



STREETS TO SOCIAL SPACE

A TACTICAL APPROACH TO SUBURBAN PLACEMAKING

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Abstract

As American cities transition from decades of automobile dependency to walking, biking, and transit, new and emerging forms of mobility such as ride-sharing, micro-vehicles, and autonomous vehicles offer a new paradigm of Transportation as a Service (TaaS) that has the potential to drastically reduce the amount of space needed for transportation and parking altogether—allowing streets to become more than connectors between places, but places in themselves.

However, suburban communities lack the necessary funding to overhaul their sprawling transportation infrastructure in the fashion imagined by today's urban planners and designers. Fortunately, the tradition of Tactical Urbanism has already demonstrated how low-cost, temporary interventions, such as parklets and mobile food trucks, can adapt outdated infrastructure and improve the usability of urban streets.

While Tactical Urbanism is now well documented and even encouraged by municipal governments, its potential to transform suburban streets remains unexplored. Following the decline of personal automobile ownership in the suburbs, many forms of existing transportation infrastructure, such as driveways, sidewalks, parking strips, and roadways will either become obsolete, or drastically change their functions. In either case, the need to adapt this infrastructure can be effectively met by a variety of existing and novel tactical interventions. To that end, this project documents tactical interventions in suburban communities and combines them into conceptual design for a typical suburban street.

While tactical interventions can respond to unmet social needs which have been overlooked by traditional planning strategies, by demonstrating potential solutions they also reveal new possibilities for urban and suburban social space.

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Introduction

Levittown, Pennsylvania became the first mass-produced suburban settlement built for (and dependent upon) independently owned and operated vehicles.

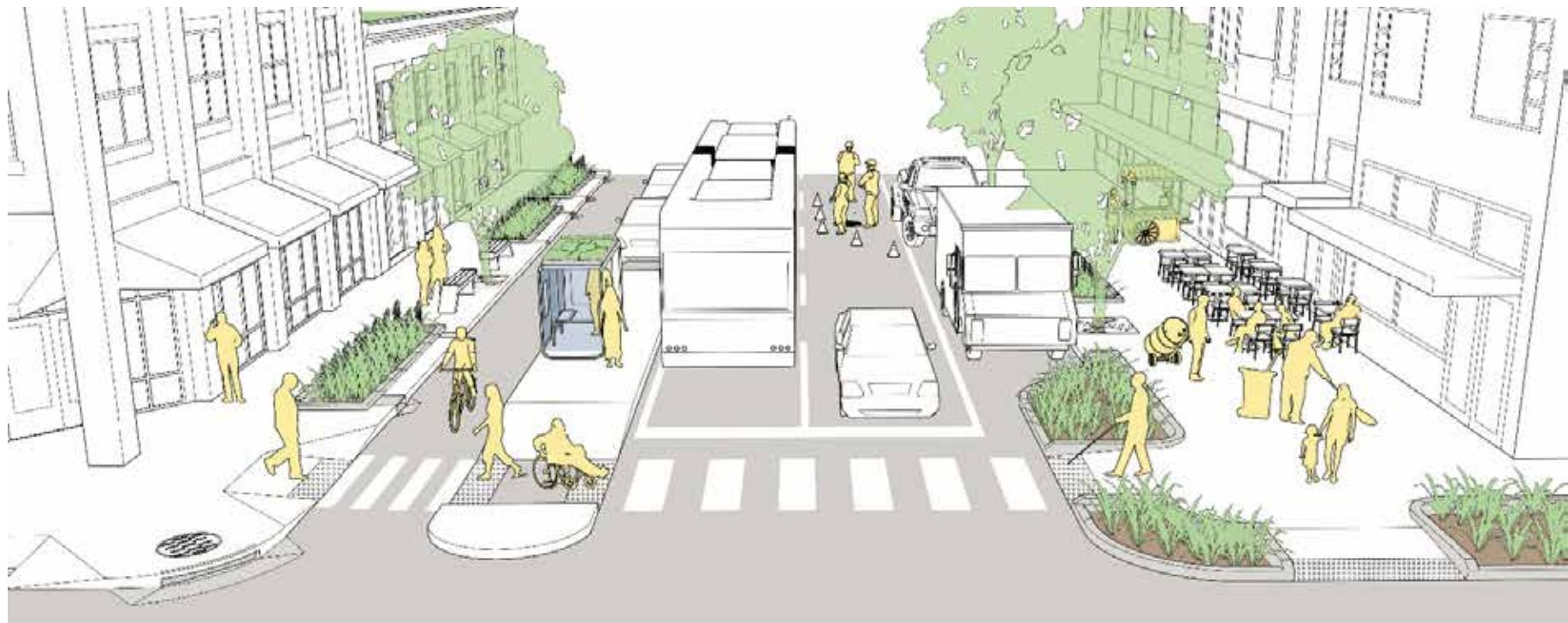
As American cities transition from decades of automobile dependency to walking, biking, and transit, new and emerging forms of mobility such as ride-sharing, micro-vehicles, and autonomous vehicles offer a new paradigm of Transportation as a Service (TaaS) that has the potential to drastically reduce the amount of space needed for transportation and parking altogether—allowing streets to become more than connectors between places, but places in themselves.

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This research categorizes existing and novel tactical interventions for suburban communities and combines them into a series of thematic scenarios that explore future opportunities and challenges for suburban streets. While tactical interventions can respond to unmet social needs which have been overlooked by traditional planning strategies, by demonstrating potential solutions they also reveal new possibilities for urban and suburban social space.





Rediscovering Streets for People

"For too long we've been building streets as though they have one function—to move cars quickly."

—Marc Schlossberg, Rethinking Streets

In order to move cars quickly, cities have widened streets and added more travel lanes. Most of this infrastructure is planned for "peak flows" of traffic—rush-hour traffic and holiday shopping sprees—which means most of the time it goes underused. However, moving cars more quickly has never eliminated traffic congestion.

Rather, it tends to make cities less walkable and unsafe for people. Thousands of people are killed each year in traffic collisions. In 2019, Smart Growth America and The National Complete Streets Coalition determined that "in the past decade, the number of people struck and killed while walking increased by 35 percent.

Recently, as American cities recover from decades of automobile dependency, many are transforming their traditional multi-lane thoroughfares into "complete streets" that help people get around by walking, biking, and transit. Streets that once favored cars are going on "road diets" that reduce the widths of vehicular lanes to make room for wider sidewalks, shorter crosswalks, bike



lanes, transit lanes, turn lanes, stations and shelters, and more trees, stormwater swales, and green infrastructure throughout.

In the process, cities are rediscovering that streets are more than connectors between places, but places in themselves—complex social spaces that serve multiple functions and activities beyond transportation. Complete Streets emphasize the role of “streets as places instead of mere transportation links.” (Schlossberg).

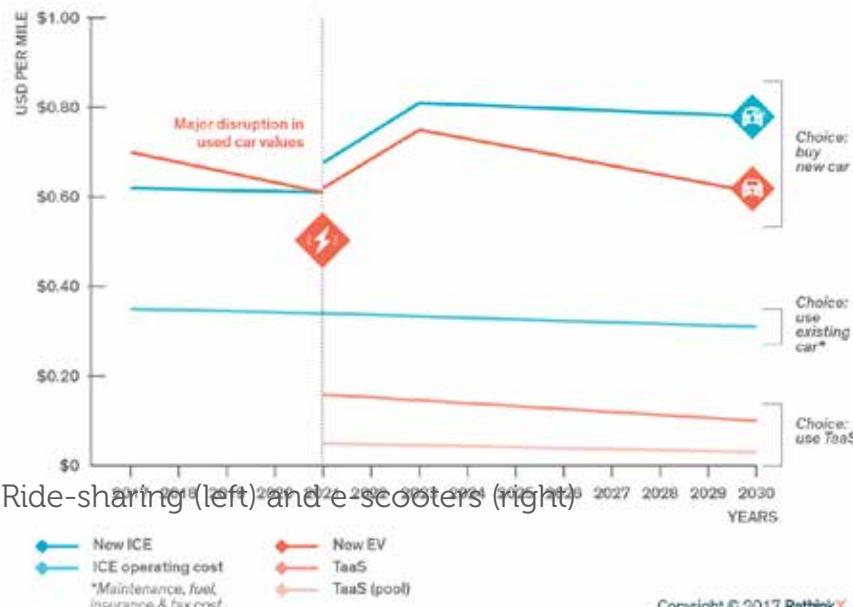
Good streets are good places, too—public places where people meet, sit and socialize, conduct business, wander about, play, and more.” (Schlossberg)

More Trips, Less Cars

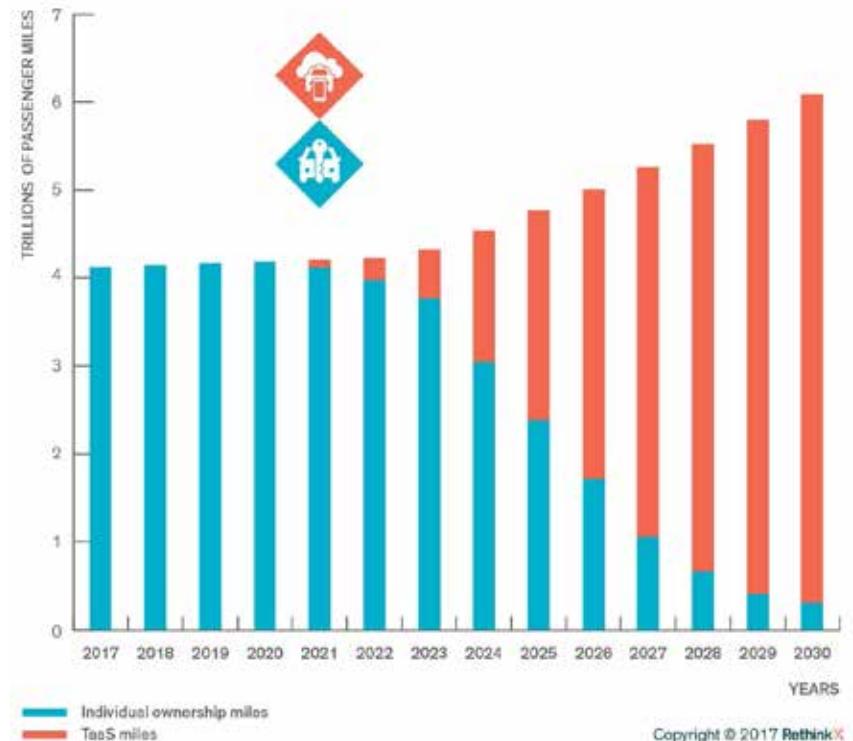
Shared Mobility

As cities slowly adjust their approach to planning and designing streets, new forms of mobility are already changing the way people get around. Ride-sharing services, such as Lyft and Uber, have allowed anyone with a car to become a taxi driver and allowed anyone without a car to easily get around their community, even if they’re just flying in for the weekend. Micro-vehicles, like e-bikes and e-scooters, are showing up on sidewalks in every major city.

» IO ICE, IO EV and TaaS costs



» Speed of TaaS adoption



These technologies all serve specific niches in a growing shared transportation ecosystem that is no longer based solely on personally owning your own car. Rather, personal transportation has become a service like buses and trains. The shift toward transportation as a service may accelerate dramatically when autonomous vehicles gain regulatory approval and join the road. According to the independent research group RethinkX, that time may be as soon as 2021, and it may finally end the era of individually owned vehicles. Instead, a fleet of on-demand driverless taxis will provide transportation services at a price that is "four to ten times cheaper per mile than buying a new car and two to four times cheaper than

operating an existing vehicle." (RethinkX). "Individually owned cars are used only 4% of the time. While there will be fewer cars, TaaS vehicles will be available on-demand 24 hours per day, providing door-to-door transport to passengers. As a result, TaaS vehicles will be utilized 10 times more than independently owned vehicles." Furthermore, without the need to "drive, park, maintain, insure or fuel" their own vehicles, most families will save "more than \$5,600 per year in transportation costs" (NACTO). Indeed, people who already own cars may simply stop driving them. For these reasons, 95% of all trips in the United States will be served by transport-as-a-service companies by the year 2030.

**“We are on the cusp of one
of the fastest, deepest, most
consequential disruptions of
transportation in history.”**

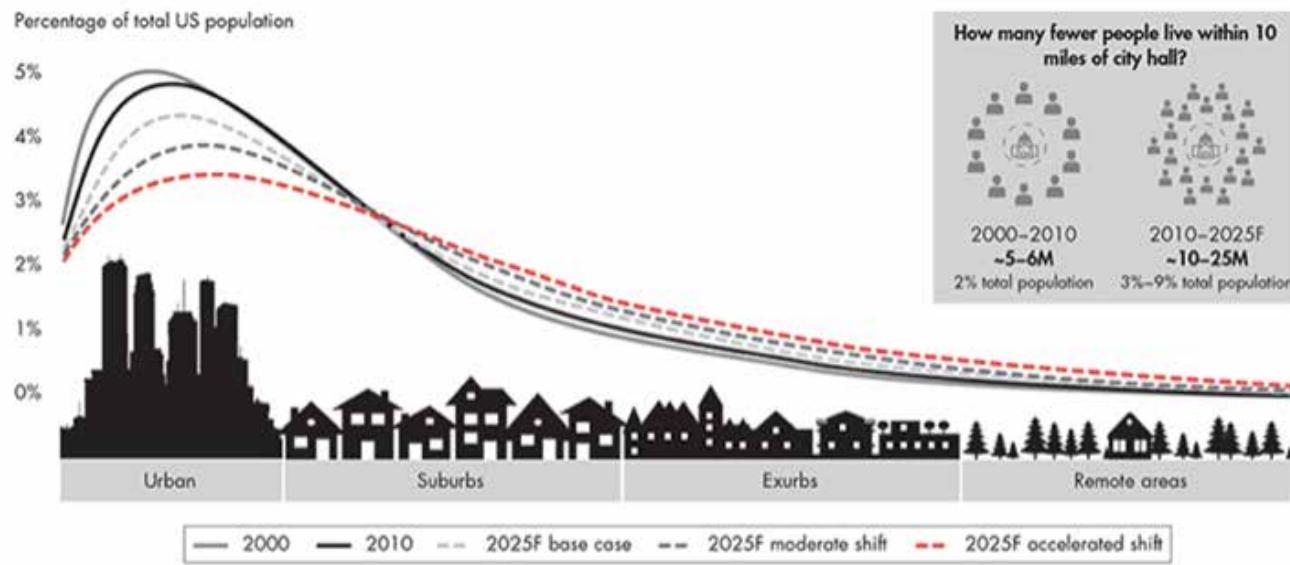
RethinkX



Transportation as a service has the potential to drastically reduce the amount of street space needed for transportation and parking altogether—liberating miles of underused lanes and parking strips for new uses and activities. What happens with all that extra space is under intense speculation. Urban planners and designers are eager to see how transportation and mobility evolve. Autonomous vehicles are likely to be much more efficient than human-driven vehicles because they are constantly connected and aware of each other’s movements, allowing them to better predict traffic congestion and avoid conflicts before they happen.

The National Association of City Transportation Officials (NACTO) has already developed new transportation planning guidelines based on the new capabilities of this technology, which several design firms are now using to explore new possibilities for urban design.

These new designs have all the components of a Complete Street: transit service, bike lanes, and wide sidewalks—but now a curbless sidewalk blends into a roadway made of permeable pavers, decorated with extensive tree plantings and stormwater swales. The driverless street of the future becomes a linear park, a pedestrian paradise where cars are guests and children never have to look both ways.



*As defined by the US Census Bureau, for each metropolitan statistical area (MSA), city hall for the largest city has been used as a proxy for the area's central business district. Chart shows US Census data for 366 MSAs, about 85% of US population.

†Increase in spatial dispersion for an MSA has been calculated as share of total MSA population staying within 0–10 miles of a city hall in 2000 minus that in 2010

‡2010 population equivalent is the distribution of population if the total population in a given year were the same as 2010, excluding the effect of birth rates, death rates and migration

Sources: US Census Bureau; Bain Macro Trends Group analysis, 2016

Yet the call to rethink streets has so far resulted in wildly conceptual redesigns that are out of reach for many cities. With shrinking budgets and growing maintenance backlogs, they will not be able to finance such an extensive overhaul of their street networks. We may see these kinds of designs in new developments in wealthy cities, but what about existing neighborhoods?

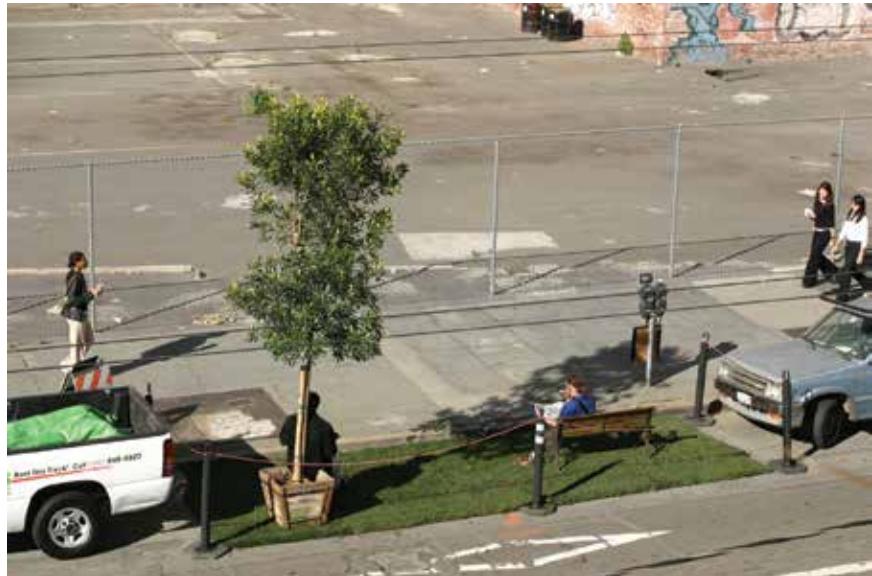
Most urban land in the U.S. was developed in the last fifty years, and takes the form of low-density, privately owned, residential land with "single-family" detached dwelling units—a.k.a. the suburbs. Some of the sprawling single-use suburban districts we built over the last century are being re-zoned and re-built in a "mixed use" fashion, but still

relying on a pre-existing transportation system based on independently owned automobiles. Even still, the suburbs are still growing:

"While statistics demonstrate that the amount of the world population in metropolitan areas is rapidly increasing, rarely is it understood that the bulk of this growth occurs in the suburbanized peripheries of cities. Domestically, over 69% of all U.S. residents live in suburban areas; internationally, many other developed countries are predominately suburban, while many developing countries are rapidly suburbanizing as well." (CAU)

Tactical Urbanism

Despite the reality of contemporary city budgets, we can still take inspiration from the growing tradition of "tactical urbanism" which uses low-cost, temporary interventions to improve the livability of their streets. Not waiting for their government investment, ordinary people are adapting their streets with parklets and food trucks which become popular catalysts for social activity in otherwise lackluster spaces.



Early tactics were simple changes to infrastructure, such as temporary bike parking at restaurants or stores. They later injected social activities and short-term "pop-up" events which led to long-term colonization by businesses in the form of food carts and parklets. Now cities use tactical urbanism to prototype extensive changes in infrastructure and have even created standards for their deployment.

Possibly the first parklet was installed by a group called Rebar in San Francisco using only astroturf, some reflector poles, a bench, and a potted tree. It wasn't long before people started using the 8-foot wide park

and strike up conversation. With a few cheap materials and one plant, they "created an opportunity for social interaction that wasn't there before."

"[M]aking changes to street design—like re-allocating travel lanes or on-street parking for dedicated bus lanes, bike lanes, or wider sidewalks—is often met with community controversy and divisive processes that take much too long to get from idea to implementation. Often it can be hard to imagine a street different than how it currently exists. Streets, and the buildings that are adjacent, seem like fixed, unmovable, unchangeable conditions. We accept the way things are, even if they are less than ideal. Change can be hard, especially when it is difficult to picture how an alternative will look or function." (Schlossberg 1





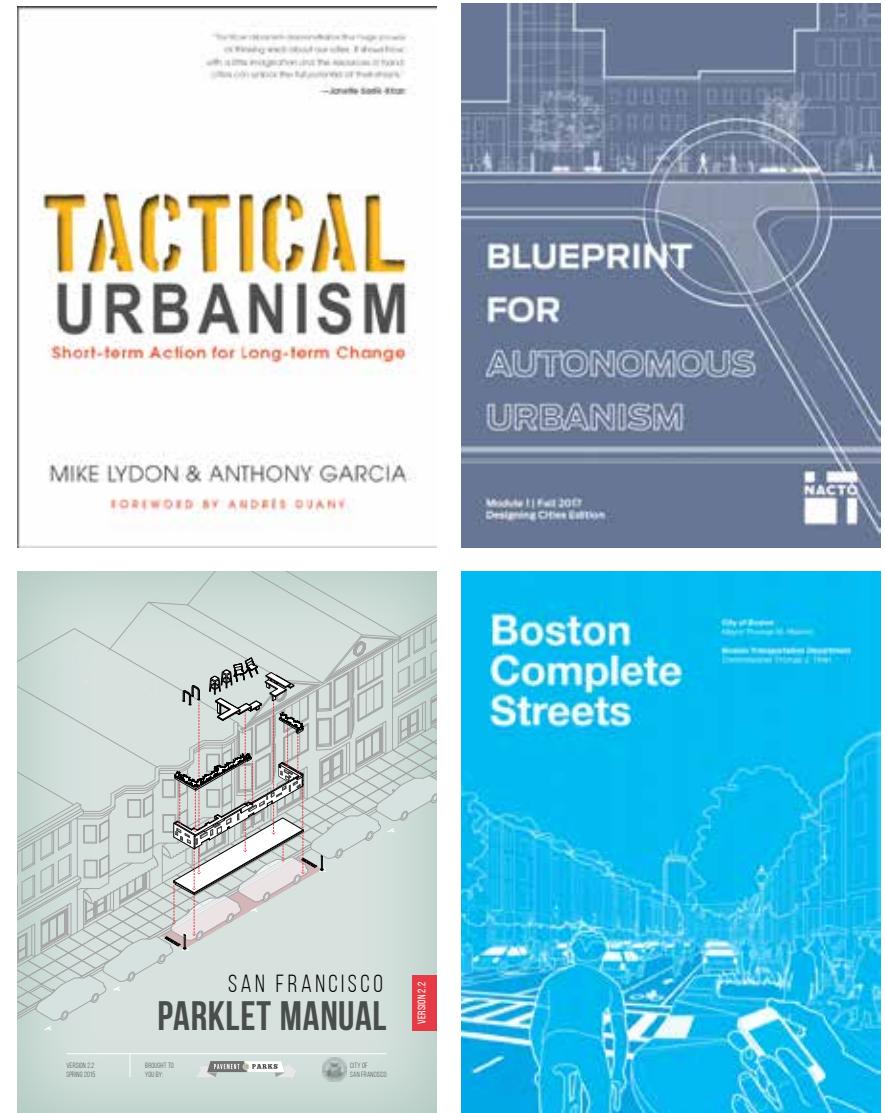
Because these acts do not require overburdening investment or infrastructure, they enable people to effect changes and release possibilities for new interactions, functions, and meanings.

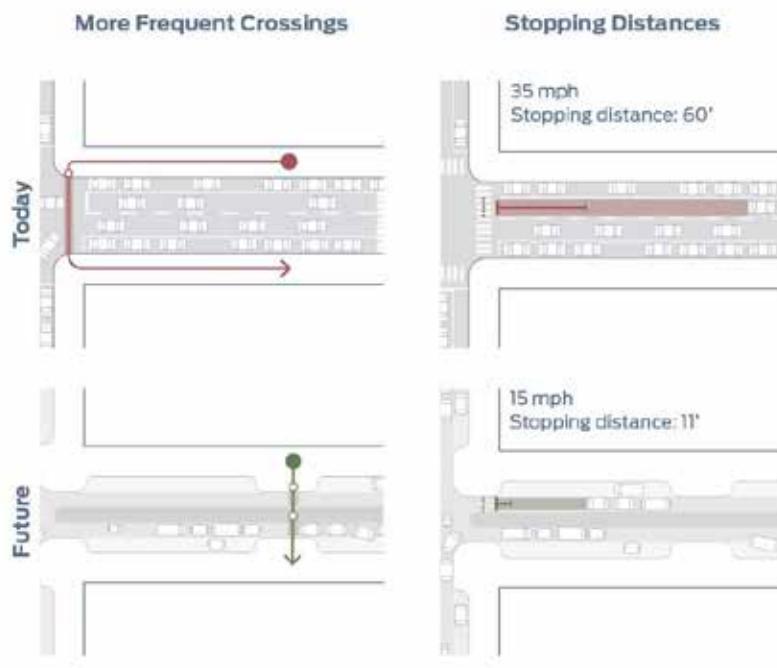
Jeffrey Hou | *Insurgent Public Space*

The Role of Manuals in Design Research

Tactical urbanist concepts originally were documented and disseminated through manuals. When Rebar shared their parklet, they were immediately approached to make more of them in San Francisco and around the world. Of course, there was no way they could do all that work as a small nonprofit, so they created and shared their own manual so people could make their own parklets. We now see parklets in all shapes and sizes, and they have been so successful that Cities now have their own official guides and permitting processes for them.

Unfortunately, existing tactical urbanism manuals have neglected the challenge of designing in the suburban context—instead focusing primarily on urban, inner-city environments. This gap in research is important because manuals are critical design tools for exploring new and emerging planning concepts.





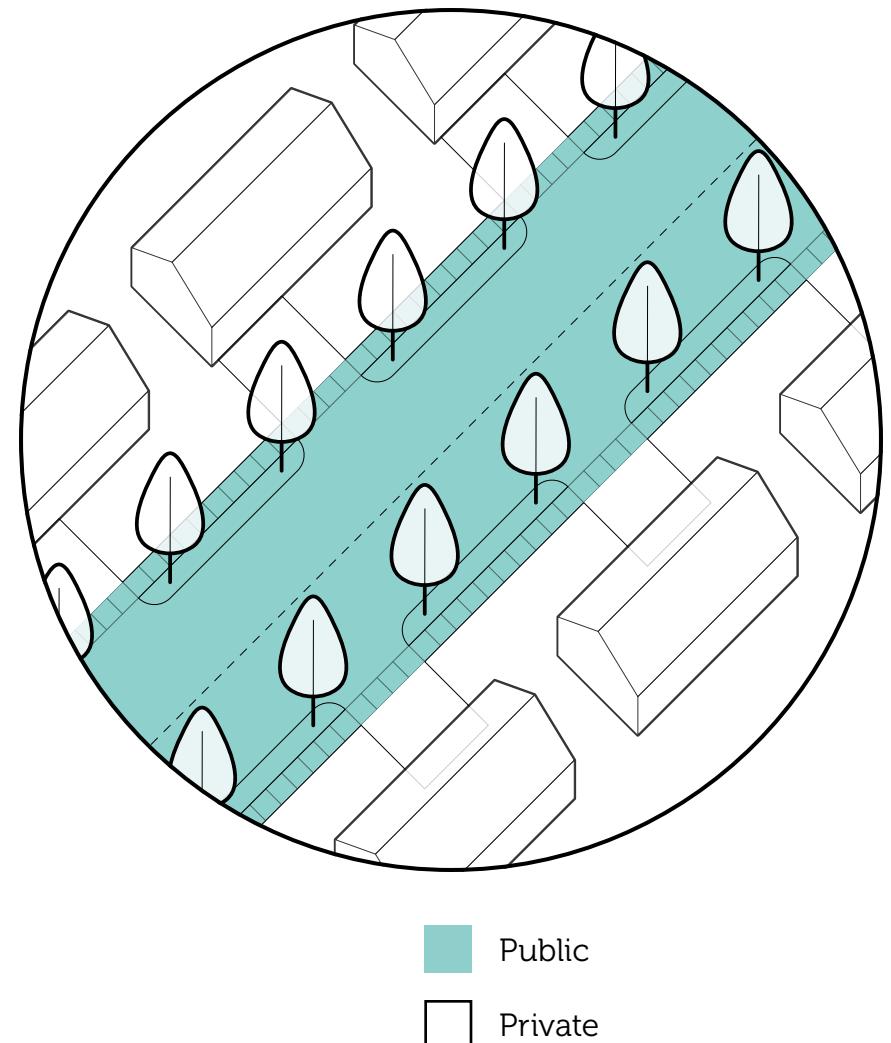
The Role of Design Exploration in Planning Research

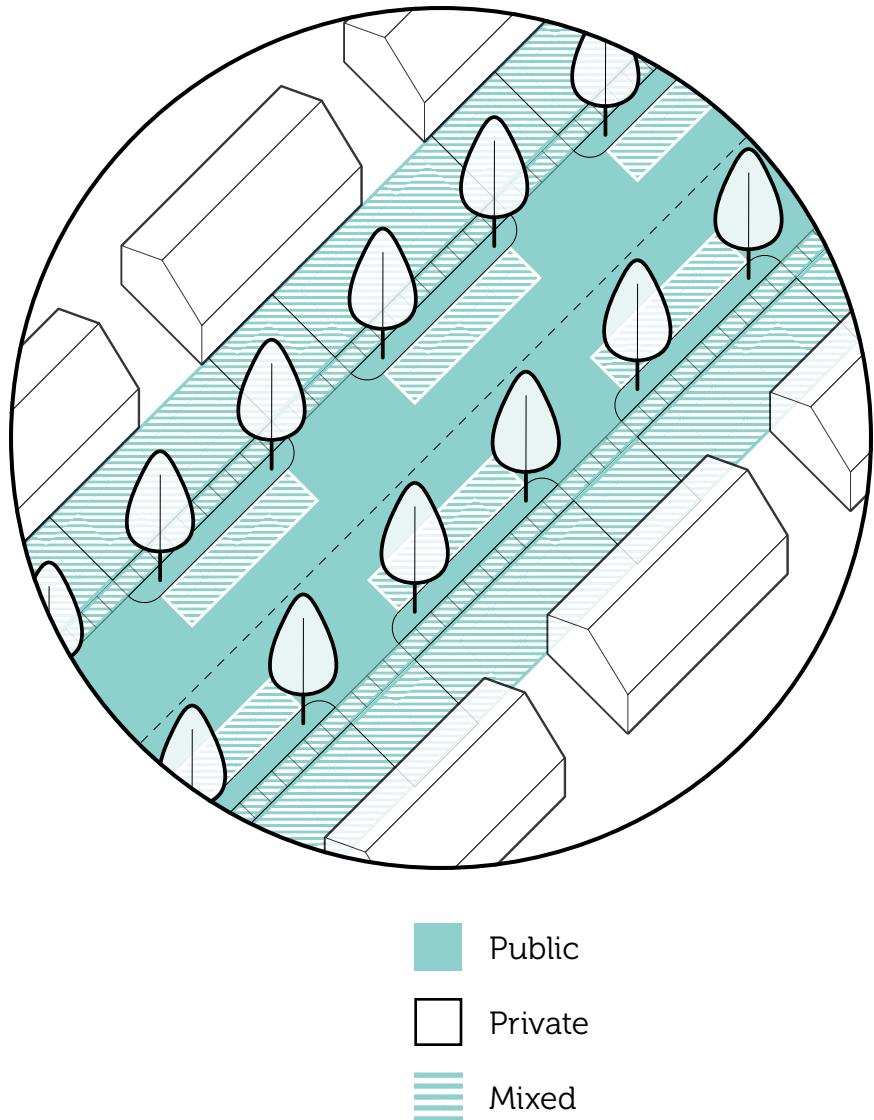
Ideas like protected bike lanes and sidewalk bulb-outs have been frequently tested using traffic cones, potted plants, and other tools of tactical urbanism. Now, as cities anticipate autonomous vehicle disruption, organizations like NACTO are already preparing new planning rules while designers are conjuring up new forms of urban design. All of these concepts will be tested through their various implementations throughout the country. Given the scope of the challenge of retrofitting suburban streets, tactical urbanism could be the ultimate tool for researching new possibilities through design.

Suburban Space

We tend to think of streets as being cleanly divided between public and private space. This distinction is clear in urban streets, where buildings stand right at the edge of private property and help define the public right of way.

In contrast, suburban streets are more defined by their landscape. Houses and buildings stand 20 to 25 feet away from the sidewalk to accommodate gardens, planting strips, and driveways.



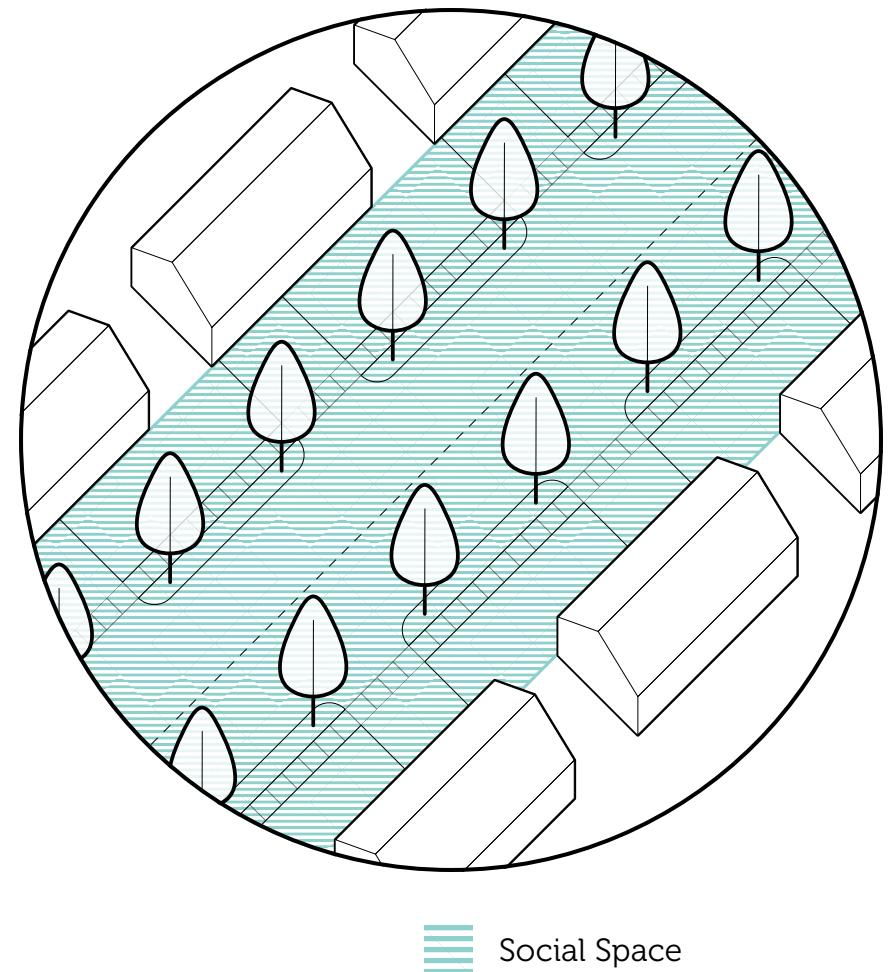


Public & Private Space

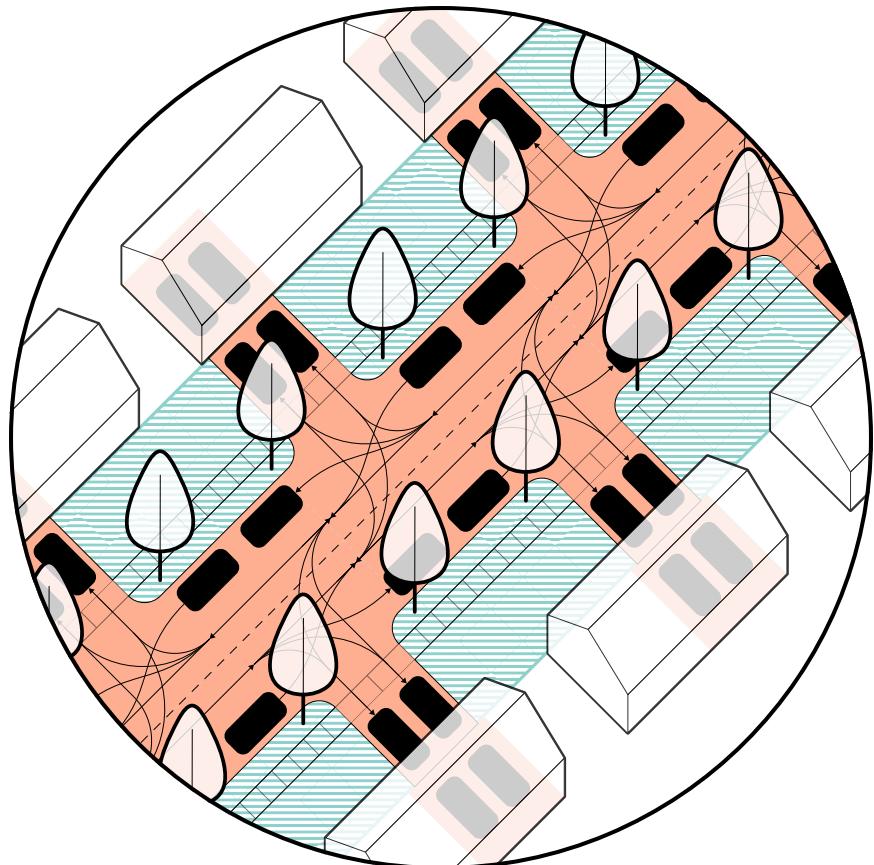
In reality, we find that between the front door of the house and the centerline of the road lies a quasi-public-private gradient that is unique to the suburban context. Public sidewalks cut through private front yards that are landscaped for the aesthetic benefit of the community even though they are used only by the homeowners. Cities will often require homeowners to maintain their yard and the sidewalk up to acceptable standards. In exchange, each homeowner gets to claim a piece of the public street in front of their property for their own use, such as parking cars or storing trash and recycling bins.

Social Space

If we acknowledge the complexity of public and private space in the suburbs, we may consider the entire suburban street operates as a single continuous social space that blends together public and private land.



 Social Space



 Social Space

 Transportation

Spatial Requirements for Conventional Transportation

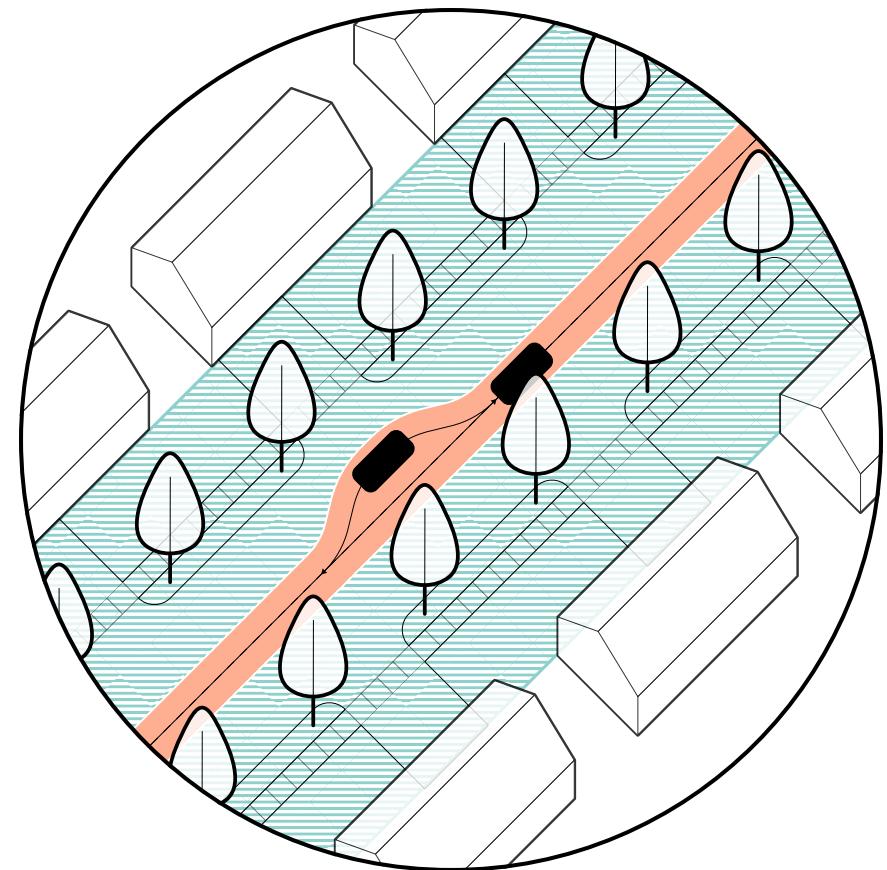
Despite the vast social space available to residents of suburban neighborhoods, much of it is given up to the use of transportation. The public right of way is divided into separate lanes for cars and pedestrians, which is punctuated by garages and driveways. These spaces filled with empty cars that go unused most of the day. The remaining fragments of social space are made of the sidewalk and the front yard.

Spatial Requirements for Transportation-as-a-Service

Transportation-as-a-Service reduces traffic congestion while eliminating the need for parking, thereby requiring much less street space than conventional models of transportation.

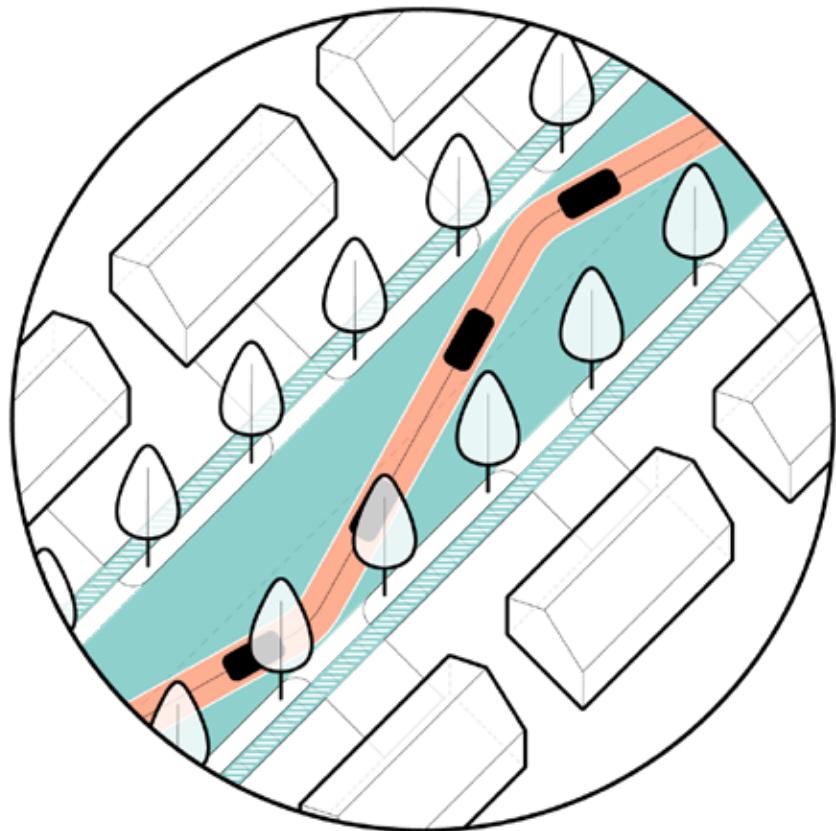
With reduced spatial requirements, newly built streets are likely to be much narrower than conventional streets. But existing streets, which are often 60 feet wide in suburban neighborhoods, will have lots of leftover space.

This leftover space can take many forms, depending on how transportation operates within this space. The existing suburban transportation infrastructure of parking lanes and driveways offers unique opportunities for adaptive reuse.



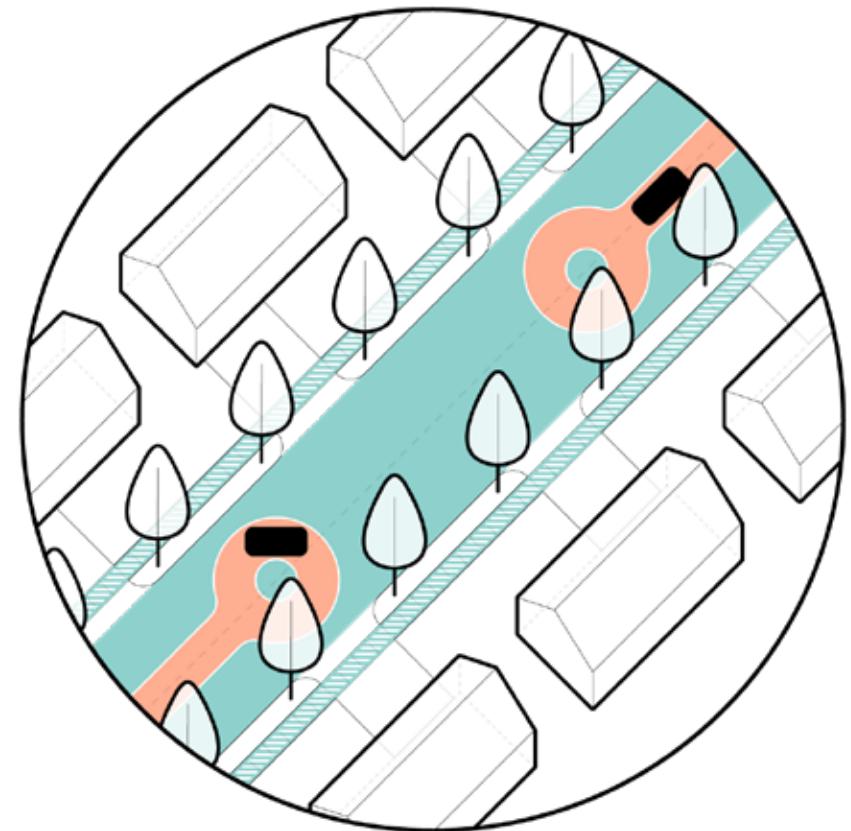
One-Way

A single travel lane runs down the center of the roadway. Frequent pull-outs replace parking strips and driveways and allow vehicles to pass each other during heavy traffic.



Meander

A single travel lane zig-zags between widened zones (up to 75% roadway width) of reclaimed street space, using former driveway aprons as accessible pull-outs.

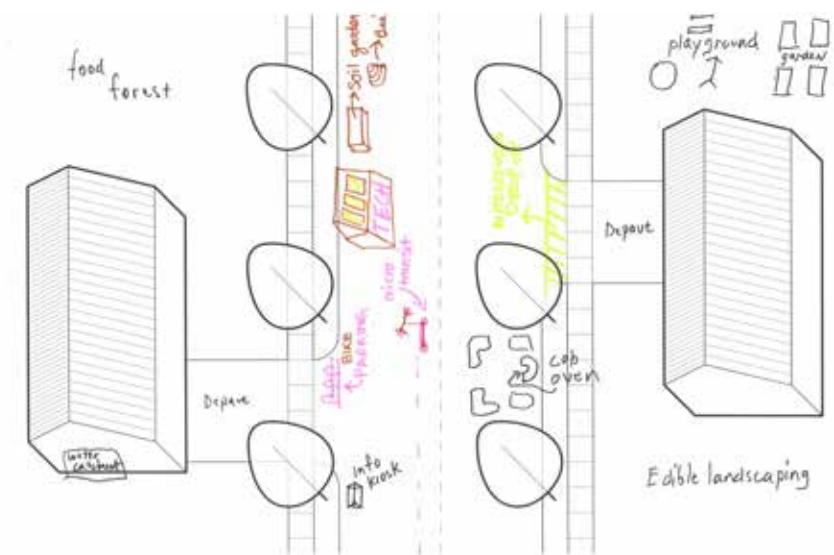
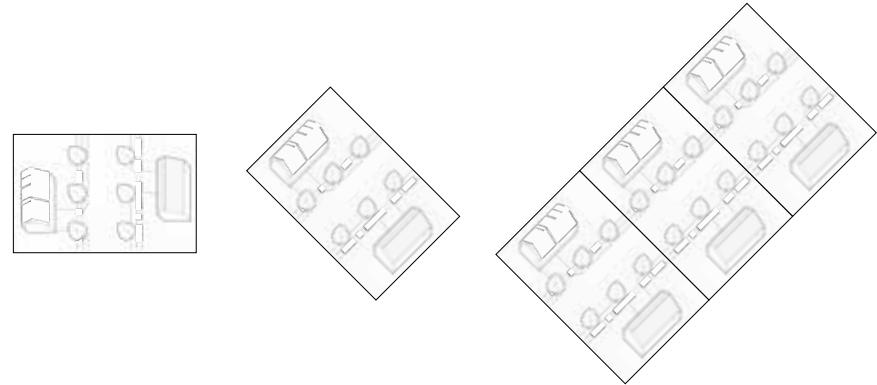


Turnaround

Access is limited to either end of the street, creating a safe, car-free zone in the center of the neighborhood. This solution maximizes open space.

Tactical Suburbanism Workshop

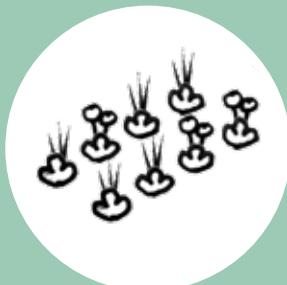
To begin exploring a tactical design manual for the suburbs, I hosted a design workshop on April 10, 2019 at the 25th HOPES Conference at the University of Oregon in Eugene, Oregon. About 30 participants were tasked with generating proposals for suburban tactical interventions. Participants first designed individual tactical interventions for a single private property and its adjacent section of public right-of-way. They then formed teams and worked together to assemble their individual tactics into multiple streetwide combinations.





Vegetable Gardens

Many homeowners forgo charming landscape aesthetics in order to grow food where they have the space, starting in the backyard and expanding out front—wherever there is sun and soil.



Potted Plants

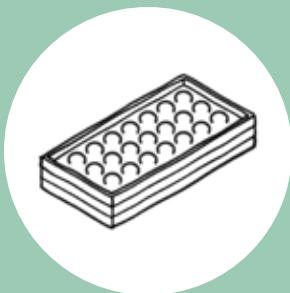
A quick and beautiful way to define space and mark boundaries, such as between traffic and bike lanes or sidewalks.





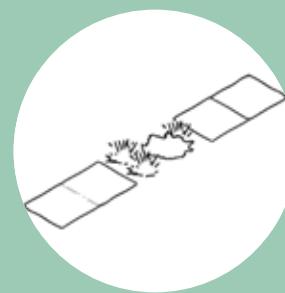
Raised Garden Bed

Allows planting in areas without soil. Usually placed at the edges of patios or driveways, they may soon cover sidewalks and parking strips as homeowners expand their gardens into the street.



Pavement Removal

Homeowners will likely remove their driveways and sidewalks completely, but the roadbed may simply be cracked here and there to reduce stormwater runoff and allow pioneer species to sprout and begin building soil.





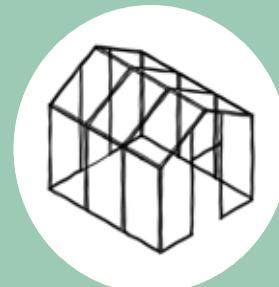
Chicken Coop

Chickens and other small kinds of livestock have become popular in many suburban neighborhoods, but are typically kept in back yards. Now they come to the front yard, free to roam around the block.



Greenhouse

Many avid gardeners want to get a head start on the spring growing season. With more and more gardening space available in driveways, sidewalks, and the roadway itself, greenhouses will naturally appear in the street to support multiple private and community gardens.





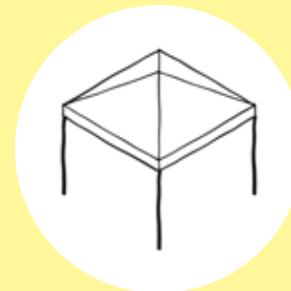
Tables & Chairs

Benches are usually found in secluded places for enjoying scenery, reading books, or small conversations. Tables & Chairs are commonly found on back decks and patios. Sometimes present on larger front porches. Move into front yard for social gatherings like birthday parties and potlucks.



Portable Canopy

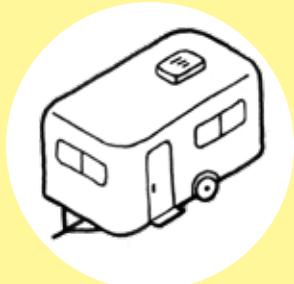
Provides shelter from the sun and rain. Usually paired with Table & Chairs. Common at community farmers markets, back yards, and neighborhood barbeques.





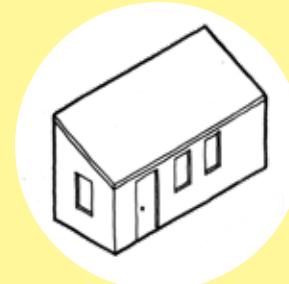
Recreational Vehicle (RV)

RVs bring the comforts of home on vacations and road trips, but also provide extra space at home for visiting friends and family. Usually parked in driveways or parking strips to provide easy access for towing. They may come and go frequently, being used for family vacations.



Tiny House

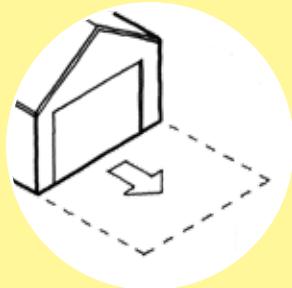
Tiny homes are frequently used as extra bedrooms or standalone apartments. They are found in back yards and driveways. While technically mobile, they tend to stay put for extended periods of time. In the street, tiny homes may colonize parking strips or cluster around shared courtyards.





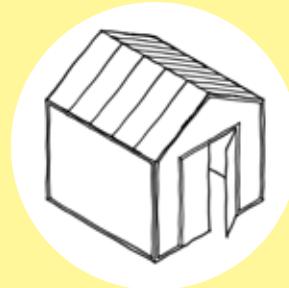
Garage Remodel

Garages typically store cars as well as home equipment like bicycles and recycling bins. Sometimes homeowners adapt these spaces into personal gyms, extra bedrooms, or entire apartments. In the future, garages may be expanded over unused driveways to provide additional living space.



Storage Shed

A sheltered and secure place for garden tools, bicycles, play equipment, and other knick-knacks. Sheds are usually found in the backyard, but they may also support community gardens and recreation areas in the street.





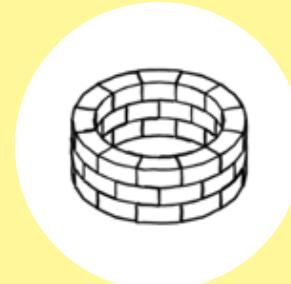
Portable Toilets

Often seen at festivals and public events, Portable Toilets serve large groups of people when restrooms are scarce or unavailable. In neighborhoods, they tend to appear in driveways to support general contractors working lengthy projects like home remodels and new construction.



Fire Rings

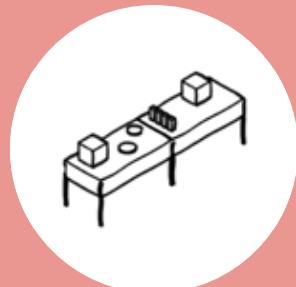
People come together around fires for quiet evenings and friendly gatherings in private back yards as well as public beaches, campgrounds, restaurant patios and beer gardens. A fire can also transform an empty driveway into a neighborhood gathering spot.





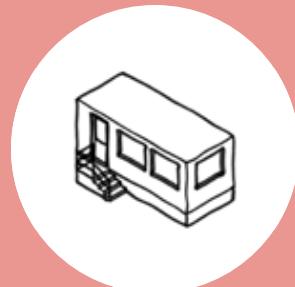
Yard Sales

Residents sell their excess and used belongings to neighbors and passersby from their front lawns, garages, and driveways. Sometimes multiple neighbors coordinate to host their individual sales on the same day—temporarily transforming their street into a flea market.



Mobile Offices

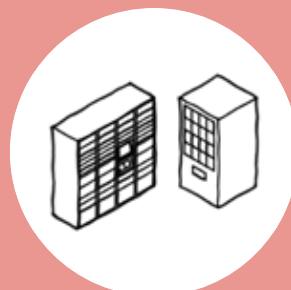
May be managed by a co-working company, such as WeWork. Can be stacked and expanded through modules. Creates a pop-up co-working campus. Supported by food trucks and increased density brought by tiny houses.





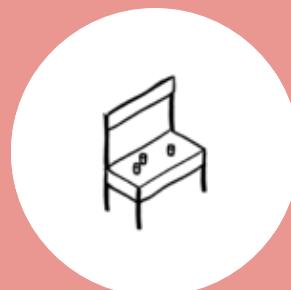
Service & Delivery Kiosks

Appearing beside vending machines, Redbox movie rentals and Amazon Lockers are at grocery stores and bodegas.



Lemonade Stand

Many children, free from school in the summer, learn to operate their first business and manage money through the long tradition of curbside lemonade selling.

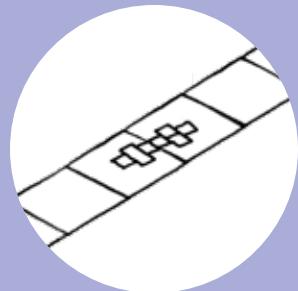




Chalk Drawing

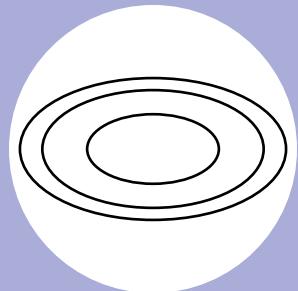
Common use of concrete by children. Typically located in driveways and sidewalks, safe from traffic.

Can create games, such as hopscotch.



Street Painting

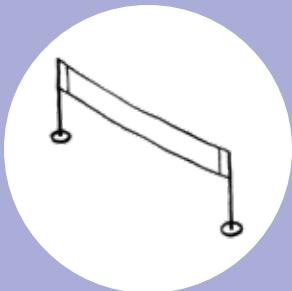
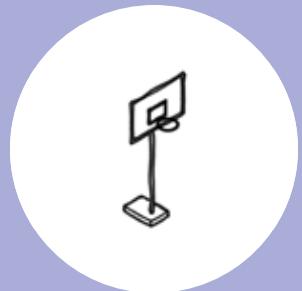
Placemaking and traffic calming tactic. Expresses unique personality of neighborhood. Brings attention to the intersection and causes drivers to slow down. CityRepair has pioneered street painting with several neighborhoods throughout Portland, Oregon.





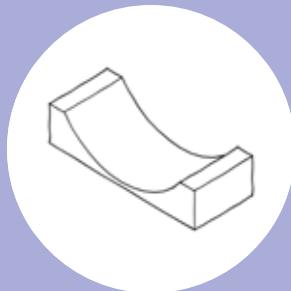
Street Games

Many kinds of game equipment appear in streets during the day and return to storage at night. An informal basketball court made by two hoops and painted lines still allows traffic to pass through when needed. Games with nets can take up one side of the street.

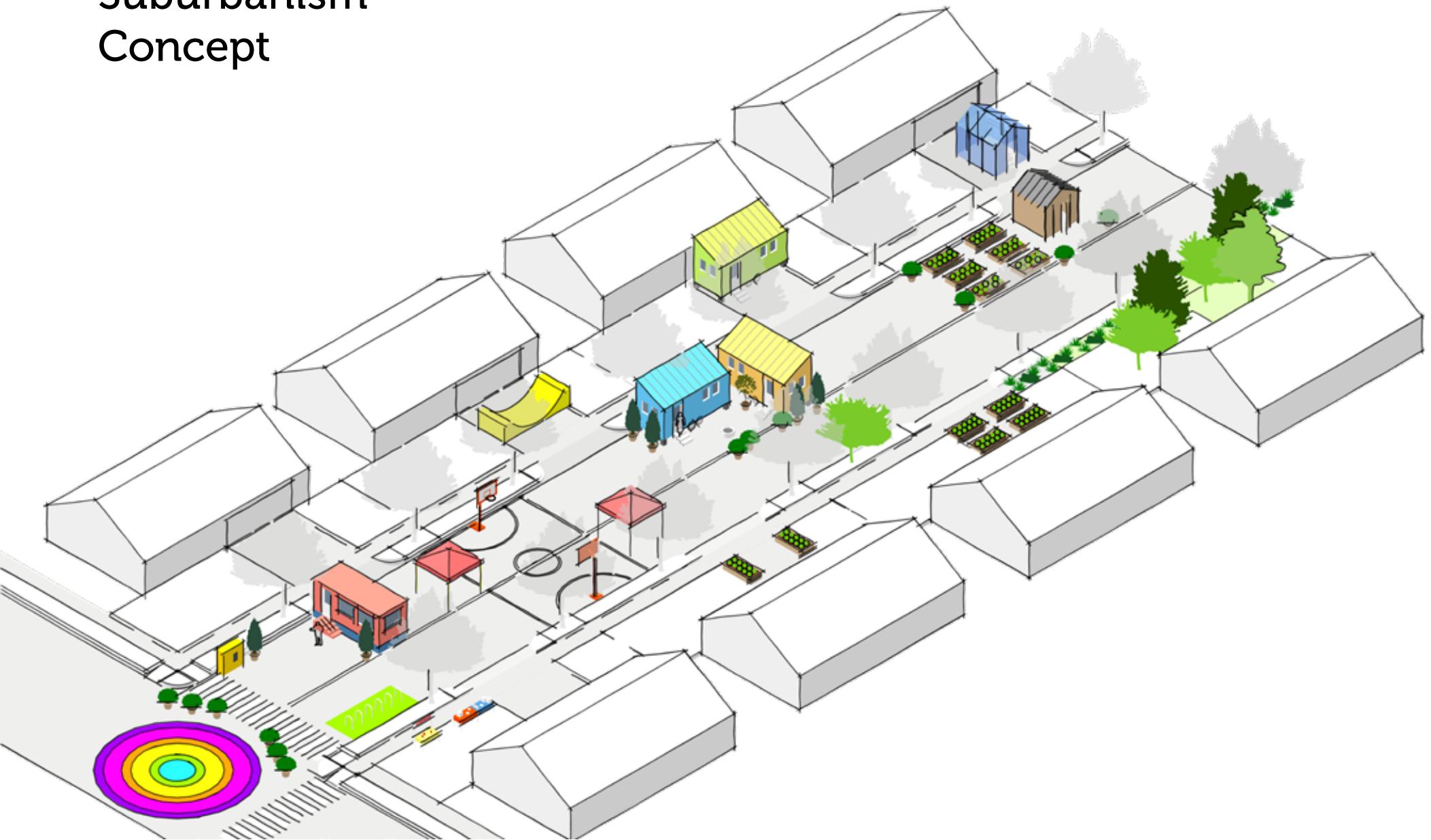


Skateboarding

Temporary skate ramps and rails will stay put in the street and be joined by large half-pipes, forming a pop-up skatepark.



A Tactical Suburbanism Concept



Gardening in the Street

Suburbs generally have plenty of yard space, but many avid gardeners want even more, and with all this unused concrete sitting around, they'll find a way to grow something on it. First, potted plants and raised beds colonize empty driveways and parking lanes. Some neighbors may remove their driveways completely, and as people take to walking in the street again, portions of sidewalk may come out as well—making way for expanded front yards and gardens. The street appears to shrink as the yards close in from both sides. Next, tools and materials find their place in the street. A shared garden shed next to the community garden. A pile of mulch delivered by truck. Chicken coops appear beside beehives to produce eggs and honey for neighbors.

Playing in the Street

The basketball hoop is paired with another across the street, creating a full court that occasional traffic can pass through. Benches are added to former parking lanes, and each team's seating area is marked planters or traffic cones. When the games begin to draw a crowd, the benches are upgraded to small bleachers. Skateboarders erect ramps, boxes, rails, and half-pipes up and down the street.

Living in the Street

It's common to see an RV parked in a driveway. Now neighbors have begun adding tiny homes by the sidewalk, either for extended family or for renting to others. Here and there, some have clustered to create small courtyards with picnic tables a gazebo from Home Depot. The population of the street swells as old parking spots are colonized by people and public space.

Working in the Street

Additional housing increases population density, and small businesses pop-up to serve people's needs. The classic children's lemonade stand is joined by a food truck which is soon followed by a beer and wine vendor. Picnic tables and awnings form a small plaza where the street's various vegetable gardens supply a neighborhood market. Other activities typical of this scene also appear: musicians, jewelry and craftspeople, street performers. Additional business comes to the street. First, telecommuting residents begin offering services from their front door. A co-working company manages a few mobile shared offices. Even the potter from the neighborhood market sets up a small studio



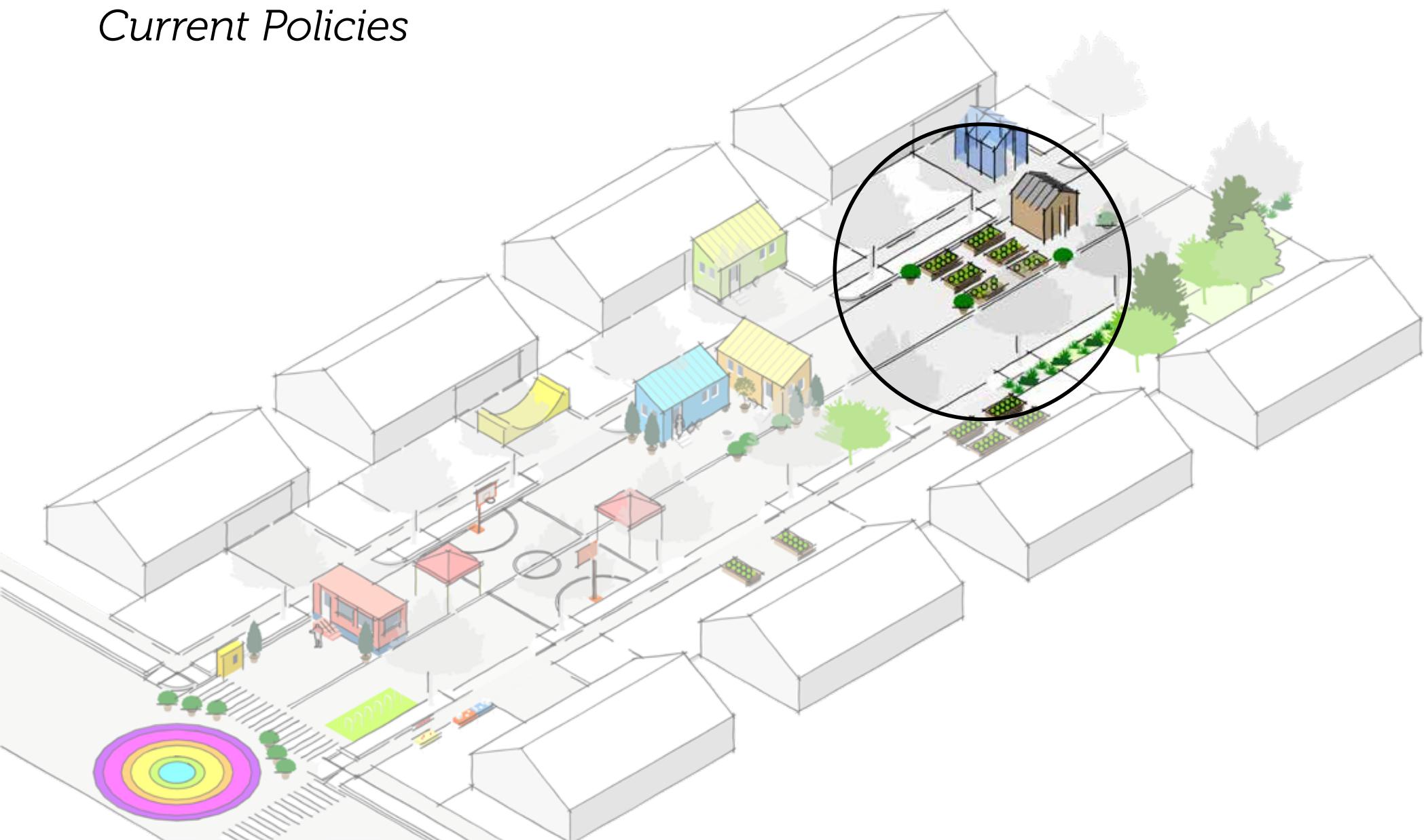
Policy & Implementation

Many tactics will thrive in existing policy framework without special permits. Some will require special permits. Others will require extensive public participation. Thankfully, each of these processes has been explored by other municipalities. The City of Portland's Bureau of Transportation launched the Portland In The Streets Program to encourage residents to "activate public spaces (streets, sidewalks, under-utilized spaces) for small and large community gatherings." In 2017, this experimental program became formalized with the adoption of the Livable Streets Strategy in order to "oversee the implementation of all placemaking and community use projects in the public right-of-way." While not specifically intended for suburban streets, Portland's programs offer ample case studies for how Tactical Suburbanism might unfold.



Policy & Implementation

Current Policies



Current Policies

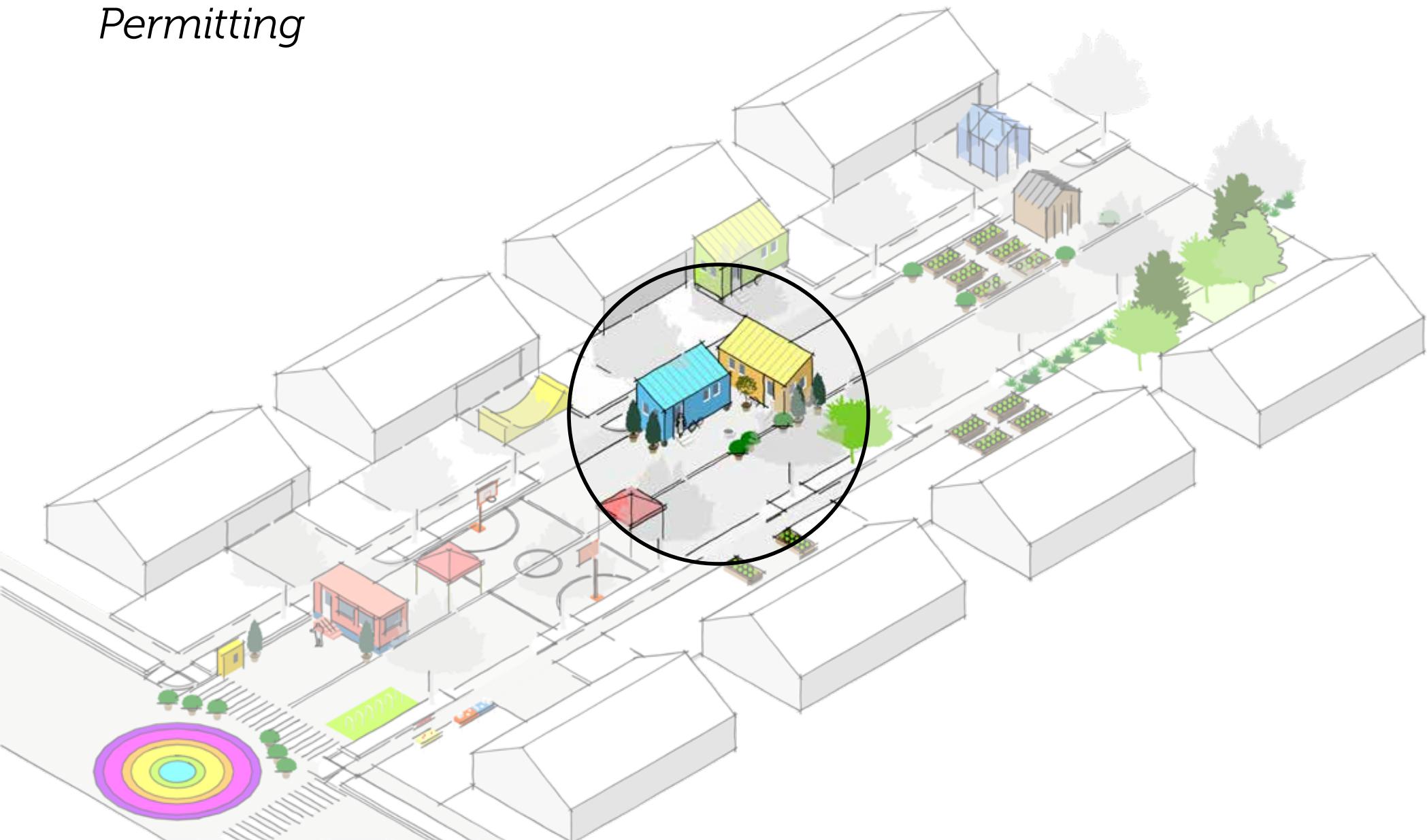
As discussed previously, property owners already maintain control of the portion of the ROW in front of their home, for uses of parking, waste collection, and storage. These existing uses can simply be replaced by many of the newer tactics, without seeking permission from local government.

Certain benign tactics such as raised garden beds could be permitted outright. Such as the condition with parklets in Portland's downtown. Any business owner is allowed to build a parklet in their parking spot. Similarly, any homeowner who wants a raised bed can build as many as they can fit in front of their house. In fact, by reducing stormwater runoff, the city may even encourage these kinds of tactics or offer to pay for them.



Policy & Implementation

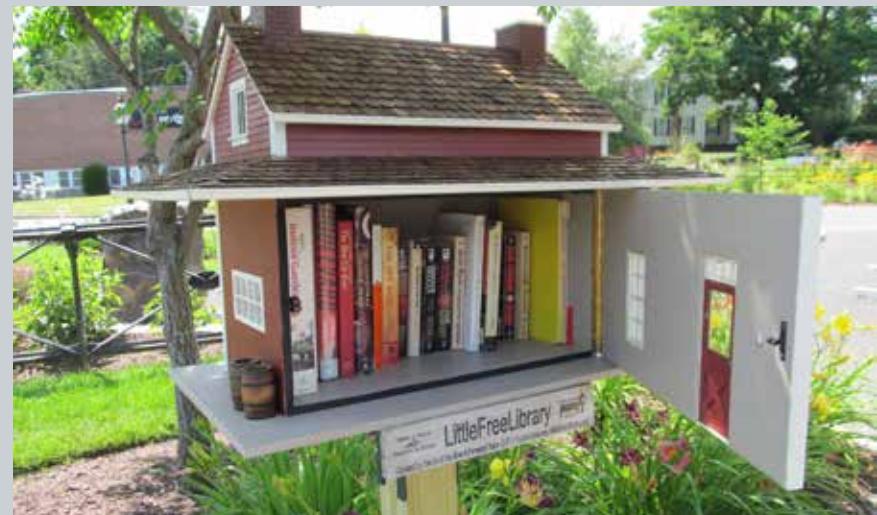
Permitting



Permiting

Other tactics may have uncertain consequences, and should be restricted to a limited quantity. Such is the case with tiny lending library, in Portland. Which are limited to two per street. First come first served.

This would be a suitable policy for tiny homes for example. Most people might not object to having a couple new neighbors on their street, but anything more would require their input.



Policy & Implementation

Neighborhood Involvement



Neighborhood Involvement

Large-scale tactics that affect traffic require permission from surrounding neighbors. For example, intersection repair projects in Portland require approval of the homeowners in a two-block radius. This is a way of making sure that these changes are something that everyone wants.



Conclusion

Tactical Suburbanism

"Dialing back the space we allocate in cities for moving and storing private automobiles, which is inevitably going to happen, is going to unlock a whole lot of space and opportunity in these things we call streets today."

—John Bela, REBAR

In light of contemporary budget crises, large-scale adaption of social space will be driven not by large scale city plans and public works projects but by the collective efforts of ordinary people. Tactical urbanism provides the tools for residents to adapt the streets themselves and create new forms of social space tailored to their own needs.

Following the decline of personal automobile ownership in the suburbs, many forms of existing transportation infrastructure, such as driveways, sidewalks, parking

strips, and roadways will either become obsolete, or drastically change their functions. In either case, the need to adapt this infrastructure can be effectively met by a variety of existing and novel tactical interventions.

These, tactical interventions are no longer unsanctioned "guerilla" activities for "hacking" public space, but a legitimate method for urban design. They signal unmet social needs that have been overlooked by traditional planning strategies, and by demonstrating potential solutions they also reveal new possibilities for urban social space. For planners, tactical urban design can be used to complement traditional land-use codes and contemporary form-based codes to manage urban development. For designers, tactics are a way of testing and demonstrating design solutions to clients and stakeholders to raise funding and support. Finally, tactics allow ordinary people to improve the urban environment for themselves and others.

References

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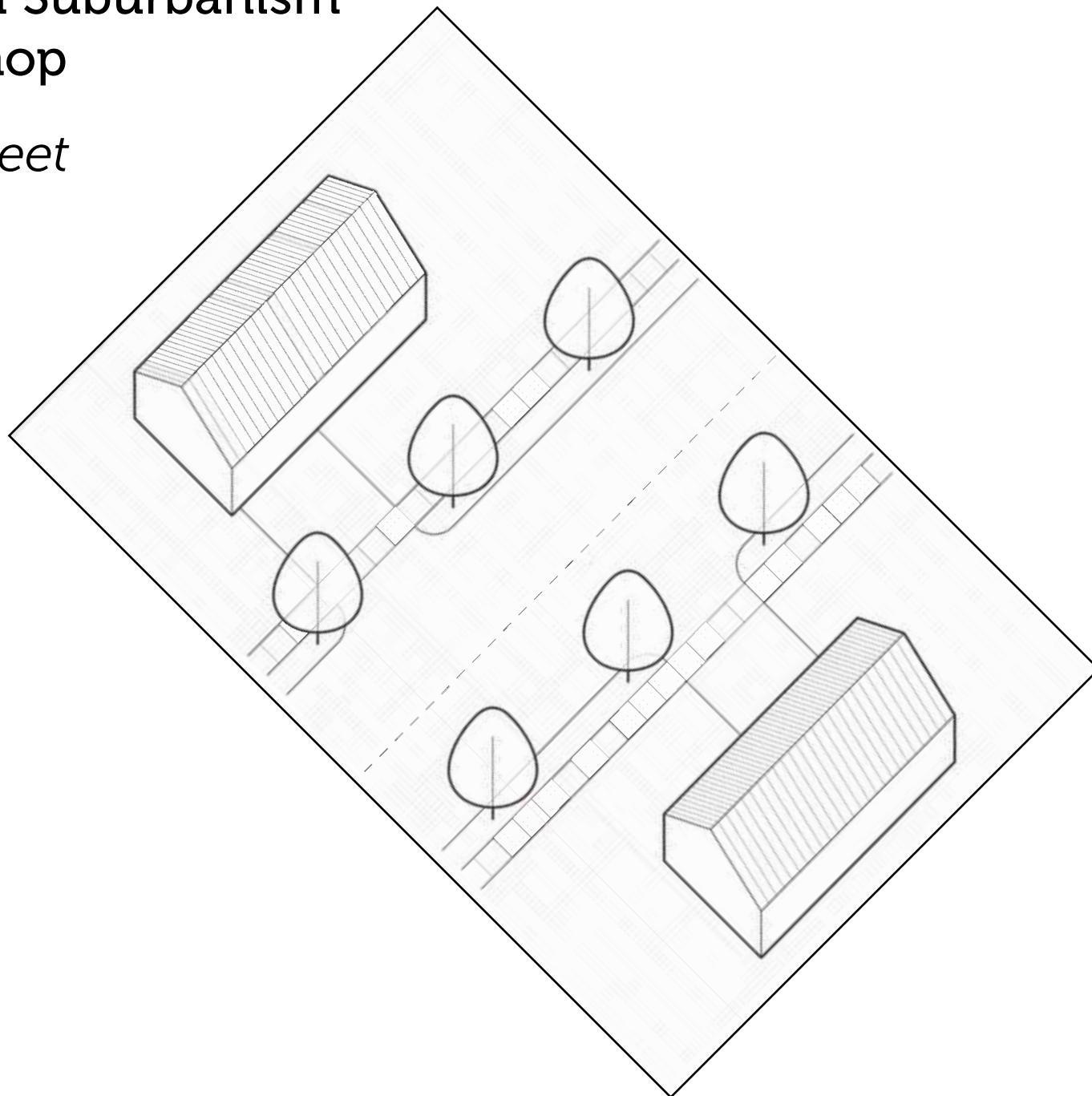
RethinkX. Rethinking Transportation 2020–2030. 2017.

Appendix

Visions for suburban social space from participants of the
Tactical Suburbanism workshop.

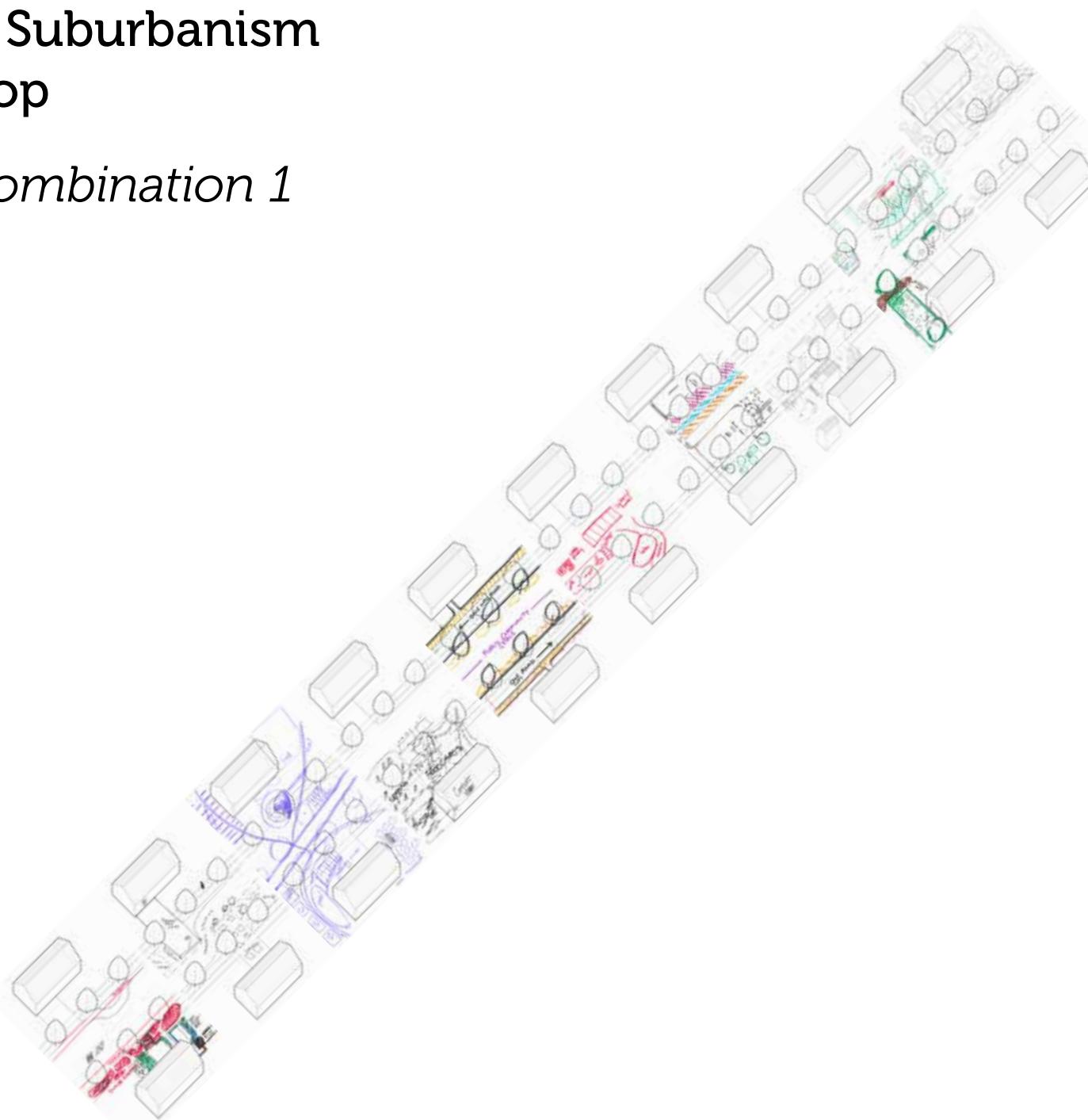
Tactical Suburbanism Workshop

Worksheet



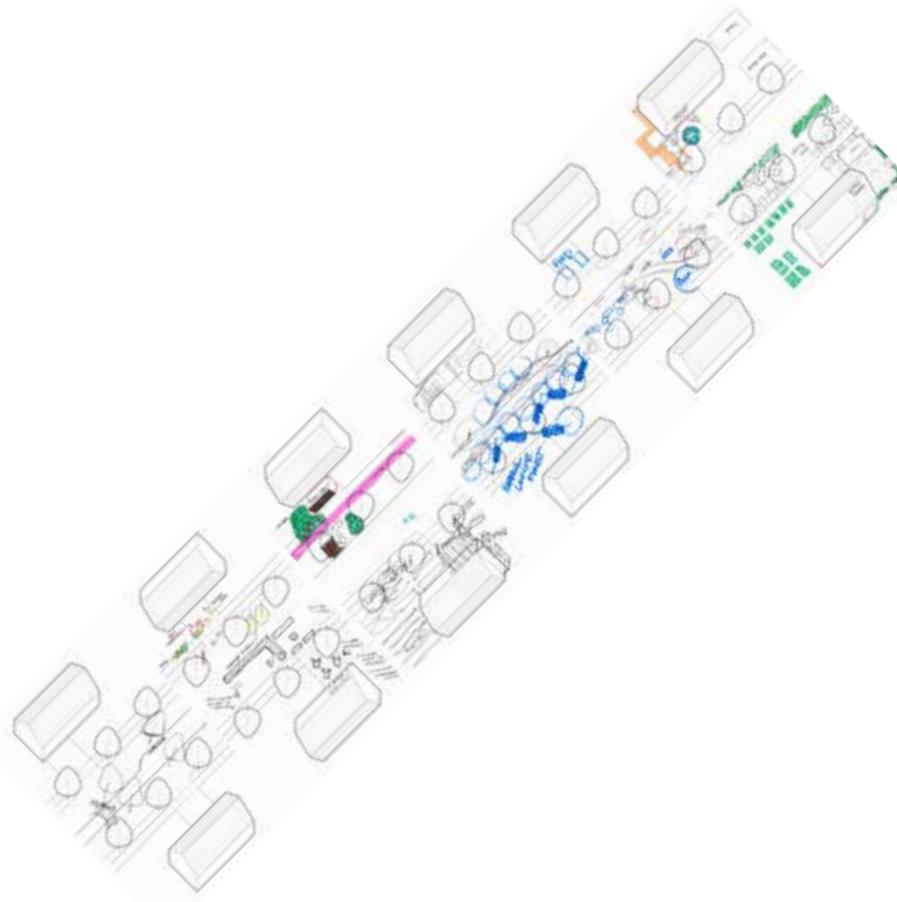
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Street Combination 1



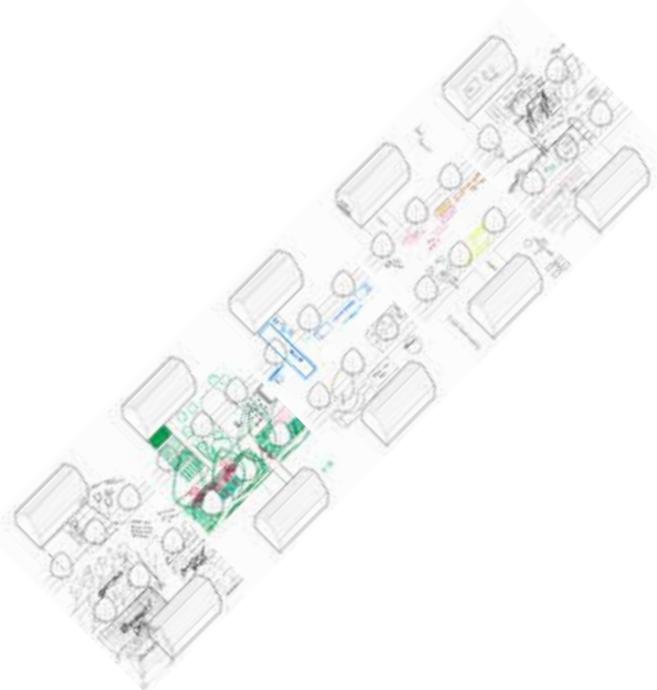
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Street Combination 2



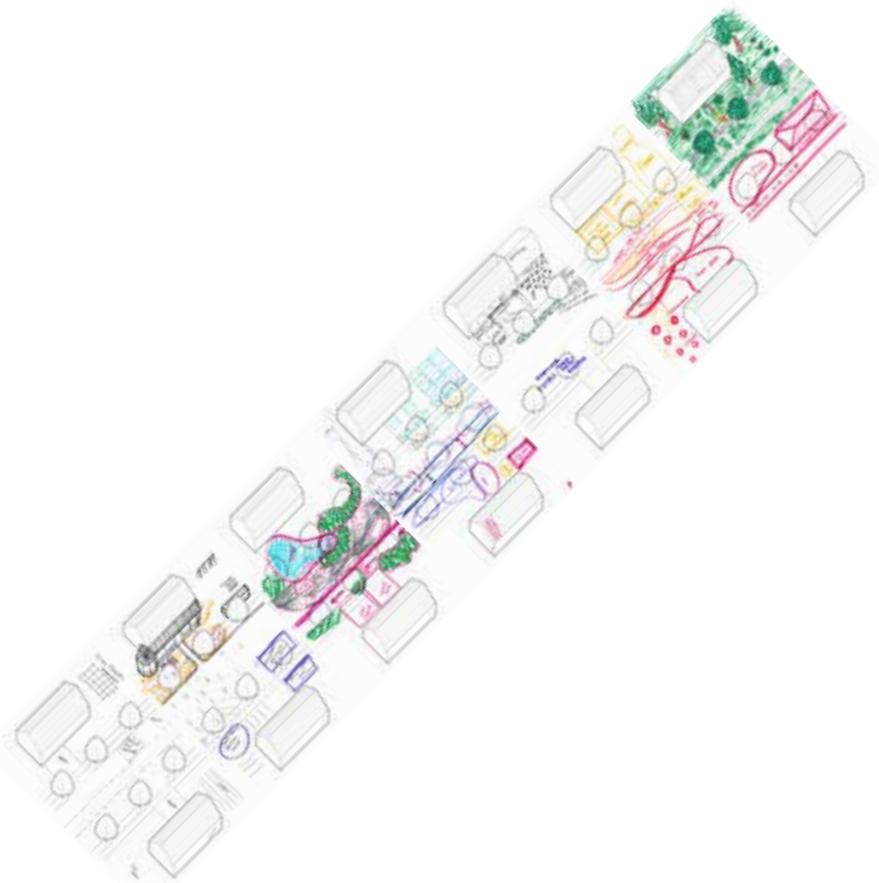
Tactical Suburbanism Workshop

Street Combination 3



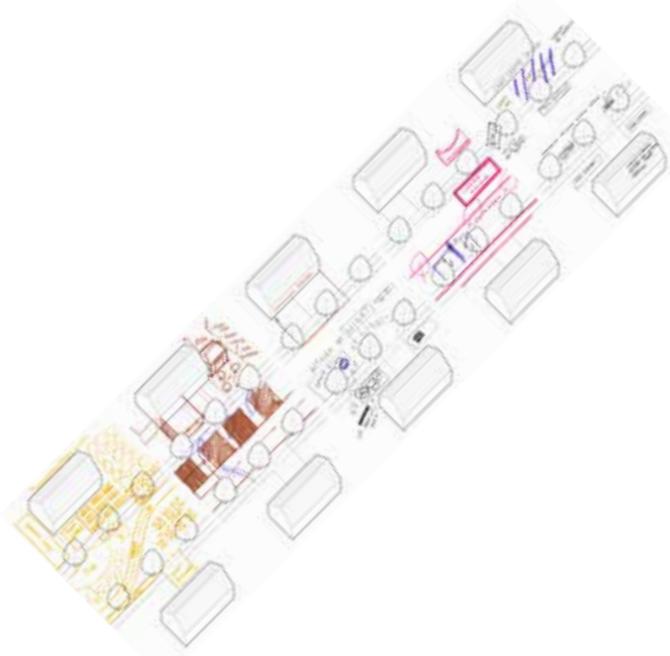
Tactical Suburbanism Workshop

Street Combination 4



Tactical Suburbanism Workshop

Street Combination 5



Tactical Suburbanism Workshop

Street Combination 6



