neighborhood unit plan](#). To address street fatalities occurring at the rate of one child per day, Perry developed a framework for walkable communities:

- **Schools and parks located at the heart of communities.** A child can walk about a quarter mile (0.4 km) to school if these facilities are placed in the center of communities, and people can use them for activities and events.
- **Walkable streets and local shops.** Streets are designed to enhance pedestrian safety and aesthetic enjoyment, and neighborhoods are complemented by shopping located within walking distance of homes.

Perry's concept has reshaped [New York's regional planning](#). In the 1990s, the new urbanism movement used it to support transit-oriented development (TOD), which promotes mixed-use densification, creating a community within a 15-minute walk of transit stations or high-volume bus lines, and outdoor recreation within a half mile (0.8 km). Large-scale adoption of walking-focused plans ensued, including New Jersey's statewide adoption of TOD, the San Francisco Bay area's coordination of TOD in its nine counties and 101 cities, and the San Diego region's TOD strategy. Many cities around the world have now adopted transit-oriented development to create walkable communities.



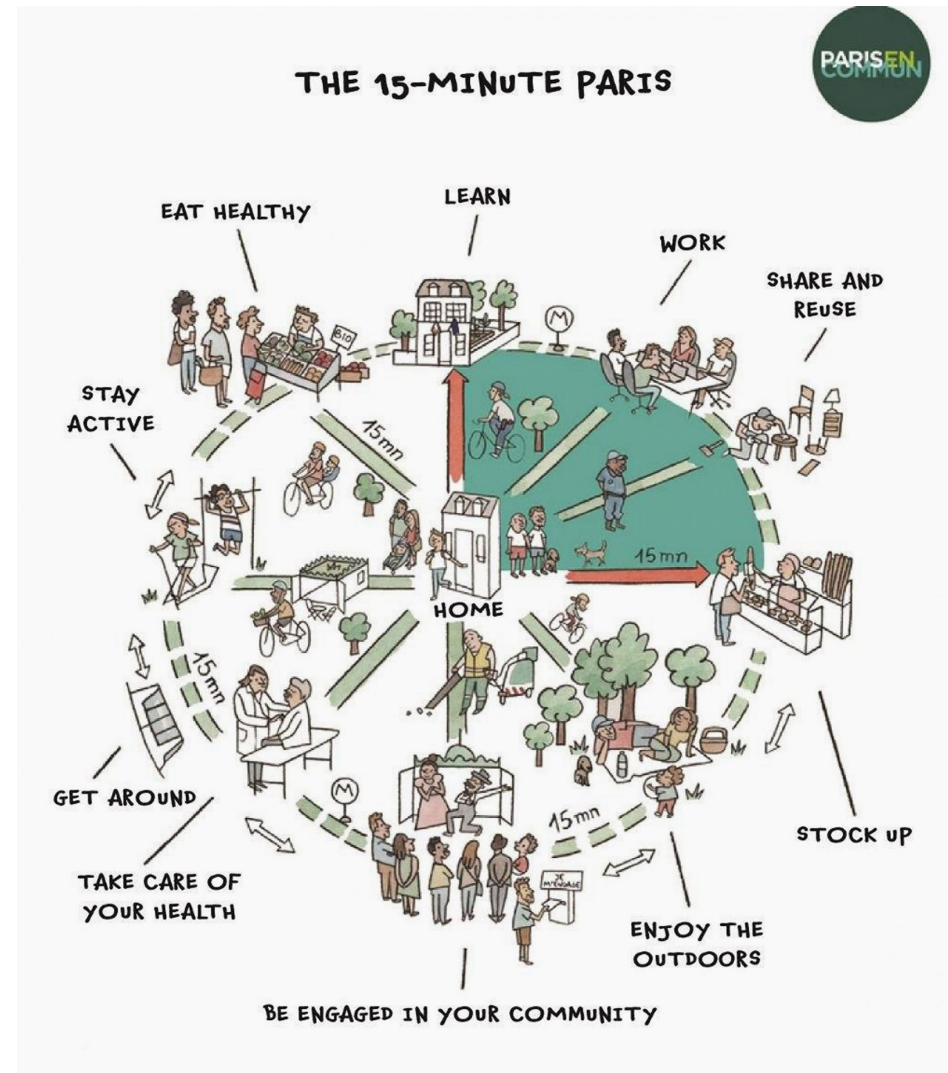
In Clarence Perry's neighborhood unit plan, schools and parks are at the center of a walkable, mixed-use community. (Clarence Perry, 1929)

The 21st-Century Renaissance

In the 21st century, the idea of 15-minute communities experienced a renaissance, with localities implementing iterations of the concept. In 2019, in the wake of the COVID-19 pandemic, Paris began implementing Carlos Moreno's [15-minute city initiative](#), which focuses on cleaning the air, saving time, and reducing driving. Central ideas of the initiative include:

- **Reclaim road space for people.** Convert roads into car-free linear parks, make the city 100 percent accessible by bicycle, and operate “school streets” for safe walking to schools.
- **Strengthen neighborhood-level engagement.** Transform schools, nurseries, and playgrounds into community hubs for after-hours and weekend use. Create a budget that allows residents to participate in local environmental initiatives.
- **Remodel the city as a walkable place.** Distribute jobs, shops, and health, education, and cultural services within a short distance of people’s homes.

The results in Paris ignited a global leadership movement. In 2020, the mayors of the C40 Cities—an alliance of 100 world-leading cities—adopted the 15-minute city as part of its [“C40 Mayors’ Agenda for a Green and Just Recovery”](#) to build back better.



The 15-minute Paris plan, conceived by Carlos Moreno, puts essential functions within a short walk or bike ride of homes.

(N. Bascop for Paris En Commun)

Transformations in North America

In North America, various cities are implementing visions, plans, and programs based on the 15-minute communities concept. Examples include:

- **Northwest:** Portland adopted [2030 Complete Neighborhoods](#) with a goal of providing 80 percent of residents with access to basic needs by walking, cycling, and transit.
- **Northeast:** Ottawa adopted a 25-year urban intensification plan to create a community of [15-minute neighborhoods](#). It aims to accommodate double the population and create the most livable medium-sized city in North America.
- **South:** Houston's [Walkable Places](#) ordinance aims to transform six central business districts into pedestrian-friendly, transit-oriented, compact examples of mixed-use development to reduce commuter traffic.
- **West:** The Los Angeles City Council unanimously adopted the [Livable Communities Initiative](#), aimed at “solving our housing crisis while delivering the beauty and convenience of a 15-minute city.” Furthermore, California structured its 2023 Infill

Infrastructure Grant criteria in accordance with the following goals:

- **A quarter-mile (0.4 km) walkable distance** to transit and amenities;
- **Mixed-use densification** with broadband access, sustainable construction, reduced parking, and site amenities such as parks, senior services, and clinics; and
- **Affordable housing with rent control** in infill development, or adaptive use of existing buildings.



Los Angeles's Livable Communities Initiative aims to make housing more livable through 15-minute communities. (Livable Communities Initiative)

The Popularity of Walkable Communities

The desire to live and work in walkable communities has also gained popularity. Surveys of Americans have found:

- **Three in five people** favor living in walkable communities with a mix of houses and stores rather than places that require driving between home, work, and play.
- **Half of millennials and baby boomers** want to live in walkable communities.
- **By a four-to-one margin, office tenants** prefer walkable communities over office parks.

Since 2022, **three in five businesses** globally have accommodated hybrid and work-from-home arrangements. In the United States, building walkable communities has become a key focus. Notably:

- **Three in four Americans** do not meet recommended physical activity levels.
- **The American Planning Association** launched [Plan4Health](#) to link planning with health.
- **In March 2023, the U.S. Department of Health and Human Services** launched a campaign, Build Healthy Communities, to promote a walking-centric built environment as part of its [Healthy People 2030](#) initiative.

Now more than ever, it is critical that leaders build on this momentum and resolve any controversy with clear communication. Although the idea of 15-minute communities has encountered pushback from some commentators, cities have proactively addressed concerns. For example, Edmonton, Alberta, notes on its [District Planning website](#) that this type of planning “moves us closer to our vision for a more connected, prosperous, healthy, and climate-resilient city. It is not about restricting movement, monitoring people, or tracking an individual’s carbon emissions.”



Plan Melbourne

A Walkable Community Model for a Growing Metropolitan Area

Melbourne is the fastest-growing metropolitan area and city in Australia, with a population expected to nearly double from 4.6 million to 8 million by 2050. To shift from automobile-dependent to transit-oriented land use, Melbourne uses a [walkable communities model](#) to plan for integrating infrastructure, transportation planning, and land use strategies.

In 2020, Victoria and the city of Melbourne approved Plan Melbourne to direct the replanning of the city as a network of 20-minute walkable neighborhoods called “neighborhood activity centers.” These centers are to be integrated into major infrastructure projects to connect and help communities and local businesses thrive locally.

Plan Melbourne is a prime example of how a metropolitan area can operationalize walkable communities. It encompasses land use policies, facilities and services, the economic case for infrastructure, a five-year implementation plan, and inclusive community engagement centered on [youth participation, community health, and partnerships](#).

The [Plan Melbourne Five-Year Implementation Plan](#) identifies 112 action items, including the following:

- **Ensuring applicability to both large urban centers and small local centers:** Plan for people to live and work locally in both large urban centers and small local centers.
- **Creating a sustainable, equitable, and accessible city with a network of healthy, walkable neighborhoods by 2030:** Connect hundreds of neighborhood activity centers to create a city of “20-minute neighborhoods.” Ensure that no one is left behind in reaching the United Nations’ [Sustainable Development Goals](#) by 2030.
- **Providing walkable access to a variety of daily living needs:** Locate facilities and services within a half mile (0.8 km) trip—including walking from home to a destination and back again—a distance people are generally willing to walk.
- **Serving daily living needs with local facilities:**
 - Schools and other facilities that offer lifelong learning;
 - Health and services facilities;
 - Entertainment, shopping, and food establishments;
 - Parks, community gardens, green spaces, sports, and recreation spaces;
 - Affordable housing options for aging in place; and
 - Green streets with safe cycling connected to public transportation.
- **Implementing infrastructure at the community scale to optimize benefits:**
 - Reduce by hundreds of millions of dollars the annual costs related to congestion, health, and road maintenance by replacing 50 percent of short vehicle trips with walking;
 - Reduce health risks by 26 percent by promoting 30 minutes of walking daily, five days a week;
 - Increase actual and perceived safety through use of [greenery and street-scale features](#);
 - Reduce household transportation costs by half and increase the number of people entering shops by [40 percent](#);
 - Reduce pollution by 50 percent by creating walkable, compact, mixed-use neighborhoods;
 - Reduce energy consumption by 10 percent by planting urban street trees; and
 - Benefit from a [13-to-1 benefit/cost ratio](#) from investing in walkways to reduce health care costs, greenhouse gas emissions, etc.

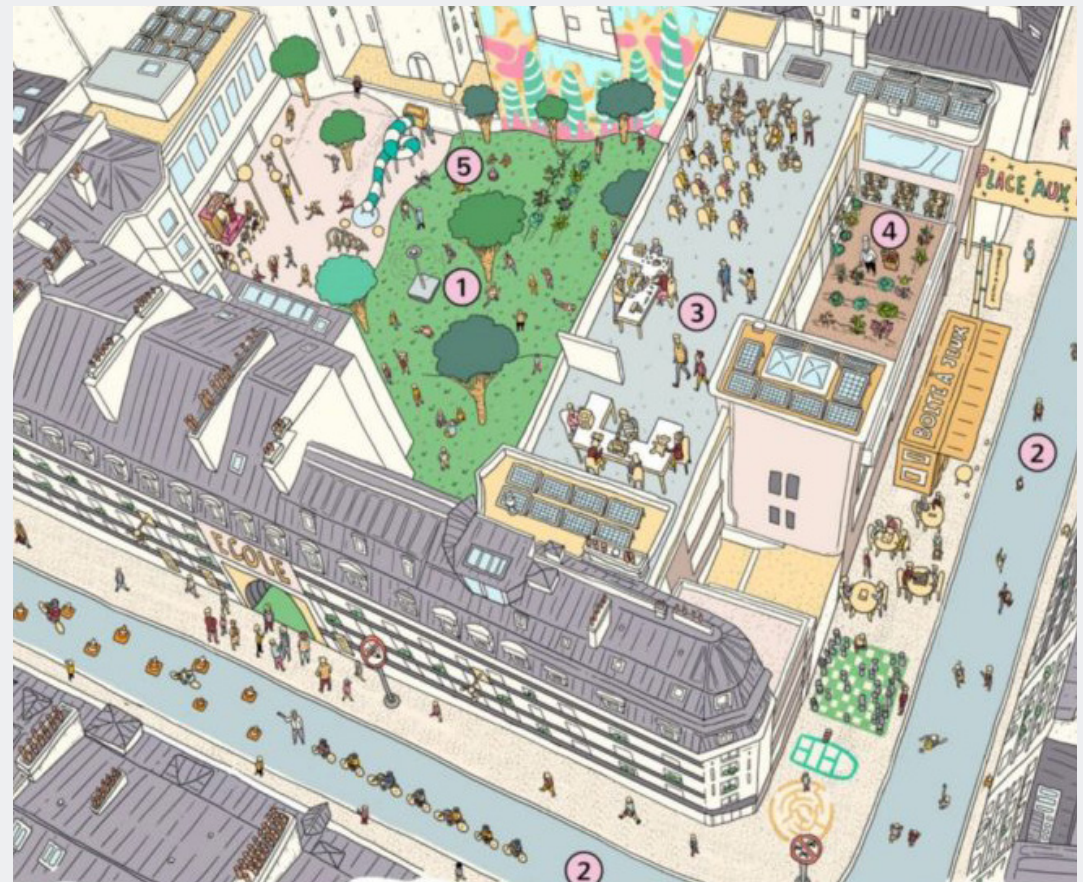
Carlos Moreno

The Vision of Proximity, for All

“The city of 15 minutes is . . . the opportunity to get rid of restraints, to transform each place in a multitude of possibilities, with each one leading to another like a succession of new openings. One place, several uses, each use, new creativity. . . . [The concepts of the 15-minute city] allow us to experience an infinity of places of urban possibilities. It is a journey to embody the places, to find humanity at the end of the street, to give a heart to the heart of the city.”

—Carlos Moreno

Carlos Moreno, a professor at the University of Sorbonne, Paris, and creator of a framework for 15-minute cities, envisions “[a city of short distances](#)” that can break free of linear time and discover infinite resources through creativity. As an adviser to the mayor of Paris, Moreno developed a framework for people to accomplish six essential functions by walking or biking within 15 minutes from their dwellings: living, working, commerce, health care, education, and entertainment that emphasize sustainability, resilience, and place identity. By meeting core human needs, this simple idea can reshape city building worldwide for the next century.



A 15-minute city provides multiple uses in one place, each generating an innovative, creative experience. (N. Bascop for Paris En Commun)

Origins of This Report

“Real estate is about people; the building is a byproduct. We have a responsibility to build an environment—not just build buildings. Having a vision is very important; it gives you an idea of a road map where you are headed, a sense where to get back.”

—Jim Curtis, ULI Life Trustee

For ULI, the concept of 15-minute communities is not new. It has arisen in broad Institute gatherings and publications, as well as in recent workshops and a survey focused on infrastructure.

15-Minute Communities in ULI

Among the ULI events and publications emphasizing 15-minute communities are the following:

- In February 2021, the 2021 ULI Virtual Europe Conference featured [Marion Waller](#), an adviser to the mayor of Paris, who spoke about reclaiming parking lots for people, connecting communities, and turning empty spaces into green spaces to improve every street and public service offered by the city.
- In March 2021, ULI Asia Pacific featured a presentation on the [Singapore Land Transport Master Plan 2040's](#) “20-minute town,” a model of self-sufficiency supported by the Housing and Development Board’s neighborhood centers and developer investment in mixed-use urban

communities. The model centers on active commutes, climate resilience, community engagement, support for flexible work, and the harnessing of the online community.

- In June 2021, ULI’s *Urban Land* magazine featured the article [“De-Infrastructuring in the Era of the 15-Minute City,”](#) which suggests a decentralized infrastructure alternative that better connects supply and demand. This approach aims to boost community investments by linking related infrastructure and services within the same district.



Localized infrastructure can better employ resources and meet demand. (Steven Baumgartner)

ULI Curtis Infrastructure Convenings

Following a generous contribution by ULI Life Trustee Jim Curtis, ULI established the ULI Curtis Infrastructure Initiative in 2021. The initiative's core mission is to promote leading-edge infrastructure and real estate decisions that create equitable, resilient, thriving communities worldwide. In a survey and at the following events, ULI members representing the Institute's global community in the fields of infrastructure, land use, and real estate have provided ideas and insights that have informed this report.

- **2021 ULI Global Infrastructure Survey.** A global survey was conducted in 2021 to identify infrastructure priorities. The responses of 338 ULI members from across the globe (two-thirds from North America) identified the need to invest in community infrastructure, green mobility, renewable energy, and operational resources to maintain infrastructure. Reshaping metropolitan areas and cities into walkable communities was seen as vital to support working from home, increase affordable living, and reduce climate risks.
- **2022 ULI Design Sprint.** The ULI Curtis Infrastructure Global Advisory Board facilitated a workshop bringing together ULI members to identify components of a trendsetting, financially sustainable working model to deliver walkable, complete communities and transit-oriented metro regions. Densifying areas around transit lines with walkable mixed uses was identified as the key to decarbonizing real estate and delivering high-quality public spaces, public realms, community infrastructure, and urban communities that are off the energy grid and

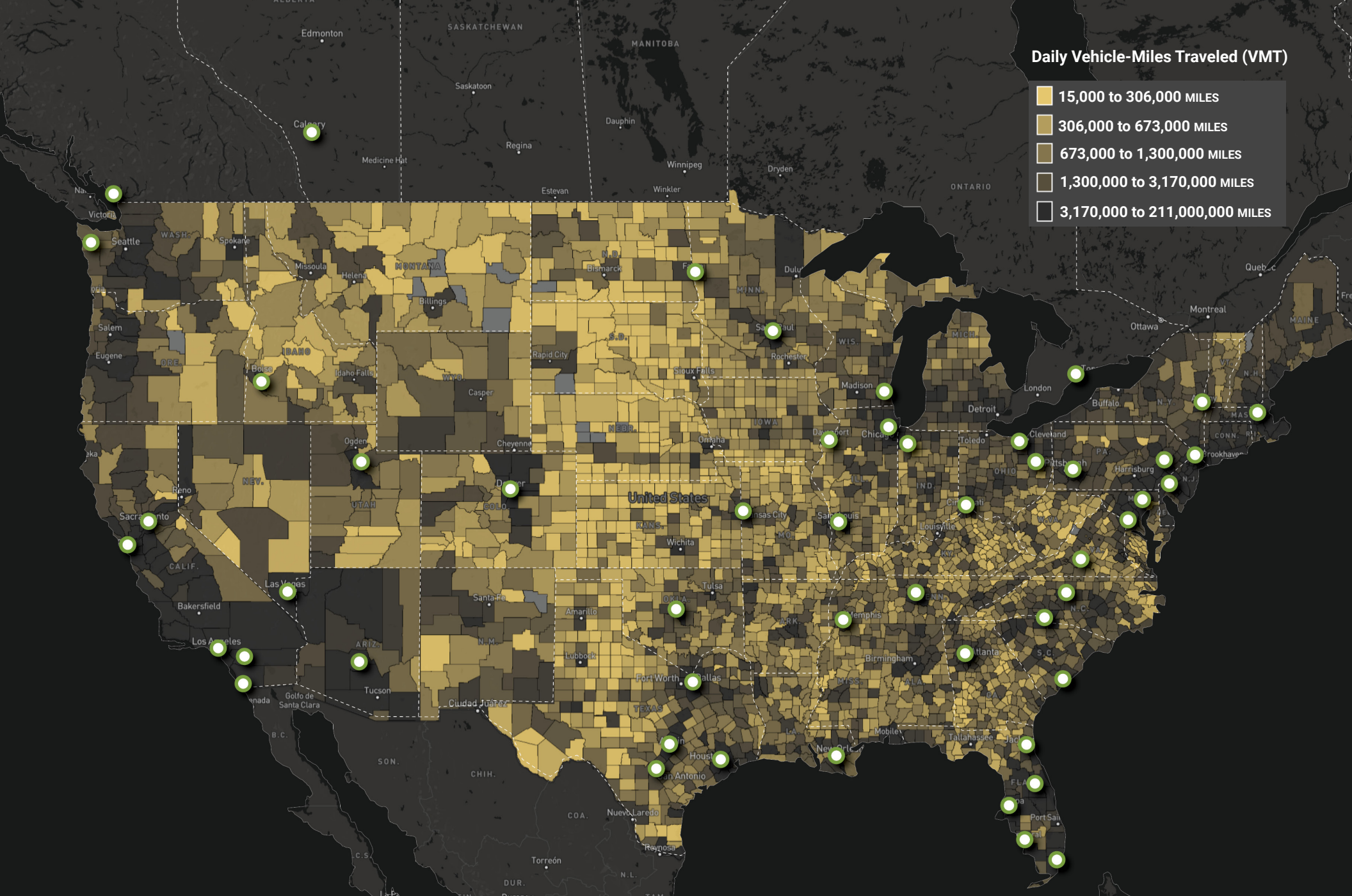
offer energy independence. Critical steps are to clearly define stakeholder roles and responsibilities within the community and to align clear actions with infrastructure and development stages.

- **2022 ULI Infrastructure Forum.** Held to identify infrastructure, land use, and real estate decisions that would promote creation of transit-oriented communities in various geographical types, the forum had as its goal helping leaders shift from building buildings to building communities. Facilitated by the forum leadership, ULI members identified the need to deliver 15-minute communities in all geographies, combine infrastructure and promote joint use, boost real estate value to improve community equity, and position ULI as a global leader in innovative decarbonization solutions to mitigate climate change through city building.

Visual models can help leaders make informed, proactive decisions at the metro region and community scales. Six geographies, selected on the basis of real estate and infrastructure opportunities to improve communities, are detailed in this report.

“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, ULI Infrastructure Forum Leadership



District council locations in North America, overlaid on a map of daily vehicle-miles traveled. (StreetLight Data; ULI)

ULI District Councils



Part 2

Leadership Strategies for 15-Minute Communities

Five Forces for Change

“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. I believe that infrastructure and land use processes shape how we live, how we work, where we live, where we work, and how we move goods and services.”

—Jim Curtis, ULI Life Trustee



Over the next seven years, the United States and Canada are expected to develop over 10 billion square feet (930 million sq m) of new building space, including more than 6 million new residential units, within their 425 metropolitan areas. Without proper guidance from leadership in government, real estate, and nonprofit sectors, these developments might remain automobile-dependent. With guidance on walking-centered, transit-oriented planning, these developments can deliver the outcomes of 15-minute communities discussed in part 1 of this report.

Through the ULI workshops, five forces to promote successful development of 15-minute communities were identified:

1. **Align leadership actions with innovative initiatives**
2. **Combine actions to streamline infrastructure delivery**
3. **Combine actions to make infrastructure multifunctional**
4. **Combine actions to build 15-minute communities**
5. **Combine actions to bring infrastructure to life**

This section examines these five forces and how they can be harnessed.

1. Align Leadership Actions with Innovative Initiatives

In 2021–2023, multiple innovative whole-government initiatives were released, backed by federal infrastructure funds set aside for use through 2030. This marks a historic increase in support

infrastructure improvements. Leaders can now align their actions with these initiatives to better leverage infrastructure funds.

Infrastructure Initiatives and Needed Actions

Infrastructure initiatives		Leadership actions
<u>30x30 Conservation</u>	Led by the United Nations in 2022, the United States and Canada signed an agreement to conserve 30 percent of land and water by 2030 and increase nature-based solutions .	Restore forest and the natural environment; expand parks and open spaces
<u>Justice40 Initiative</u>	A U.S. nationwide effort in 2021 aims to allocate 40 percent of infrastructure investments toward improving livability in disadvantaged communities.	Fill transit and service gaps; extend site improvements; create public spaces
<u>Healthy People 2030</u>	A U.S. nationwide call to action in 2023 to end hunger, build healthy communities, and reduce diet-related disease by 2030, this initiative sets data-driven national objectives to improve health, education, and care.	Build healthy communities with safe, walkable access to care, education, and health
<u>50% decarbonization by 2030</u>	In 2021, the United States signed the Paris agreement to reduce greenhouse gas emissions by 50 percent by 2030. It plans to decarbonize the supply chain, create well-paying jobs, and develop clean energy technologies through 37 initiatives .	Build with low-carbon materials; install clean energy; remove carbon with nature-based solutions; remove parking and waste

2. Combine Actions to Streamline Infrastructure Delivery

Historically, infrastructure has been planned, designed, financed, constructed, maintained, programmed, owned, and governed by siloed disciplines, jurisdictions, and agencies through a variety of operational districts, agreements, and easements. This complexity causes delays, cost escalations, and changes in infrastructure delivery.

In 2021, the federal governments in the United States and Canada committed trillions of dollars through 2030 to rebuild mobility and environmental, community, and energy infrastructure. Notably, the U.S. [Infrastructure Investment and Jobs Act \(IIJA\)](#) funds can be leveraged to streamline infrastructure delivery, which will help leaders:

- **form effective partnerships** and cost share;
- **build local capacity** to expedite the due diligence review process;
- **fund projects end-to-end** to reduce commitment barriers; and
- **accelerate early works** to get to construction faster and smarter.

Multifunction districts can help a metro region or 15-minute community coordinate infrastructure delivery, real estate development, and community initiatives. Some jurisdictions, including in Colorado and Texas, have established [multifunction districts](#) to better integrate planning, resourcing, and partnership. These districts can:

- **Integrate coordination of services** such as fire protection, street improvements, recreation, and television replay services;
- **Increase use of public/private partnerships** for such actions as creating innovation districts; and
- **Issue tax-exempt bonds for collecting tax revenue** to finance infrastructure and housing.

This model can be leveraged to streamline and improve integration within a geography type.

IIJA Funding Structure, Eligibility Criteria, and Needed Actions

Funding recipients and eligibility criteria		Leadership actions
Recipients by geography	Metro region, rural jurisdiction, tribal entity, special district	Create a multifunctional district for a metro region or a 15-minute community
Recipients by sector	Nonprofit organizations, private companies, higher-education institutions, research institutions, technology developers, laboratories, utility entities, engineering and construction firms	Form partnerships such as joint ventures for infrastructure projects or development, or community partnerships for local initiatives
Eligible uses	Planning and engagement, capital delivery, operations and maintenance, research, data analysis, training, technical assistance	Fund roles and responsibilities to implement various infrastructure and development stages
Categories	Environmental remediation, resilience, water, clean energy, public transportation, broadband, rails, roads, safety, bridges, ports, waterways	Combine related infrastructure in projects to create co-benefits and streamline infrastructure delivery

3. Combine Actions to Make Infrastructure Multifunctional

The intensity and frequency of climate change events are expected to increase in coming years. More flooding, drought, forest fires, extreme heat and cold, and blackouts will occur. These events will directly affect the reliability of infrastructure to support real estate development across metro regions and communities. This will increase the urgency to do the following:

- **Better coordinate community infrastructure and build walkable facilities for joint use.** Community infrastructure—such as health care, education, child care, senior care, emergency services, and social and cultural organizations—is mostly not coordinated within a geographic area, and such facilities generally are not designed for joint use or a walkable access. The result is planning delays, inefficient facility operation, and service gaps.
- **Ensure that mobility infrastructure is reliable, accessible, and provides seamless transit and active mobility services.** Mobility infrastructure—such as regional rapid transit, local transit, micro-mobility, bikeways, trails, car sharing services, door-to-door accessibility, and electric vehicle charging—is mostly not coordinated within metro regions. The result is unreliable service, workers unable to commute by transit, and high driving costs that make life unaffordable.
- **Enhance synergies among environmental and energy infrastructure.** Environmental infrastructure—such as open space for reducing flooding and mitigating droughts, and nature-based solutions for increasing water supply and reducing urban heat—can be used to improve conditions for energy infrastructure, such as reducing energy consumption and providing bioenergy, carbon uptake, and storage. The result can be reduced blackouts.
- **Align decisions for multifunctional infrastructure through oversight by congressional committees.** The administration of key infrastructure funds is overseen by U.S. House and Senate committees, which will help departments and agencies make infrastructure decisions together, achieving the common goal faster. Notably, using funds from the [Inflation Reduction Act](#) (IRA) and [American Rescue Plan Act](#) (ARPA), leaders can do the following:

Committee Oversight and Needed Actions

Committees for oversight of funds distribution and reporting		Leadership actions
Child and senior care, health, and education	Overseen by the Senate Committee on Health, Education, Labor and Pensions, the Senate Committee on Finance, and related House committees	Collocate multiple services within community hubs; deliver a walkable network of community hubs
Transit, complete streets, regional greenway, active transportation, clean mobility	Overseen by the Senate Committee on Environment and Public Works and related House committees	Transform transit , green streets, bikeways, and trails into a seamless network within metro regions
Energy, building efficiency, drought mitigation, and water supply	Overseen by the Senate Committee on Energy and Natural Resources and related House committees	Create urban sponge and forest ; build clean energy; decarbonize buildings within a district

4. Combine Actions to Build 15-Minute Communities

Building 15-minute communities requires buy-in from many stakeholders. One approach that has gained popularity is creating transit-oriented communities (TOCs). [Los Angeles County](#), [Miami-Dade County](#), the [nine counties of the San Francisco Bay area](#), and [Ontario, Canada](#), have adopted TOCs as a way to create walkable, complete, 15-minute communities around transit stations.

This support of TOCs can shape upstream decisions that affect a range of infrastructure and deliver benefits:

- **mobility infrastructure—reducing vehicle-miles traveled (VMT);**

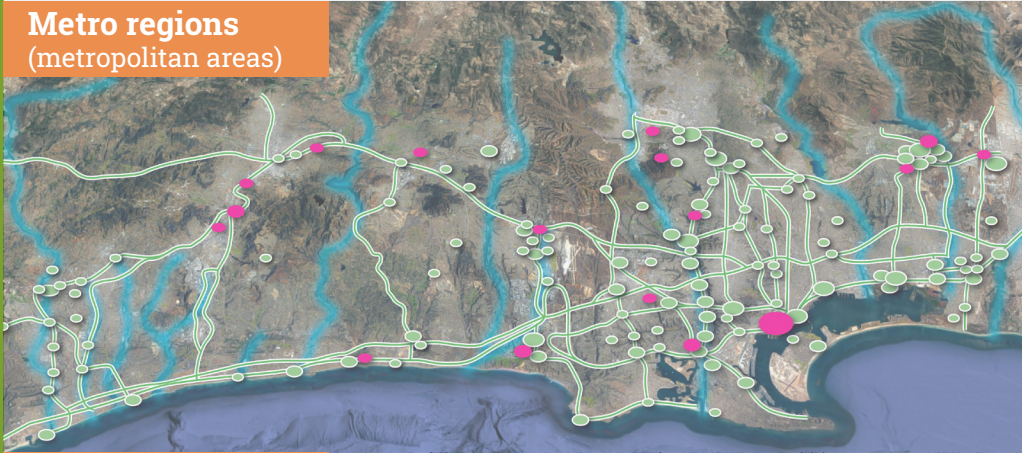
- **environmental infrastructure—reducing flood risk;**
- **community infrastructure—co-locating services in one building;**
- **energy infrastructure—decarbonizing a district; and**
- **utility infrastructure—increasing water or wastewater capacity.**

When these elements are depicted in a community-scale three-dimensional model, stakeholders can see how their decisions and actions affect the community and how the surrounding improvements can benefit their projects. These actions (detailed in the next two sections of this report) can be taken at the level of the six geographies listed below.

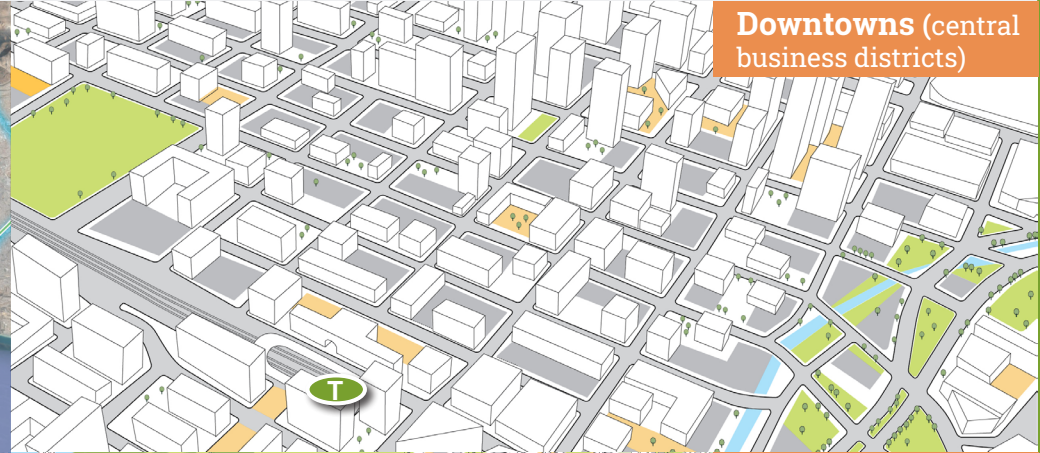
Geographies and Needed Actions

Geography type		Leadership actions
Metro regions (metropolitan areas)	425 metro regions in the United States and Canada, some growing over 15 percent per year, constitute 90 percent of the population. Mixed-use densifications are popular along rapid, regional transit, or high-volume bus lines.	Decarbonize metro regions with a network of 15-minute communities
Downtowns (central business districts)	There are over 185 downtowns in the United States and Canada. With office-to-housing conversions in demand, the lack of parks, open spaces, and community infrastructure affects livability.	Diversify CBDs to create decarbonized, affordable, live-in downtowns
Edge cities (uptown or suburban cores)	There are over 200 edge cities in the United States and Canada. With family-oriented rental apartments for millennials or retirees in demand, extreme heat affects the livability of older apartments.	Humanize edge cities , making them heat-proof communities friendly to people of all ages
Suburban corridors (suburban strips)	There are over 110,000 suburban corridors in the United States and Canada. To retain talent and boost innovation, the densification of underused lands is in demand.	Densify suburban corridors , making them walkable, mixed-use innovation districts
Malls (shopping centers or shopping malls)	There are over 1,000 malls in the United States and Canada, most surrounded by open spaces and major roads. Conversion to mixed uses, or repositioning with additional residential, office, community, and open-air cultural uses, is in demand.	Transform malls into transit- and trail-oriented mixed-use communities
Exurbs (rural exurbs or agricultural areas)	Growing demand for food and energy production, nature-based agriculture, and green jobs has resulted in innovative use of agricultural land.	Activate exurbs as working landscapes in the form of agrihoods or through other nature-based solutions

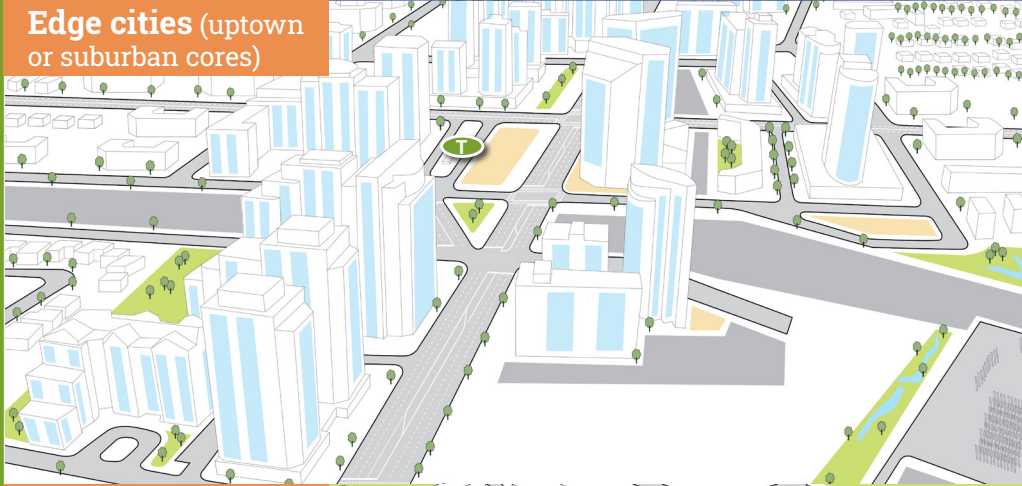
Metro regions
(metropolitan areas)



Downtowns (central business districts)



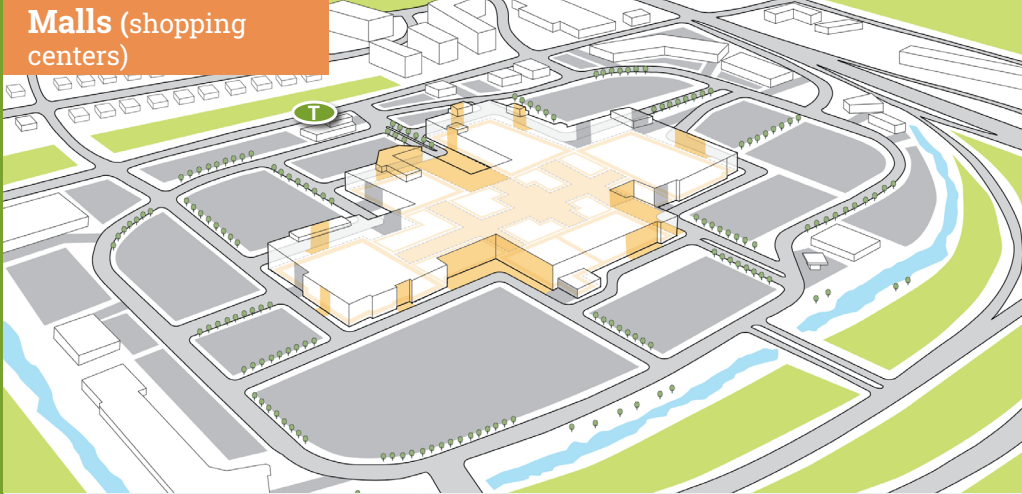
Edge cities (uptown or suburban cores)



Suburban corridors
(suburban strips)



Malls (shopping centers)



Exurbs (rural exurbs or agricultural areas)



5. Combine Actions to Bring Infrastructure to Life

The fifth force for change brings everything together with a human-centered lens. With this focus, infrastructure delivery can be further streamlined while elevating a healthy community culture.

In 2020, Hillsborough County, Florida, which includes Tampa, established the [One Water](#) campus program to integrate drinking water, wastewater, and reclaimed water solutions into one system. The program brings together siloed infrastructure

in an integrated system that promotes multiple uses and improves planning coordination.

Leaders in other areas can apply this strategy to group related infrastructure systems into “one” infrastructure. This approach will enable leaders to break down silos, collaborate to improve infrastructure integration, and share resources to enhance user experiences of infrastructure within metro regions and 15-minute communities. It can be applied in several areas.

Grouping Infrastructure and Needed Actions

Infrastructure systems		Leadership actions
One vision	Build digital regional and community-scale three-dimensional models for multijurisdictional planning development integration, infrastructure upgrades, phasing coordination, and community improvement.	Initiate a “one vision” infrastructure project
One environmental infrastructure	Combine open space, flood and drought protection, environmental restoration, stormwater management, utilities, and water supply in one urban sponge.	Initiate a “one environmental” infrastructure project
One community infrastructure	Co-locate education, social, health, recreation, and cultural facilities, plus services in a community hub.	Initiate a “one community” infrastructure project
One energy infrastructure	Combine the energy grid, renewable energy, carbon removal, and waste management (such as an automated waste collection system) in the same district.	Initiate a “one energy” infrastructure project
One mobility infrastructure	Combine regional, rapid, and local transit, micro-mobility, trails, broadband, and accessibility improvements into a one-trip experience.	Initiate a “one mobility” infrastructure project

One environmental
infrastructure



The Waterloo Greenway in downtown Austin, Texas, combines flood protection and park recreation. (MVVA)

One community infrastructure



6,800 SF
Health

6,700 SF
Social

21,600 SF
Library

5,200 SF
Daycare

104,700 SF
School

83,300 SF
Recreation

Health & social hub

- Health clinics
- Agency spaces
- Exhibition venue
- Meeting rooms

Library & education hub

- Elementary school
- Daycare
- Library
- Study space

Recreation & food hub

- Community kitchen
- Culinary and pop-ups
- Gymnasium
- Dance studios
- Lounge and event



24,500 SF
Culture

29,300 SF
Tech

50,000 SF
Rooftop

117,000 SF
Play field

480,000 SF
Park

Arts, culture, & design hub

- Performance space
- Exhibition venue
- City design center
- Cultural workshop
- Agencies showroom

Technology & innovation hub

- Lecture hall and event
- Coworking space
- Start-ups and accelerators
- Mentoring space

Green & ecology hub

- Urban agriculture
- Eco-learning garden
- Outdoor fitness
- Green energy connections

Multitenant models can provide multiple services under one roof. (DSAI)

One mobility infrastructure

Car-free living as an affordable way of life
Deliver child-friendly main walk from the outset

75%
of short trips
are by walking
and cycling
(potential target)

Zero
minimum
parking in
TOC

“One mobility” infrastructure facilitates walking and cycling for all ages. (ULI Toronto)

Leadership Strategies in Metro Regions

“Cities are integrated and living organisms; siloed planning is no longer effective. Human-centric cities take into account the relationship between 15-minute communities and the resulting new location decisions for infrastructure that are essential for integrated local area planning.”

–Matthew Kwatinetz, ULI Infrastructure Forum Leadership

Across metro regions, communities share challenges and real estate opportunities. This section offers leadership strategies that can be employed to transform metro regions into a network of 15-minute communities.

Decarbonize Metro Regions through a Network of 15-Minute Communities

In the United States and Canada, more than nine in 10 people live in metro regions. Some metro regions are experiencing population growth of over 15 percent per year. As noted, this rapid growth will bring the total U.S. and Canadian population to over 400 million by 2030.

Reliable infrastructure, effective decarbonization, and integrated coordination of planning are vital to successfully building low-carbon metro regions with a network of decarbonized 15-minute communities. To that end, many metro regions are upgrading their interstate, interregional, and intercity high-speed, rapid, and local transit systems. These upgrades can be leveraged to help decarbonize these areas through creation of a network of transit-oriented 15-minute communities in various geographical real estate types.



(Yvonne Yeung)

Ensure Reliable Infrastructure

“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

In recent decades, events propelled by climate change have affected the ability of infrastructure to enable real estate development across metro regions. These events have raised awareness of the urgent need to act in the following ways:

- **Protect public access to reliable and clean energy.**
Seventy-five percent of U.S. transmission lines and power transformers are estimated to be over 25 years old. The [average lifespan of transmission lines](#) is 50 years, and the average lifespan for transformers is 25 to 40 years. This aging infrastructure has caused blackouts and power outages that have affected significant numbers of people. Energy infrastructure funds from IIJA and IRA can be used to upgrade transmission lines and accelerate the transition to localized, clean energy—for

example, following the [smart grid](#) model, which uses digital technology to allow two-way communication between the utility and its customers for more efficient transmission of electricity.

- **Elevate public health and increase equitable access to clean air.**

Many metro regions have legacy highway projects that cause smog and increase incidents of asthma in “redlined” districts. Environmental and other funds from IIJA and IRA can be used to [replace highways with tree-lined main streets](#), which reduce air pollution and urban heat.

- **Increase public mobility and access to clean fuel.**

Many metro regions do not coordinate their regional rapid transit, local transit, and transportation demand management, such as micro-mobility, bikeways, trails, car sharing, and electric vehicle charging. Mobility funds from IIJA, IRA, and ARPA can be used to extend and [integrate networks](#).

- **Improve public emergency management and services.**

Many metro regions lack regionwide coordination of emergency and community services, which affects reliability, response time, and the level of service they can provide to meet resident and business needs. Community infrastructure funds from ARPA and IRA can be used to build community facilities and improve services to meet education, health, and social needs.

Ensure Effective Decarbonization

In 2022, the U.S. federal government launched the [Net-Zero Game Changers Initiative](#), which provides strategies that can be applied to decarbonize metro regions. The strategies aim to achieve decarbonization by applying low-carbon approaches to infrastructure and buildings, installing renewable energy at scale, expanding transit and mobility-on-demand (e.g., electric bicycles and scooters), and advancing nature-based carbon removal. The initiative also calls for cross-cutting innovations applicable to metro regions:

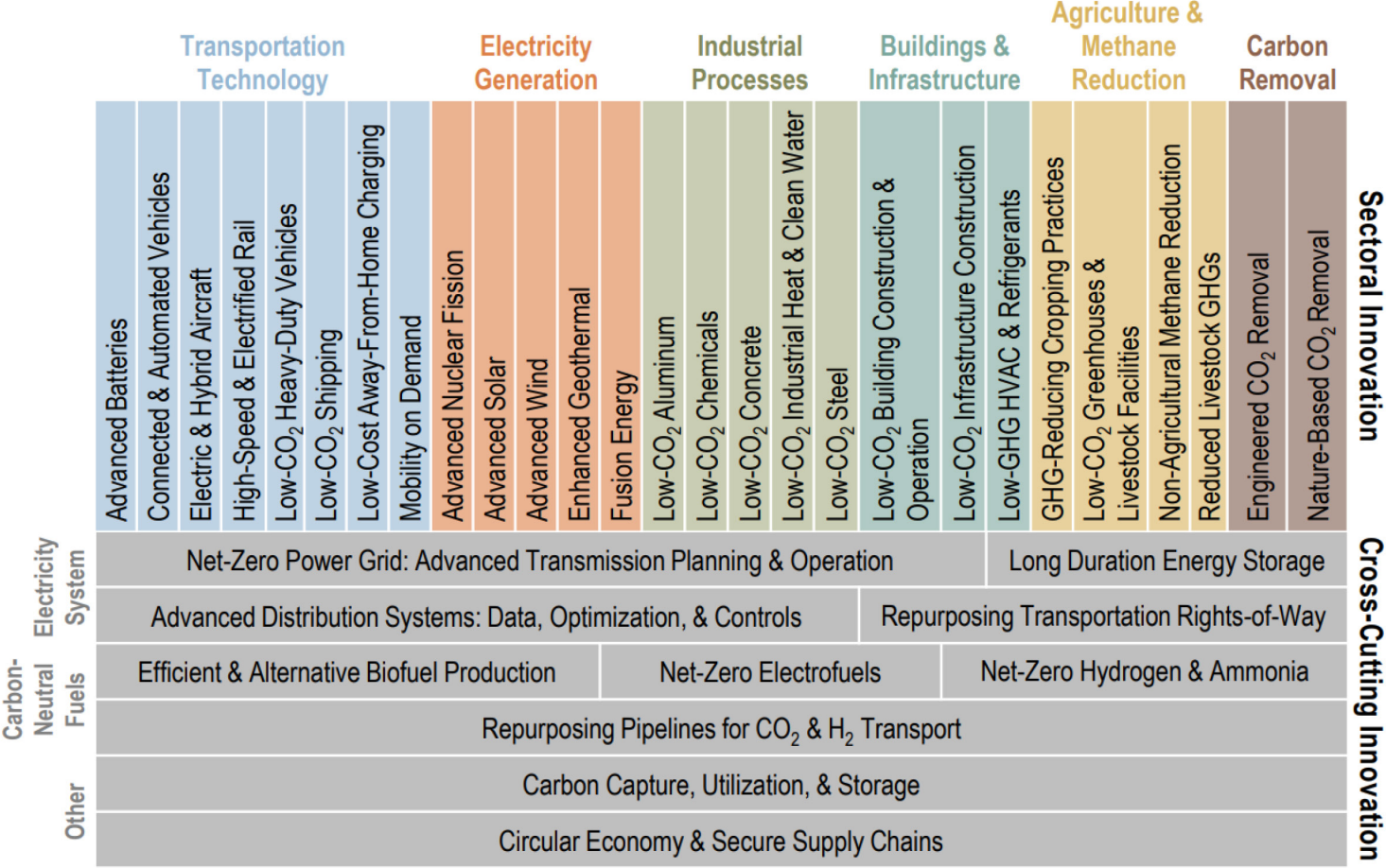
- **Decarbonize the electricity system** by installing a net zero power grid with advanced transmission planning and operation and distribution systems to manage data;
- **Repurpose transportation rights-of-way** for transit, car sharing, protected bikeways, tree-lined streets, and long-duration energy storage; and
- **Use the circular economy** to decarbonize supply chains by boosting carbon capture and waste reduction.

Ensure Coordination of Integrated Planning

Effective implementation relies on sound leadership decision-making. That process starts with defining the metro region—scaling targets to inform a clear regional structure for coordinated planning. Key decision points involve defining several factors:

- **Population and jobs growth targets**—to inform the targeted number of residential units and housing types; commercial, institutional, and industrial development gross floor areas; and the corresponding energy load, water demand, and waste generation.
- **Conservation network and targets**—to shape decisions on building regional greenways to reduce flood and drought risks—connecting rivers, expanding the urban canopy, implementing reforestation, and establishing growth boundaries to reduce climate risk and boost densification.
- **Household and economic development targets**—to allocate community infrastructure for education, health care, emergency services, social and cultural facilities, and tourism; to create economic clusters that include institutions of higher education, research and development, and workforce housing; and to reposition interstate gateways and ports to boost economic opportunities.
- **Energy and waste management networks targets**—to establish interstate and intercity utility corridors for a smart energy grid and automated waste collection, solar panels and wind turbines, broadband infrastructure, and network-based data management systems.
- **Transit, transportation network, and modal split ratio targets**—to reduce vehicle-miles traveled, repurpose highways for rapid transit, integrate transit and an active mobility network, increase multimodal intersection density, improve the freight network to reduce conflicts with rapid transit, and improve emergency planning for climate events.

Decarbonization Strategies



For Reference: % of 2020 U.S. GHG Emissions by Sector (EPA 2022)



The Biden administration’s Net-Zero Game Changers Initiative aims to decarbonize the supply chain through 37 interagency projects. (The White House)

Leadership Strategies

Decarbonize Metro Regions through a Network of 15-Minute Communities

Leadership strategies for coordinating implementation efforts among government, real estate, and not-for-profit sectors are outlined below.

Potential stages of actions	Government	Real estate	Nonprofit
Stage 1: Define population and jobs growth targets	Create a multifunctional district; upgrade infrastructure	Update market analysis; create mixed-use, multifamily development models for TOCs	Undertake research and development initiatives; create community portals
Stage 2: Define conservation network and targets	Establish conservation and growth boundaries; build greenways	Update environmental analysis; create open-space, flood-proofing, and restoration strategies	Undertake R&D initiatives for nature-based solutions and carbon removal
Stage 3: Define household and economic development targets	Allocate and build community infrastructure based on walkable catchment	Update economic analysis; create leasing strategy to incorporate community facilities in development	Undertake R&D initiatives for community health, green economy, and culture and tourism
Stage 4: Define energy and waste management network	Implement joint utility corridors for energy, waste, and broadband	Update infrastructure analysis; create renewable energy and urban grid strategies	Undertake R&D initiatives for clean energy generation and the circular economy
Stage 5: Define transit, transportation network, and modal split ratio	Adopt targets for non-auto modal split percentage, vehicle-miles traveled per trip, and parking reduction	Update mobility analysis; create a transportation demand management framework and a parking reduction plan	Undertake R&D initiatives for transportation technology and industrial processes

Leadership Strategies by Geography Type

Each of the five urban development types—downtowns, edge cities, suburban corridors, malls, and exurbs—presents distinct challenges and opportunities for building 15-minute communities. This section presents those, as well as leadership strategies that can be used to address them.



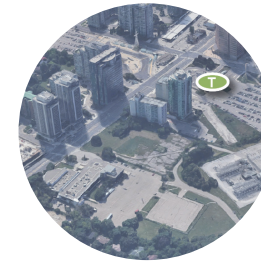
Exurbs



Malls



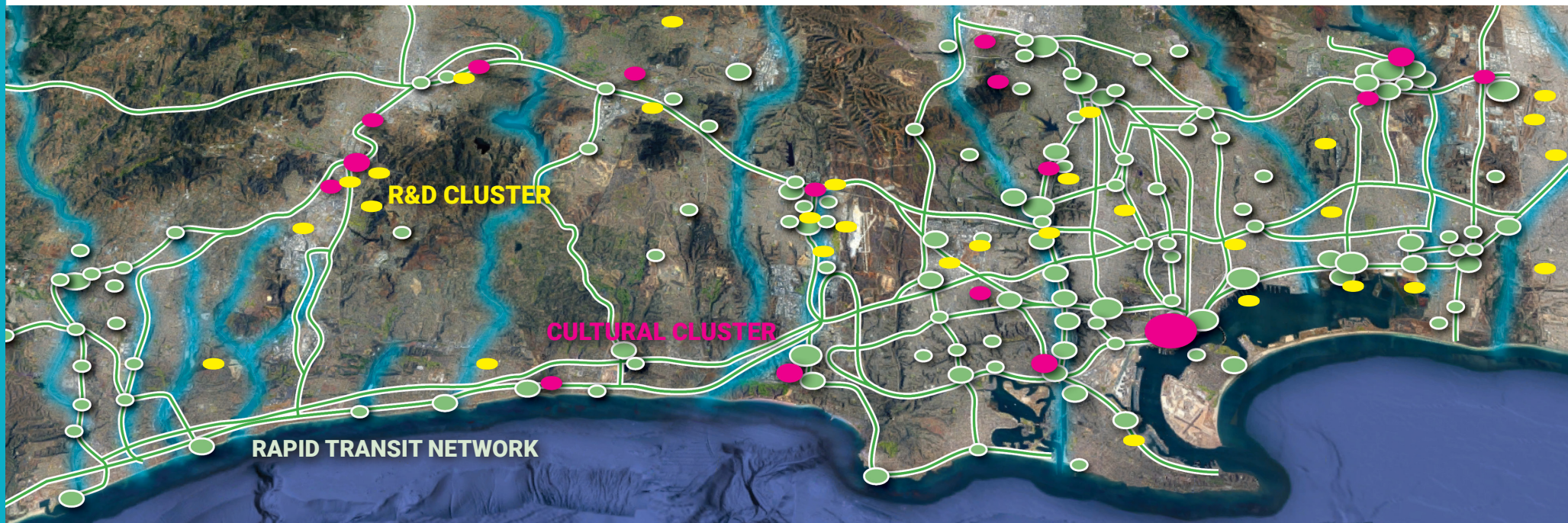
Suburban corridors



Edge cities



Downtowns



An example of transit-oriented communities organized at the metro region scale. Transit lines connect a network of local walkable communities. (Yvonne Yeung)

Downtowns **Create Diversified, Decarbonized, Affordable, Live-in CBDs**

“As a kid, I carried my cello to school, rode my bike to after-school 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, ULI Infrastructure Forum Leadership

North America has hundreds of downtowns that serve as economic drivers for cities. In the largest 30 downtowns, most buildings are used as office space, with the rest used for cultural institutions, tourism, and retail space, supported by rapid transit and some multifamily housing. This model, with much of the

workforce commuting into the downtown area, entails extensive parking facilities and automobile-centric roads that are costly to maintain. Often, insufficient funds remain for community infrastructure to serve local residents.

In recent years, with more people choosing to work from home, developers in cities such as Philadelphia, Chicago, New York City, and elsewhere have pushed to convert office space into housing. According to a December 2022 [report](#), more than 11,000 multifamily units were created from office conversions in 2021–2022, and 77,000 additional units are in the pipeline. This growth in residential populations requires immediate solutions to shift CBDs into “live-in” downtowns.

Potential stages of actions	Government	Real estate	Nonprofit
Stage 1: Create a special district	Establish a district commission	Create a community decarbonization vision	Establish a local advisory group
Stage 2: Convert gray infrastructure to green infrastructure	Connect green spaces; implement road diets	Convert spaces to accommodate pop-ups and socializing	Host cultural programs
Stage 3: Improve walking and cycling	Reduce parking; expand bikeways; increase transit	Convert vacant spaces into housing; add micro-mobility options	Develop a districtwide “one-trip” crowdsource app
Stage 4: Create a network of community hubs offering a variety of services	Identify hub locations and co-locate public services in hubs	Lease ground/lower floors and adjoining outdoor space for hubs	Fund an executive director for hubs; coordinate a walking school bus
Stage 5: Decarbonize the district	Set carbon budget; add district energy and automated waste collection	Add solar photovoltaics and biophilia elements; build with mass timber; update operation practices	Run urban agriculture and waste-reduction programs

Stage 1: Create a special district

Government

Establish a district commission

Real estate

Create a community decarbonization vision

Nonprofit

Establish a local advisory group



Stage 2: Convert gray infrastructure to green infrastructure

Government

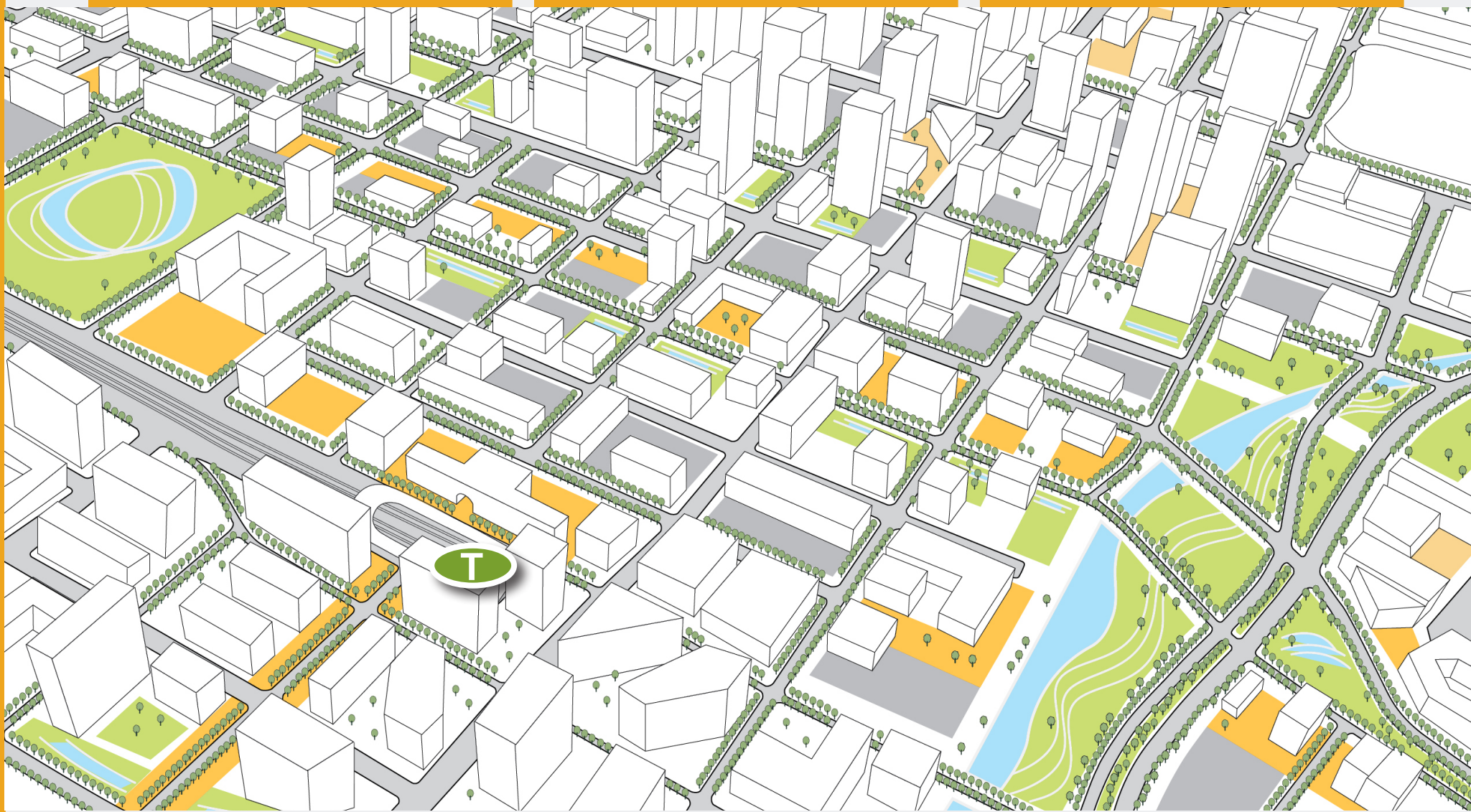
Connect green spaces;
implement road diets

Real estate

Convert spaces to accommodate
pop-ups and socializing

Nonprofit

Host cultural programs



Stage 3: Improve walking and cycling

Government

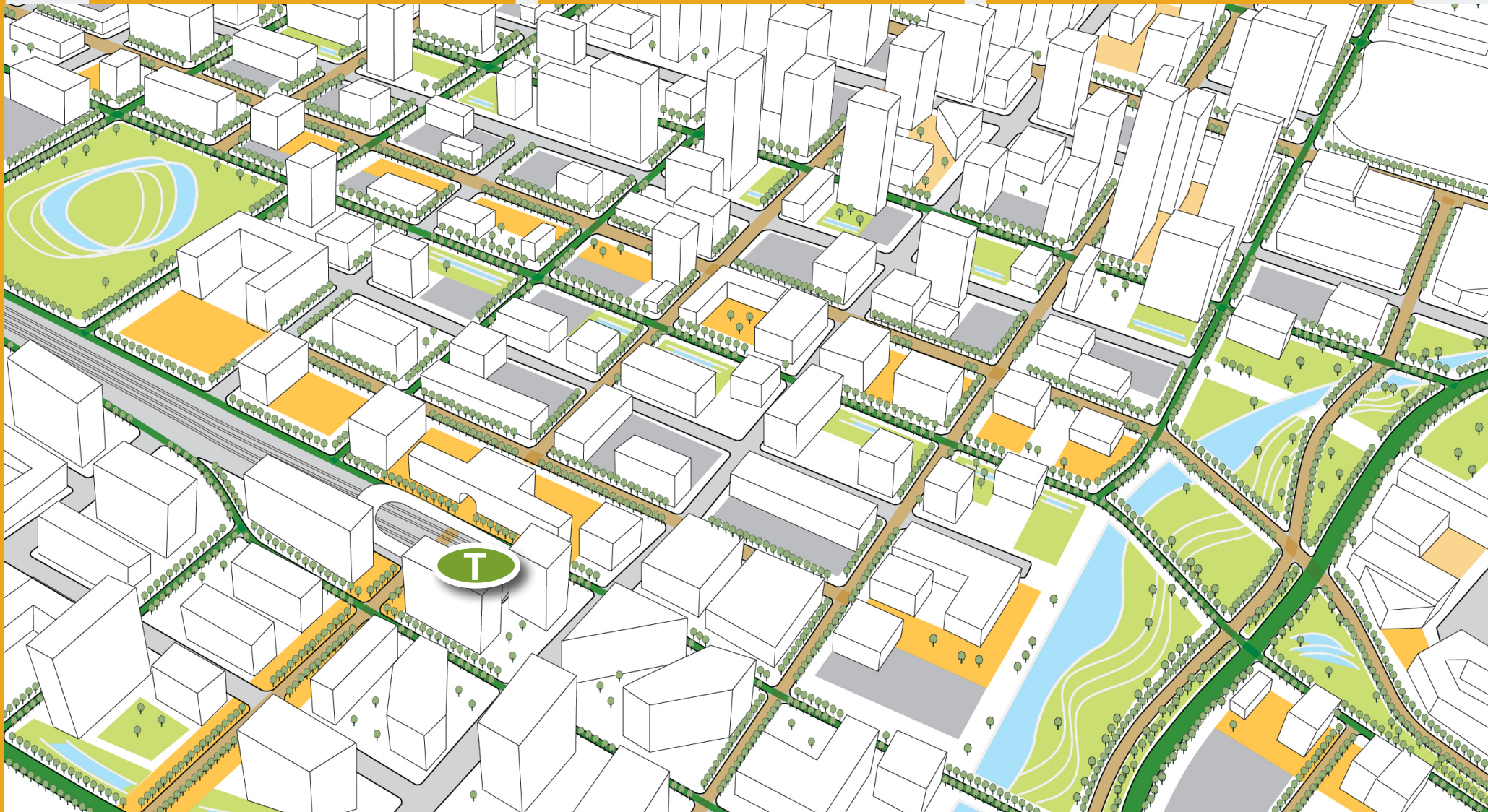
Reduce parking; expand bikeways; increase transit

Real estate

Convert vacant spaces into housing; add micro-mobility options

Nonprofit

Develop a districtwide “one-trip” crowdsource app



Stage 4: Create a network of community hubs offering a variety of services

Government

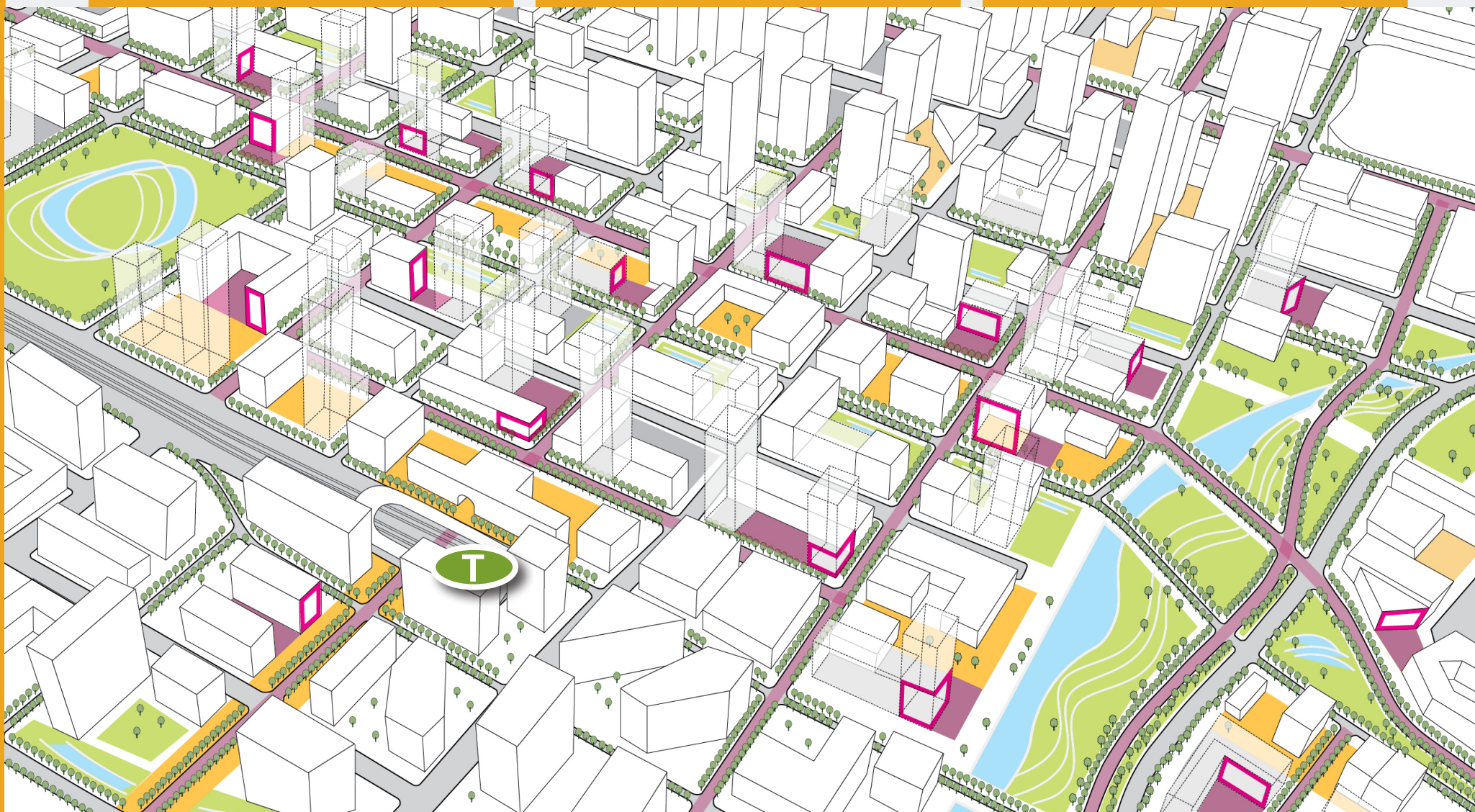
Identify hub locations and co-locate public services in hubs

Real estate

Lease ground/lower floors and adjoining outdoor space for hubs

Nonprofit

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



Stage 5: Decarbonize the district

Government

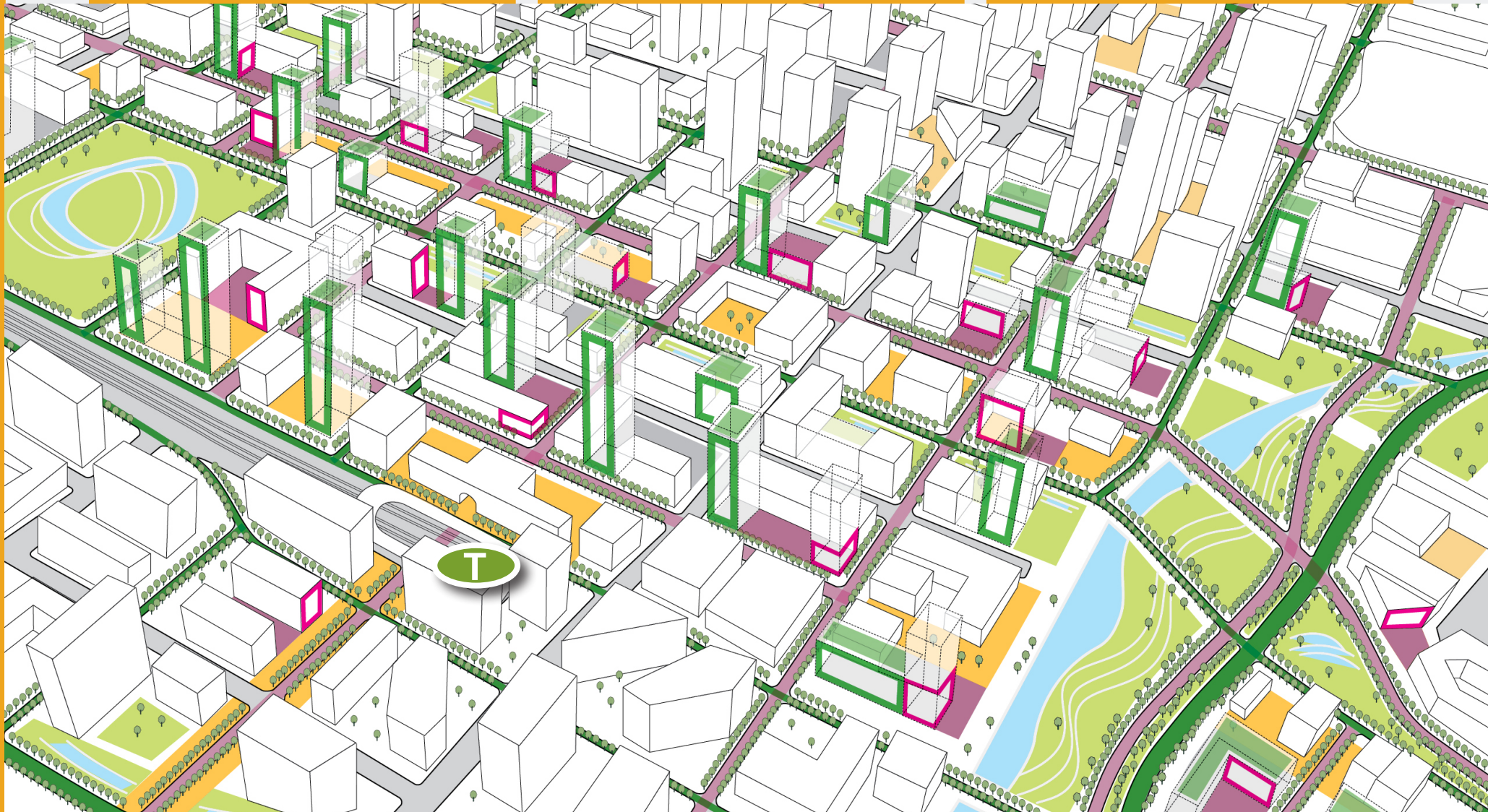
Set carbon budget; add district energy and automated waste collection

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

“A 15-minute community is where I can access most of my daily life when I’m young and old.”

–William Anderson, ULI Infrastructure Forum Leadership

“Extreme heat has perhaps the greatest potential to threaten life and health on a regular basis.”

–Berkeley Center for Law, Energy, and Environment

Edge cities typically comprise clusters of towers in automobile-centric areas surrounded by parking lots and wide roads containing many traffic lanes. The almost 200 edge cities in the United States and Canada provide homes and offices in multifamily apartments and towers. Since 2000, multifamily apartment occupancy has doubled.

With transit connections expanding to edge cities, these areas are becoming more popular among millennial families and retirees. In 2023, millennials hold the largest household size of 3.4 people, and half rent units in apartment buildings. Currently, over half of the households are headed by people over age 50, nine in 10 lack access to senior care, and three in four lack child care.

Urban heat islands and extreme heat have affected edge cities, which often lack cooling and green infrastructure, leading to blackouts and power outages. Reducing heat risk; increasing the number of family-sized units; improving public spaces; increasing access to child care, senior care, and education; and addressing social needs must be prioritized in these areas to benefit both existing and new residents.

Potential stages of actions	Government	Real estate	Nonprofit
<p>Stage 1: Reduce heat risks; improve response speed; develop a plan for extreme-heat response</p>	<p>Develop a local extreme-heat response plan; conduct financial planning for reducing heat risk</p>	<p>Work with financiers and insurers to create sustainable capital for heat reduction</p>	<p>Create a three-dimensional GIS-based community-scale performance model to plan heat response</p>
<p>Stage 2: Heat-proof the community and add green infrastructure</p>	<p>Implement road diet; install street trees and broadband; designate cooling centers</p>	<p>Install green walls and rooftop gardens; improve accessibility and digital connectivity</p>	<p>Convert parking lots into green spaces; arrange extreme-heat and blackout support</p>
<p>Stage 3: Decarbonize the area; improve livability for all age groups</p>	<p>Create a decarbonization plan; switch to renewable energy and reduce waste</p>	<p>Decarbonize buildings; provide on-site child care, senior care, and health care facilities</p>	<p>Host recycling, composting, and planting campaigns</p>

Stage 1: Reduce heat risks; develop a plan for extreme-heat response

Government

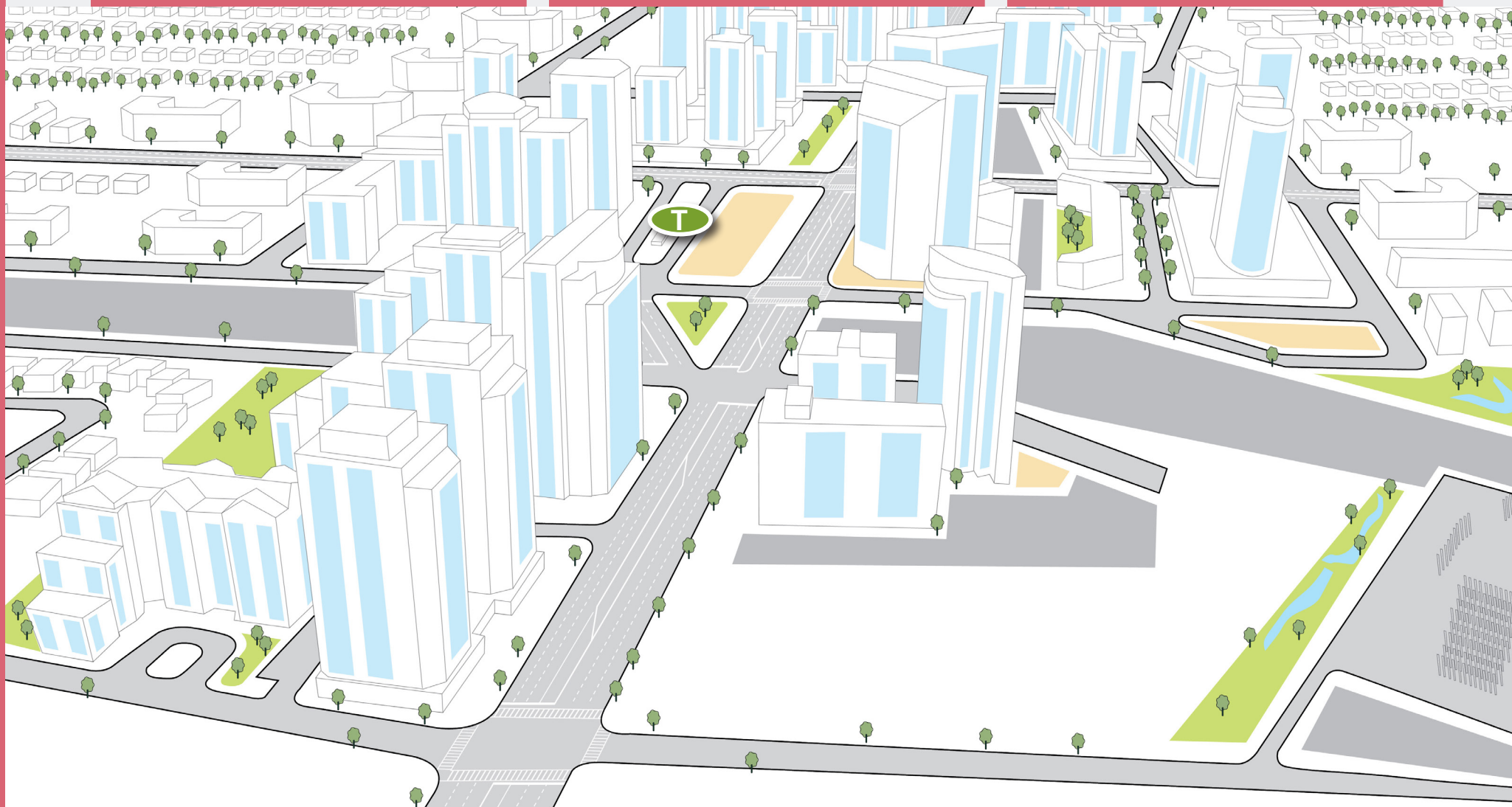
Develop a local extreme-heat response plan; conduct financial planning for reducing heat risk

Real estate

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

Nonprofit

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



Stage 2: Heat-proof the community and add green infrastructure

Government

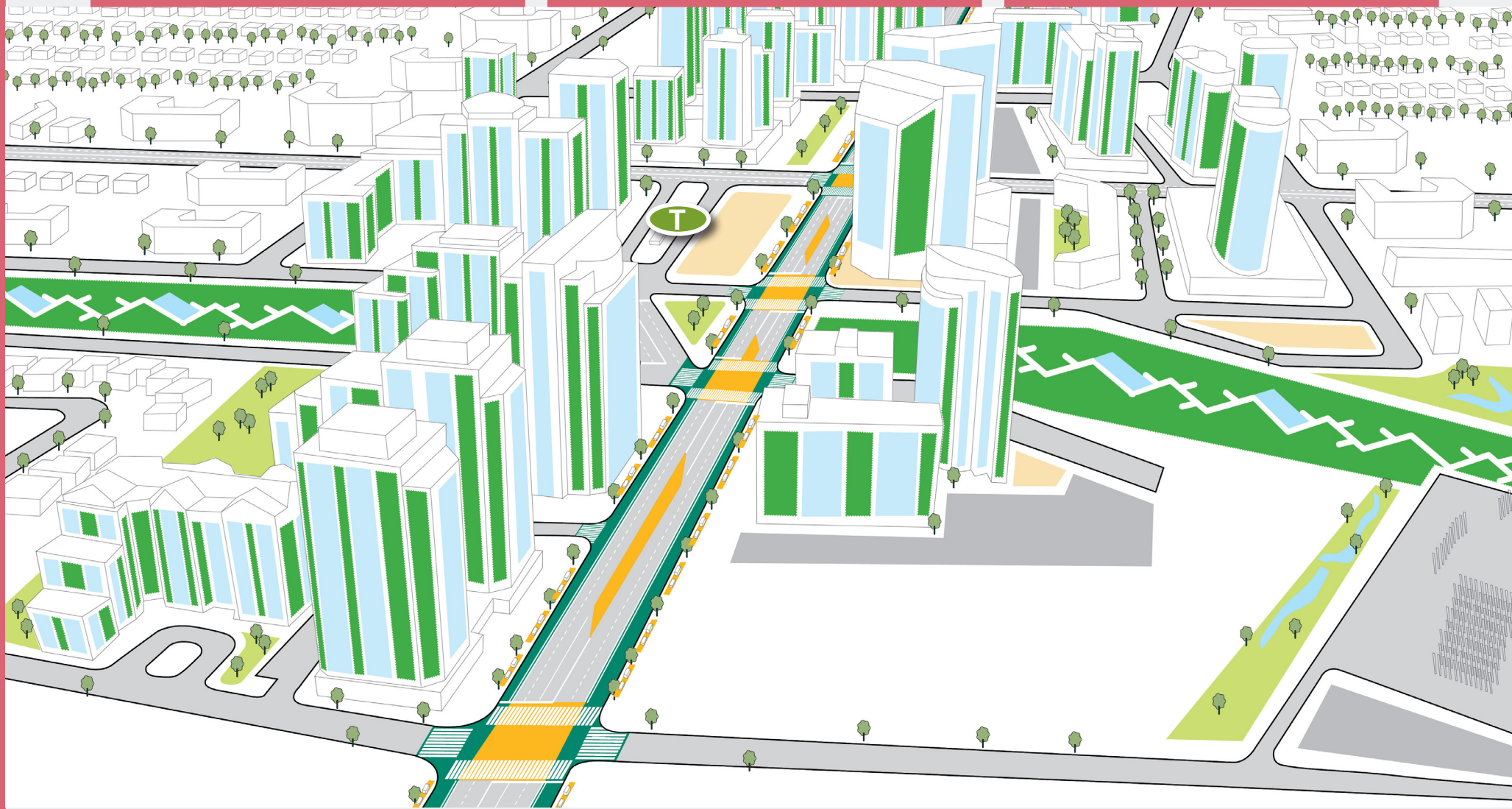
Implement road diet; install street trees and broadband; designate cooling centers

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



Stage 3: Decarbonize the area; improve livability for all age groups

Government

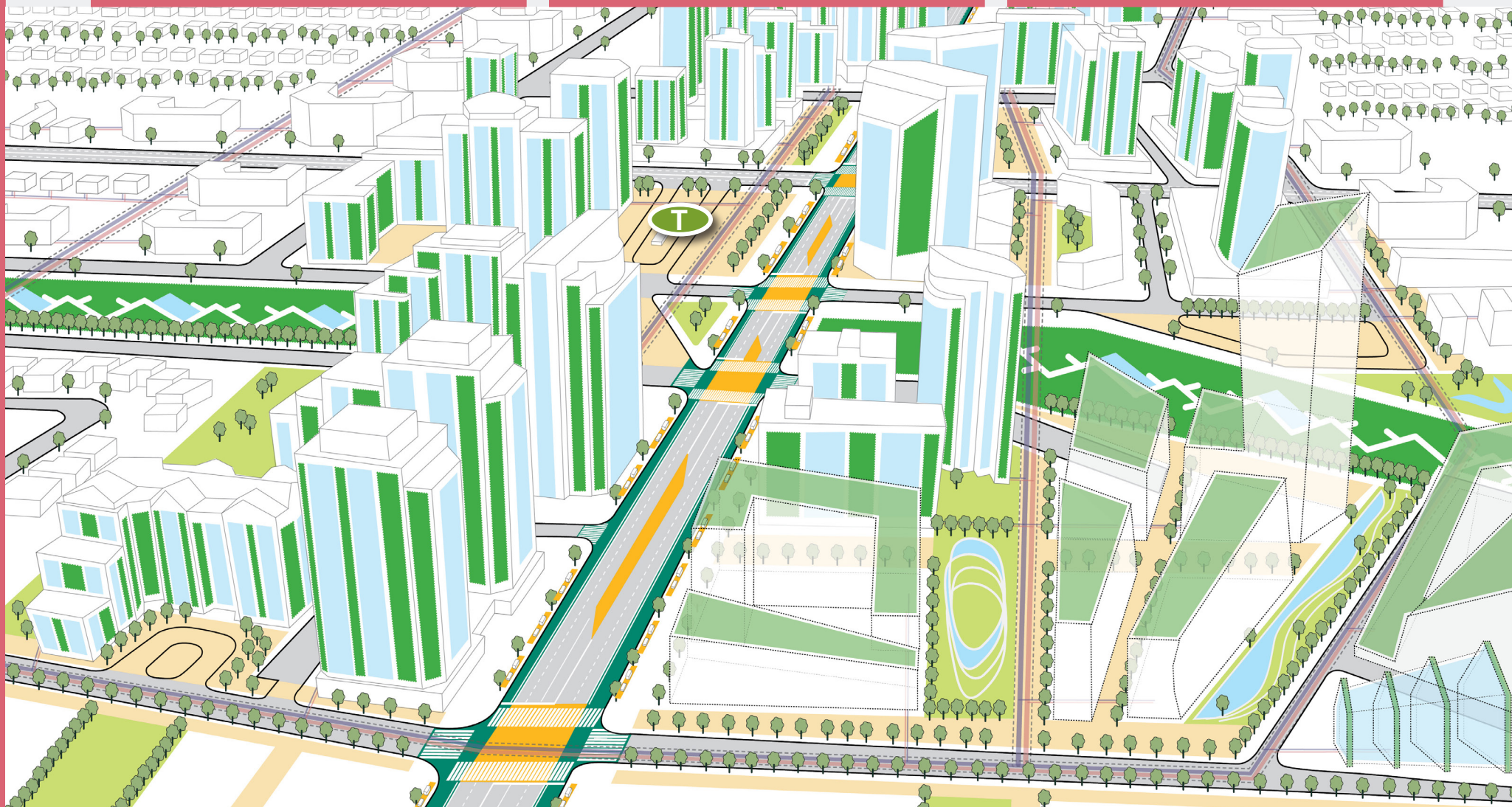
Create a decarbonization plan; switch to renewable energy and reduce waste

Real estate

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

Nonprofit

Host recycling, composting, and planting campaigns



Suburban Corridors

Add Density to Create Walkable, Mixed-Use Innovation Districts

“Fifteen-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.”

–Kevin Augustyn, ULI Infrastructure Forum Leadership

In the United States, two-thirds of office space, one-third of hotel rooms, and most of the retail space and housing stock are [located in suburbs](#). Asphalt parking lots and roads in these suburban corridors create significant stormwater runoff and extensive truck delivery routes. The high costs of flooding damage, road maintenance, last-mile delivery, and inactive lifestyles in these areas have hurt businesses and property values, strained city resources, and increased household debt due to medical and car

ownership expenses. Since 2020, more people have come to appreciate the value of living, working, learning, and taking part in recreation in one place. Residents of suburban bedroom communities now want walkable options—nearby amenities to reduce car trips and services to connect with neighbors—and high-quality jobs to keep kids from leaving. Cities—including some in California, Indiana, and Minnesota—have begun adopting policies to densify suburban corridors with innovative, walkable, mixed-use districts.

In the private market, capital allocation has shifted to mitigation of climate risks and investment in innovation businesses driven by millennials and members of generation Z. These age groups represent [\\$2.5 trillion](#) of spending power, and they prioritize innovation jobs and spending on cultural experiences, events, and healthy lifestyles. In response to those priorities and to retain that talent, developers are creating innovation districts on underused land.

Along with emerging transit improvements, these efforts to densify suburban corridors with walkable, mixed-use districts present a promising opportunity to decarbonize, expand the economy, and shape a sustainable future.

Potential stages of actions	Government	Real estate	Nonprofit
Stage 1: Align decisions to build dense, walkable, mixed-use development	Prioritize vehicle-miles traveled reduction to drive mixed-use densification	Create a district-scale vision; assist government and landowners in delivering mixed-use development	Establish a local advisory group; develop ways to improve last-mile delivery
Stage 2: Reduce daily trips by residents	Deliver a network of walkable hubs; add broadband service	Deliver hubs with new multifamily housing; add micro-mobility	Coordinate walking school bus and school streets programs
Stage 3: Reduce daily trips by workers; add innovation jobs	Install urban greenways; increase public green spaces	Build mixed-use development with indoor and outdoor event spaces	Create an innovation hub to boost an innovation economy

Stage 1: Align decisions to build dense, walkable, mixed-use development

Government

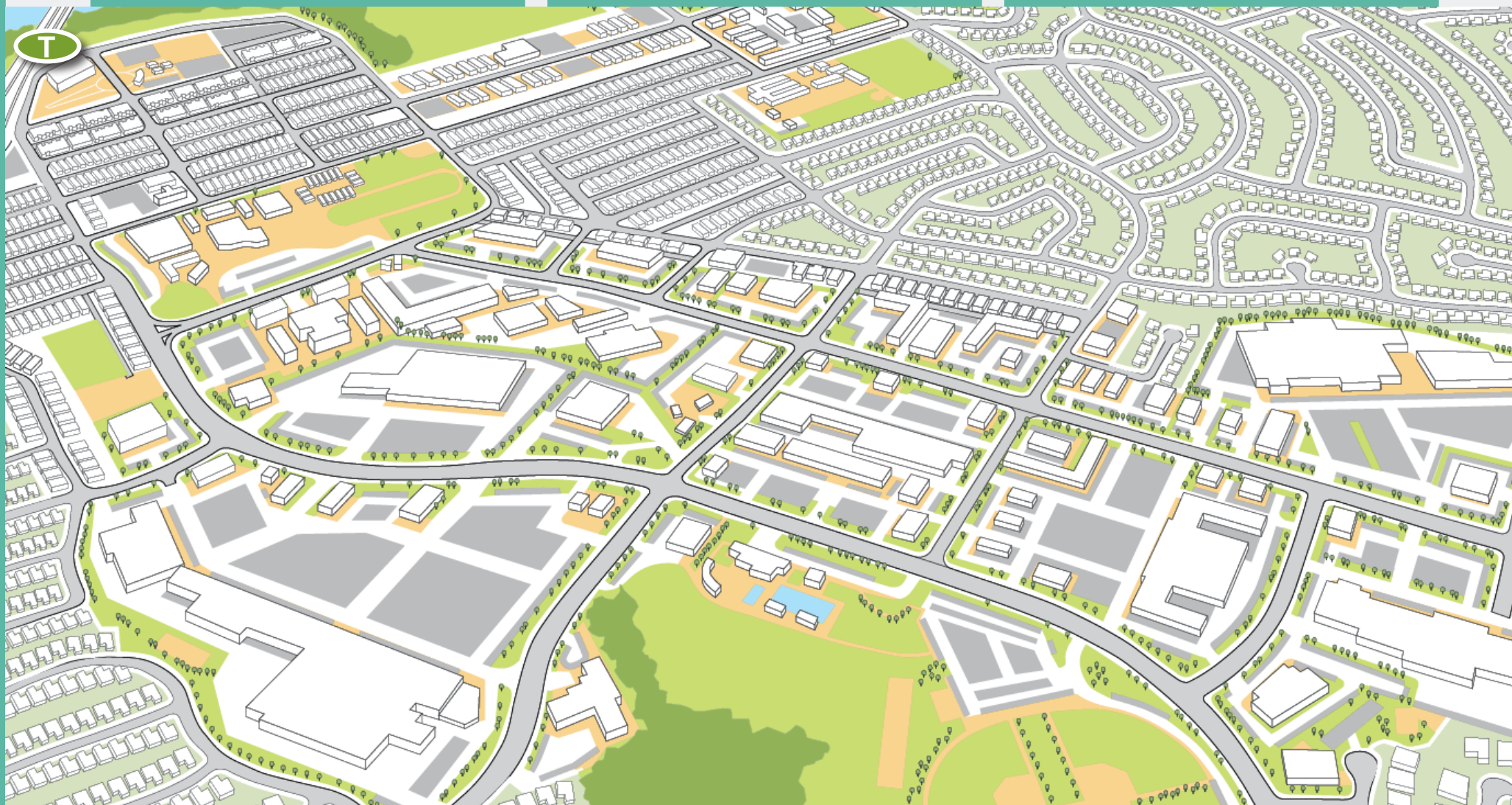
Prioritize vehicle-miles traveled reduction to drive mixed-use densification

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



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



Stage 3: Reduce daily trips by workers; add innovation jobs

Government

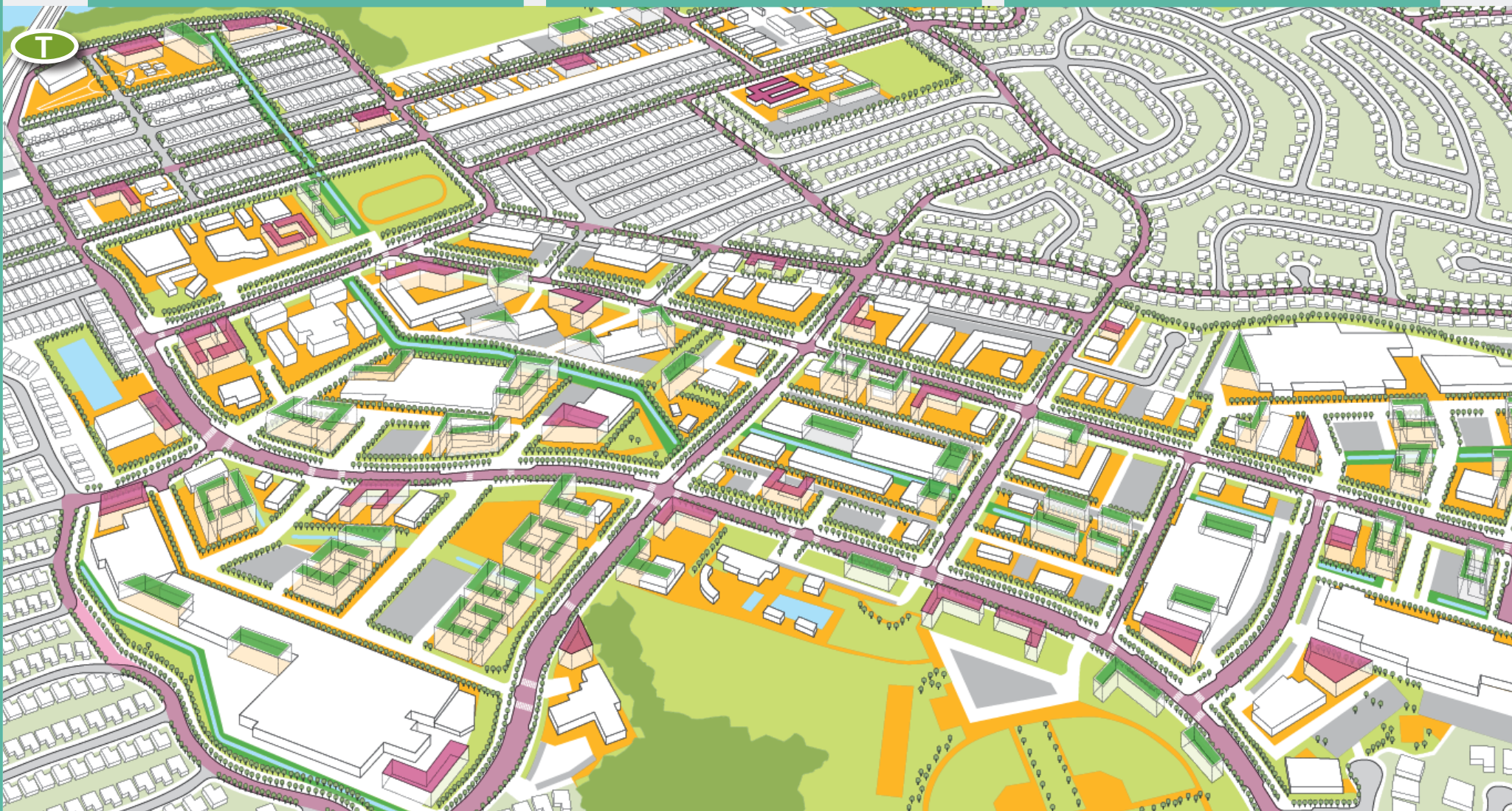
Install urban greenways; increase public green spaces

Real estate

Build mixed-use development with indoor and outdoor event spaces

Nonprofit

Create an innovation hub to boost an innovation economy



Malls

Transform Shopping Centers into Transit- and Trail-Oriented Mixed-Use Communities

“The repositioning and transformation of shopping malls represent the largest land reclamation opportunity in history. The key to rebirth is a strategy that integrates them into the community as walkable, mixed-use places that are well-connected to their neighbors.

“For some, it is a surgical intervention with streets and buildings that break up the superblock. For others, success is achieved with an almost complete redevelopment. We have the opportunity to repair environmental damage with new green infrastructure that delivers a more human and ecologically supportive space.”

–Craig Lewis, ULI Curtis Infrastructure Global Advisory Board Chair

In the United States and Canada, [a quarter of the more than 1,000 malls](#) are expected to close in coming years. Of those that will remain, half are undergoing repositioning, four in five are undertaking full conversion from malls to mixed use, and one in five is going through a retrofit and densification.

Many existing malls are located along transit lines or highways and have unobstructed green space. Their demise presents an opportunity to transform these spaces into sustainable, transit- and trail-oriented mixed-use communities.

Offices and multifamily housing are common uses in reoccupied spaces. Entire communities can be created by converting single-use retail into mixed-use employment nodes in an open-air format. Shifts in retail habits further support a move to mixed use. Millennials and gen-Zers are the biggest spenders and shop both in stores and online.

Potential stages of actions

Stage 1:
Create a transit- or trail-oriented walkable, mixed-use district

Stage 2:
Combine ownership and easements; accelerate redevelopment by infrastructure

Government

Create a vision; improve transit, active mobility, and infrastructure; provide regulatory oversight

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

Real estate

Densify development with on-site services; add multisensory experiences; knit together new and existing places

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

Nonprofit

Host cultural programs; boost healthy food and wellness culture

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

Stage 1: Create a transit- or trail-oriented walkable, mixed-use district

Government

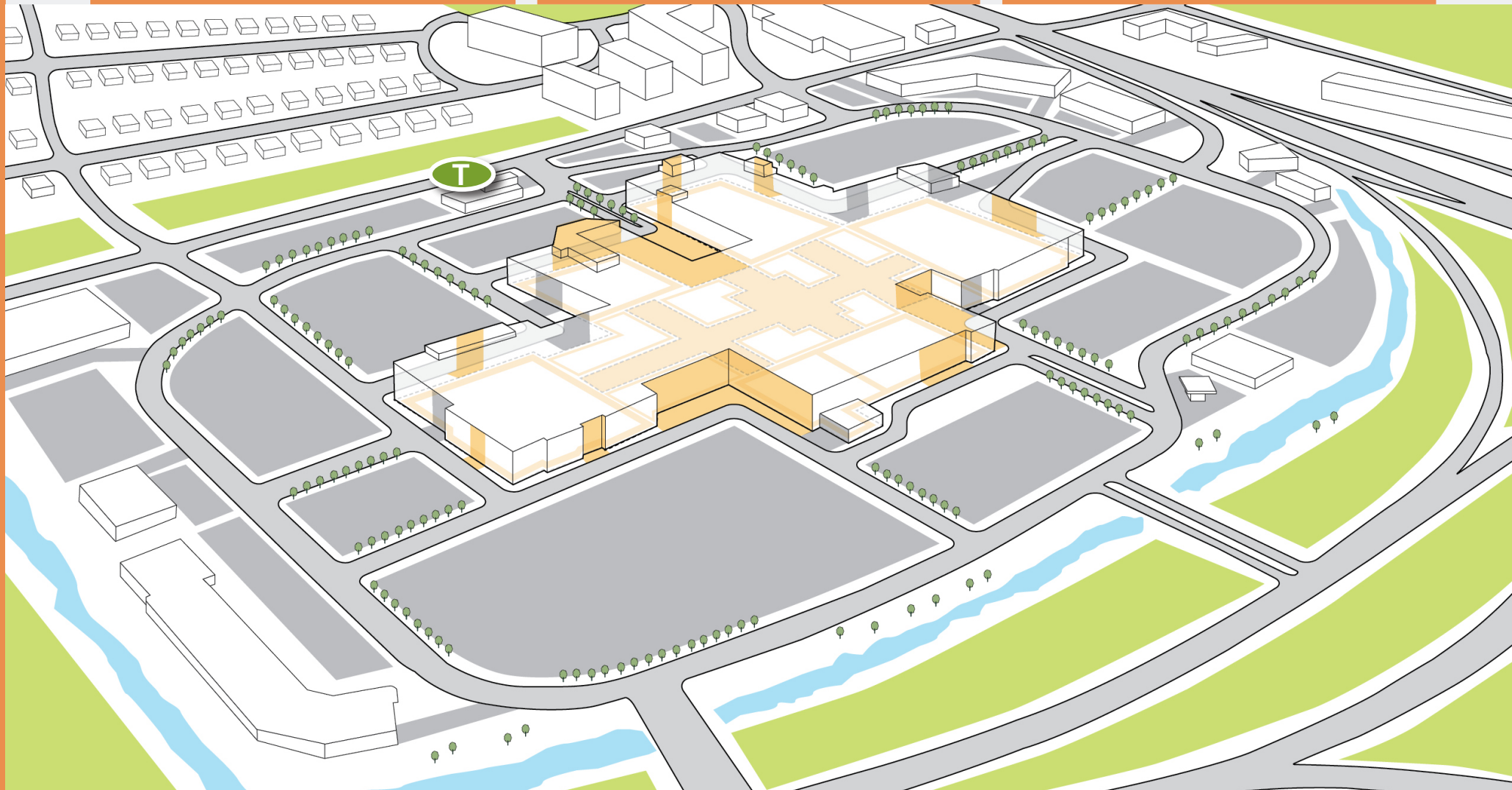
Create a vision; improve transit, active mobility, and infrastructure; provide regulatory oversight

Real estate

Densify development with on-site services; add multisensory experiences; knit together new and existing places

Nonprofit

Host cultural programs; boost healthy food and wellness culture



Stage 2: Combine ownerships and easements; accelerate redevelopment

Government

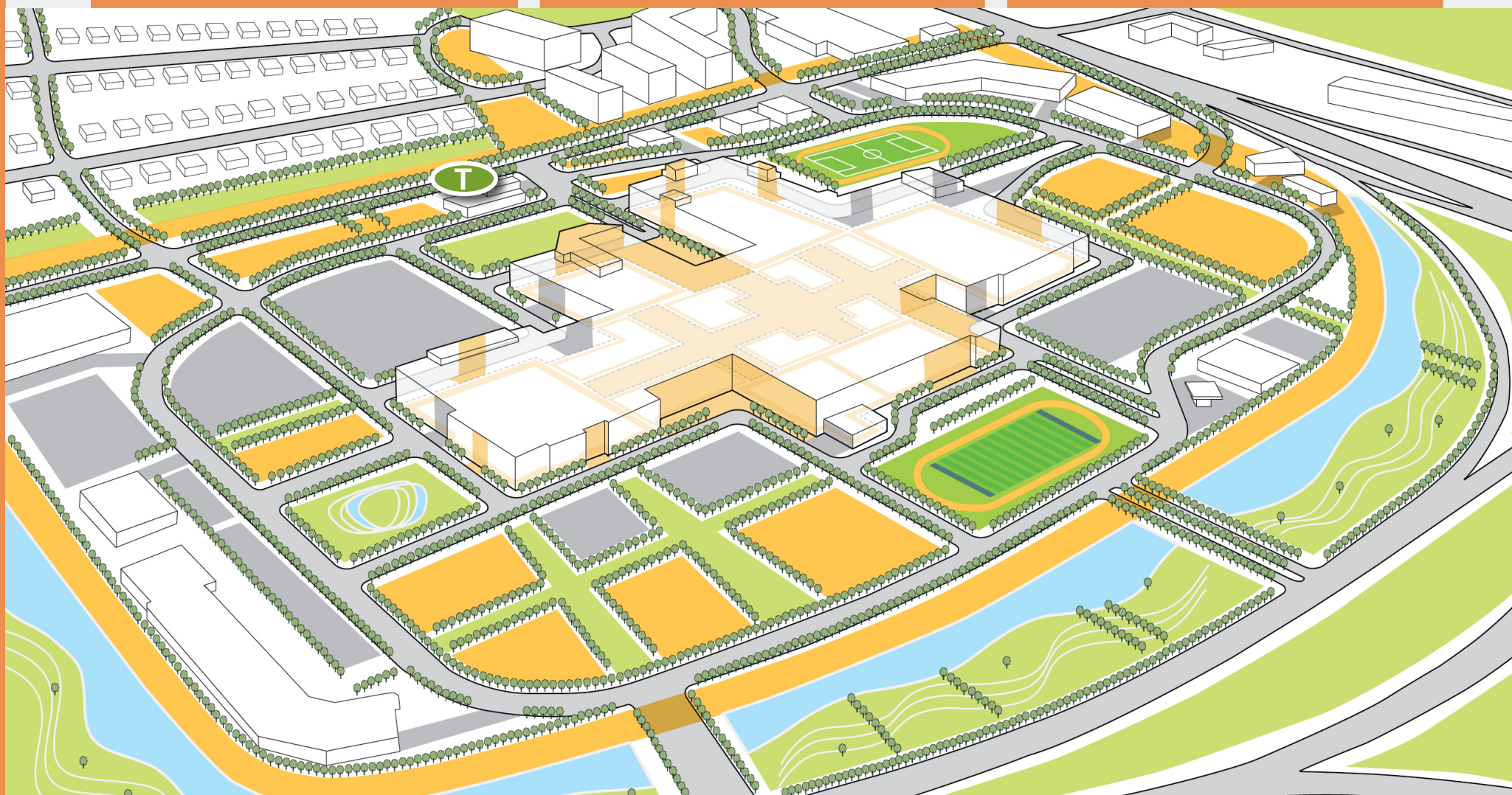
Connect communities; prioritize infill development on parking lots or full reuse of malls; extend streets, trails, and green-space networks

Real estate

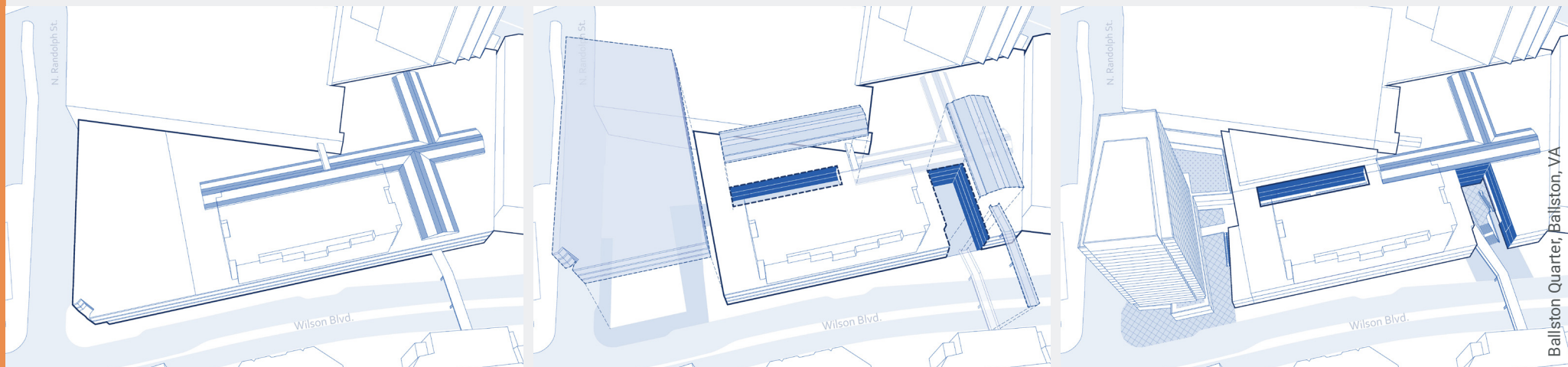
Convert driveways into urban mixed-use streets; shift to renewable energy; blend uses to provide a healthy, active, open-air environment

Nonprofit

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

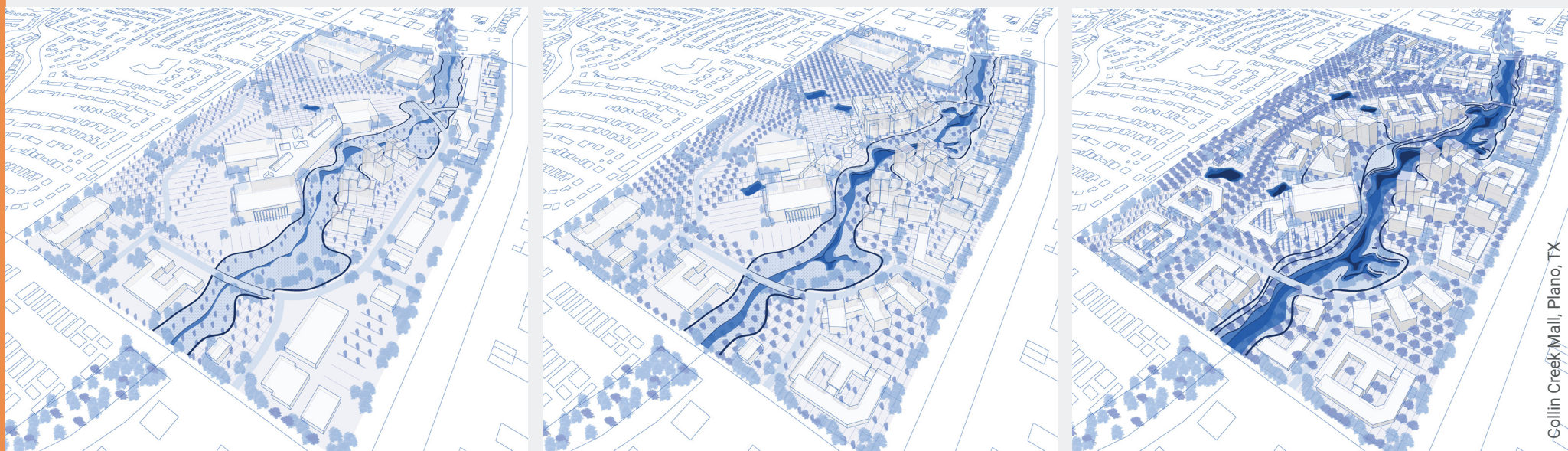


Repositioning Strategy



By removing the roof, an enclosed mall can be transformed into a mixed-use area with looping shopping streets. (Arcadis)

De-Mall Strategy



Daylighting stream corridors can be part of efforts to reconnect urban grids and decommission malls. (Arcadis)

Exurbs

Create an Activated Working Landscape of Agrihoods and Nature-Based Solutions

“Nature-based solutions are known to be highly effective, create multiple benefits, are lower in cost than conventional alternatives, and are compatible with existing technology. Yet, they are not adopted at the scale and pace that is both possible and urgently needed.”

–White House Council on Environmental Quality, Opportunities to Accelerate Nature-Based Solutions, 2022

North America holds one-third of the global agricultural land supply, and it is anticipated that food demand will double by 2050. Since 2000, many agricultural lands have been lost to urban sprawl. In addition, industrial agriculture generates greenhouse gas emissions and leads to loss of biodiversity and land degradation that has contributed to drought. Through the first quarter of 2023, drought had already affected one-third of the

United States, and in November 2022 had contributed to an [80 percent increase](#) in vegetable prices from a year earlier.

Former agricultural land can be better used by activating exurbs to create working landscapes of [agrihoods](#) and nature-based innovation. Agrihoods have become popular for integrating nature-based food production, nature conservation, and sustainable communal living. Another innovation is vertical farming—growing crops in stacked layers—which provides food production year-round and reduces water consumption by up to 90 percent. [Sixfold market growth](#) in vertical farming is predicted by 2030.

Solar energy can also play a role in exurban development. With a [70 percent price reduction](#) in solar photovoltaics (PV) installation since 2010, many farms have co-located solar PV with crops. The solar PV market is expected to grow fivefold by 2030.

Higher-education institutions can contribute as well. [One in 10 jobs is a green job](#), and one-third of the global green economy is in North America. Higher-education institutions are thus expanding their programs to meet the anticipated fourfold growth in green jobs by 2030, presenting an opportunity for these institutions to set up campuses in exurbs to study nature-based solutions.

Potential stages of actions

Stage 1:
Create an agricultural heritage district

Stage 2:
Decarbonize and restore nature

Stage 3:
Add amenities; promote research on nature-based solutions

Government

Establish a district commission; update policies; facilitate partnerships

Connect ecosystems; restore forests; expand trail and cycling networks

Arrange on-demand transit service; streamline permitting

Real estate

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

Implement regenerative farming and food-based planting in community

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

Nonprofit

Establish a community land trust to conserve natural resources

Host agribusiness and youth enterprise programs

Set up a large-scale nature-based solutions research campus with higher-education institutions

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



Stage 2: Decarbonize and restore nature

Government

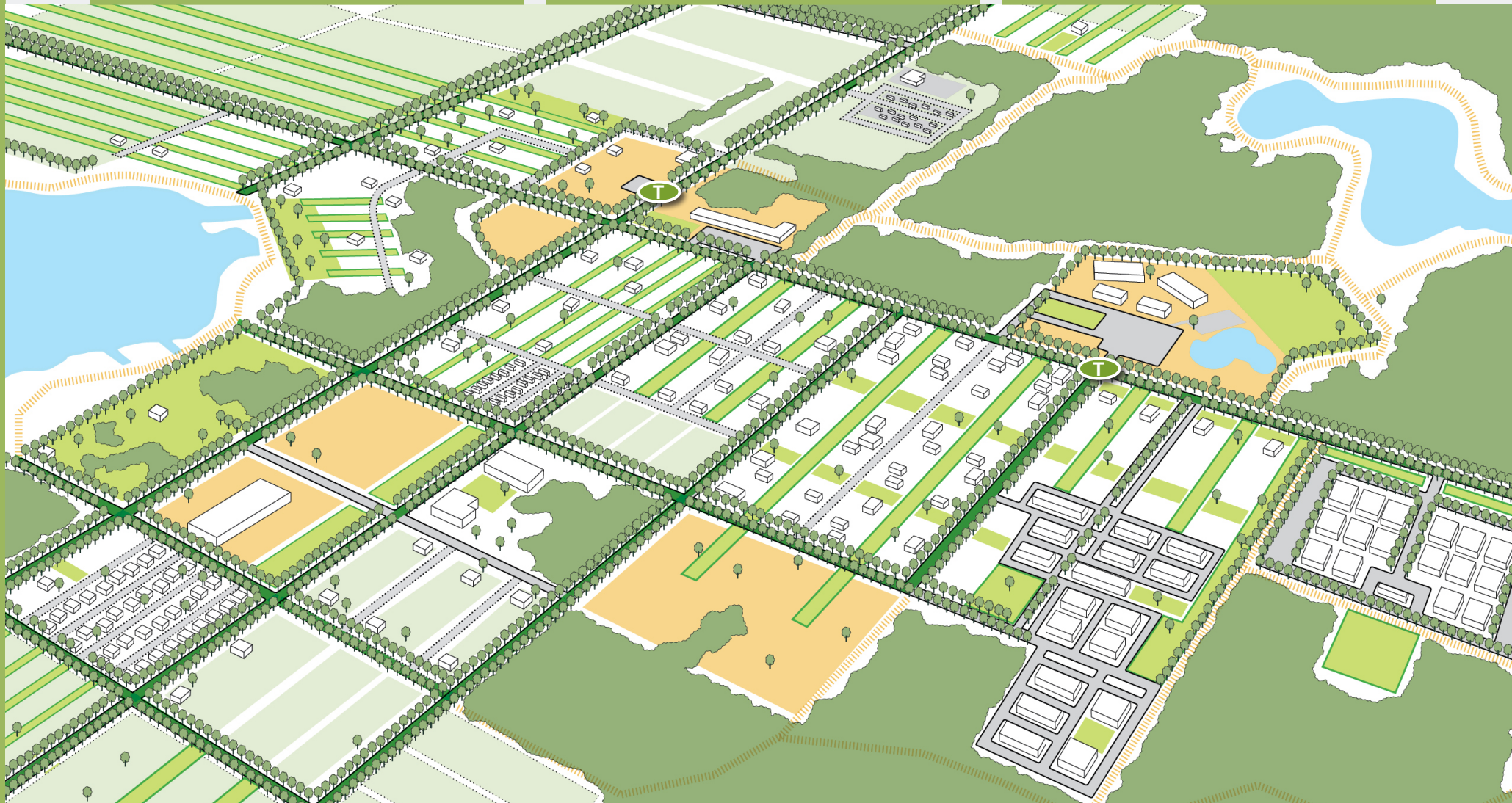
Connect ecosystems; restore forests; expand trail and cycling networks

Real estate

Implement regenerative farming and food-based planting in community

Nonprofit

Host agribusiness and youth enterprise programs



Stage 3: Add amenities; promote research on nature-based solutions

Government

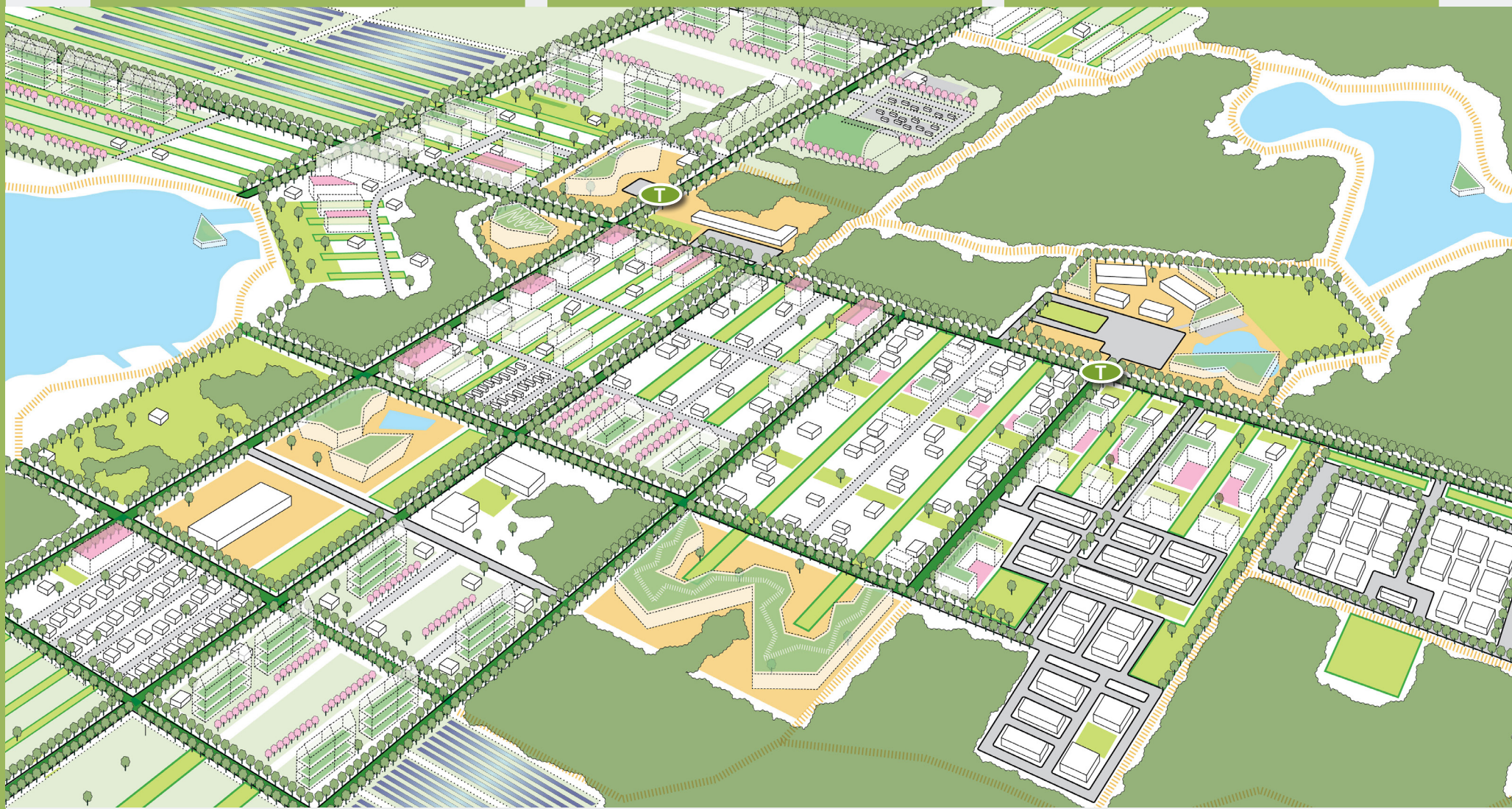
Arrange on-demand transit service;
streamline permitting

Real estate

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

Nonprofit

Set up a large-scale nature-based
solutions research campus with
higher-education institutions





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

Conclusion

“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, ULI Infrastructure Forum Leadership

Automobile-centric habits, single-use culture, and siloed ways of working have cost us unrecoverable time, adverse health effects, and dollars that can be wisely redeployed to reshape our world for the next 100 years. Fifteen-minute communities can reshape the future by aligning community and environmental outcomes with cross-sector leadership strategies. Leaders should take advantage of this once-in-a-century opportunity to rebuild the infrastructure of our world into [15-minute walkable, complete, and transit-oriented communities](#).

The success of this undertaking depends on leaders’ ability to lead the shift from:

- **TOD to TOC:** Shift from building buildings to building communities.
- **Automobile-centric to people-centric:** Make walking and cycling the top choices.
- **Gray to green:** Replace gray infrastructure like parking lots with parks and regional greenways.
- **Mega-facility to local facility:** Plan facilities with walkable catchment (15 minutes).
- **Two-dimensional decisions to three-dimensional decisions:** Create joint use by sharing space and sharing time. Make multijurisdictional decisions instead of single-jurisdictional ones.
- **Planning for “just in time” to planning for “just in case”:** Make proactive decisions.

To sustain this transformation, leaders need to shift from operating in a box to creating teams in all settings. Accepting the world as a living system can increase the capacity of leaders to make decisions when information changes and [lead teams “on the fly.”](#) Committing to follow-through can sustain leadership courage, build momentum, and expand the global movement to build 15-minute communities.

“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, Professor Emeritus, University of Toronto Rotman School of Management

“Effective urban planning leadership for 15-minute communities requires combined budgets and strategic thinking, collaborative skills, and a commitment to sustainability, equity, and resilience.” –Steven Engblom, ULI Infrastructure Forum Leadership

Acknowledgments

ULI Infrastructure Forum Leadership

The ULI Curtis Infrastructure Initiative is grateful to the following members of ULI Infrastructure Forum Leadership for strategic insights in the shaping of this report and infrastructure programs:

Craig Lewis, ULI Infrastructure Global Board Chair
Principal and Placemaking Practice Group Manager, Arcadis

William 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

Stephen Engblom, Faculty of Real Estate Development and Design, Resilience and Equity, University of California, Berkeley

Lucia Garsys, Senior Advisory for Community Partnerships
Hillsborough County, Florida, Government

Matthew Kwatinetz, Director, Urban Lab, New York University
Founder and Senior Real Estate Executive, Q Partners

Renee Schoonbeek, Senior Consultant
Stations and Urban Development, Arcadis Netherlands

Gullivar Shepard, Partner
Michael Van Valkenburgh Associates Inc

ULI Project Team

Yvonne Yeung
Author, Curtis Infrastructure Fellow

Billy Grayson
Executive Vice President, Centers and Initiatives

Rachel McCleery
Co-Executive Director, Randall Lewis Center for Sustainability in Real Estate

Victoria Oestreich
Senior Manager, Centers and Initiatives

Emily Zhang
Senior Associate, Building Healthy Places

Rionach McEwen
Coordinator, Centers and Initiatives

James A. Mulligan
Senior Editor

Karen Coda
Publications Professionals LLC, Manuscript Editor

Brandon Weil
Art Director

Forum and Workshop Participants

The ULI Curtis Infrastructure Initiative is grateful for the participation of the following ULI members at the 2022 ULI Infrastructure Forum and the 2022 ULI Design Sprint, which informs this report.

2022 ULI Infrastructure Forum

William Anderson, President, Dowdey Anderson & Associates
Paul Angelone, Former Senior Director, Curtis Infrastructure Initiative
Mark Arizmendi, Managing Partner, Northwestern Capital
Anthony Avila, Managing Principal, Encore Funds, Builder Advisor Group
Maggie Brooke, Chief Executive Officer, Professional Property Services Limited
Nicholas Brooke, Chairman, Professional Property Services Limited
Kevin Carlson, Vice President, Huitt-Zollars
David Cassidy, Principal, CallisonRTKL US
Mike Chereso, Major Accounts Manager, CoStar Group
Randal Dawson, Executive Vice President, CBRE
Elizabeth DeBruine, Senior Sales Executive, CoStar Group
Eric Dillinger, Vice President, Strategy, Woolpert
David Doupe, International Director, National Investor Accounts, JLL
Angel Eng, Founder, Engenuity CRE
Cyrena Eitler, Senior Principal, Strategic Planning Adviser, Stantec
Alan George, Principal, Nauset Investments
John Greenman, Principal, JG Properties LLC
Eli Gregory, Head of Airport Investment and Development, Aviation Facilities Company Inc.
James Harris, Partner, James R. Harris Partners LLC
Kammy Horne, VIA Metropolitan Transit
Sue Jacobson, Vice President, Business Development, Chicago Title Insurance Company
Spencer Levy, Global Client Strategist and Senior Economic Adviser, CBRE
Arthur Margon, Partner, Rosen Consulting Group
Sasha Page, Principal, RebelGroup
Sally Riker, Partner, Lowe Engineers LLC
Kay Shelton, Vice President, DART Capital Planning
Benjamin Shepherd, Director, Atelier Ten
Laura Slutsky, Associate Director, Guidehouse
Byron Stigge, Director, Level Infrastructure
Monte Stubbs, Managing Member, Zeus Realty
Marilyn Taylor, Professor of Architecture and Urban Design, University of Pennsylvania
Lindsey Teel, Transportation Specialist, Project Development Lead, Build America Bureau

Kristian Teleki, Senior Vice President, Matthews Southwest
Kristine Wilson, Partner Firmwide Chair, Real Estate and Land Use, Perkins Coie LLP
Julie Wilson-McNerney, Counsel, Perkins Coie LLP
David Zaidain, Area Practice Leader, Transportation & Planning, Gensler

2022 ULI Design Sprint

Angela Acosta, Principal, CallisonRTKL
Paul Angelone, Former Senior Director, Curtis Infrastructure Initiative
Christopher Calott, Lalanne Chair in Real Estate Development, University of California, Berkeley
José Campos, Manager of Planning, Office of Community Investment and Infrastructure
Alexia Chuck, Senior Designer, CallisonRTKL
Sara Haufe, Senior Associate, Director of Traffic Engineering, Sam Schwartz
Liz Hedges, CallisonRTKL
Leanne Kaplan, Alliance and Policy Manager, New Urban Mobility Alliance (NUMO)
Geoff Koski, President, Real Estate Market Analyst, KB Advisory Group
Rick Krochalis, Regional Administrator, U.S. Department of Transportation
James Lima, President, James Lima Planning + Development
Todd Mansfield, Principal, Mansfield Company
Emeka Moneme, Senior Vice President, Infrastructure, Investment, Hayat Brown LLC
Jorge Morales-Burnett, Research Analyst, Metropolitan Housing and Communities Policy Center, Urban Institute
Amanda Morrell, Engagement Coordinator, True Search
Marissa Ramirez, Director, Community Strategies, Natural Resources Defense Council
Alan Razak, Principal, AR Spruce LLC
Allison Schapker, Chief Project Officer, Fairmount Park Conservancy
Chuck Schilke, Director and Senior Lecturer, Real Estate Program, Johns Hopkins University
Sarah Sieloff, Client Leader, Haley & Aldrich
Seema Thomas, Deputy Director, U.S. Department of Housing and Urban Development
Ruth Wuorenma, Founder and President, Neighborhood Capital Institute

Building 15-Minute Communities

A Leadership Guide

Building 15-Minute Communities: A Leadership Guide shares promising insights and strategies for leveraging infrastructure investment and real estate development to create walkable, transit-oriented, sustainable, complete communities. Filled with community-scale illustrations backed by actionable decisions at different stages, this report provides leaders with a framework for setting agendas, asking the right questions, seizing opportunities, and informing the next 100 years of city building.

Learn more about the report at ULI Knowledge Finder, knowledge.uli.org.