Writing a new zoning code is time-consuming, politically fraught with landmines, and in most places, unlikely to happen. But many zoning codes can be adapted to allow Lean Urbanism and improve or create walkable, livable environments, with a limited number of strategic revisions. This tool outlines a Lean process that non-experts can use to revise their codes for incremental code reform.
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“If we have learned nothing else from the 20th century, we should at least have grasped that the more perfect the answer, the more terrifying its consequences. Incremental improvements upon unsatisfactory circumstances are the best that we can hope for, and probably all we should seek.”

~ Tony Judt

The focus of this tool is on the small number of issues that are most important over a variety of contexts while overcoming multiple barriers to redevelopment. It begins with a series of decision points that help the reader select the best strategies for incremental code reform.

1. Does your comprehensive plan support infill and walkable urban places?

   YES  PROCEED

   No  SEE LEAN COMPREHENSIVE PLAN TOOL

2. Are there political support, community buy-in, and staff capacity in place to implement significant Lean code reform? This system tags strategies as:

   S  M  L  XL

   Minimal political support + staff capacity  Significant political support + staff capacity
   Moderate political support + staff capacity
The tool also organizes changes by urban context.

There are different requirements for areas trying to incentivize urban infill and adaptive reuse versus those hoping to implement sprawl repair. Some strategies are appropriate for both situations. All strategies are tagged with the icon for the relevant context:

[Ui] Urban Infill

[Sr] Sprawl Repair

Finally, each strategy identifies the barrier that it is responding to:

- Financial Barrier
- Regulatory Barrier
- Walkability Barrier
1.0 PROCEDURAL STRATEGIES

Regulatory procedures are the single greatest barrier to Lean Urbanism and code reform. This section focuses on changes that will most effectively implement Lean Urbanism + walkability at the process level.
1.1 Adjust regulations for nonconforming buildings and uses.

BARRIER

CAPACITY

CONTEXT

[SITUATIONS:

Standards for nonconforming buildings or uses can be unnecessarily burdensome.

STRATEGIES:

Rewrite the nonconforming section of the zoning code to remain strict on nuisances but more lenient on improvements and adaptive re-use.

DISCUSSION:

When zoning regulations or districts are changed, existing buildings may not meet the new standards. Most codes don't require immediate changes for those buildings, but over time their new nonconforming status becomes a burden. These buildings often cannot be expanded or their uses cannot be changed without coming into full compliance with the new standards. In other cases, expansions are limited to an arbitrary dollar amount or percentage of value.

Existing buildings are an important resource to any community. Zoning regulations that govern 'nonconformities' often do unwitting damage to this resource. These regulations should be written to minimize the effects of nonconformity except where buildings or their uses are offensive or true nuisances. Simple strategies include increasing the amount of allowable improvements to nonconforming buildings and providing clear criteria that authorize further improvements if they would bring buildings closer into compliance.
1.2 City Provided Design Assistance

**BARRIER**

**CAPACITY**

**CONTEXT**

[SITUATIONS:
- Regulations may not explain the City’s goals for new buildings.
- The application process is complicated for applicants.

**STRATEGIES:**
- Trained staff or an on-call urban designer could assist applicants in understanding how the City’s code and vision could apply to their property.
- Applicants who use these services could be rewarded with expedited permitting.

**DISCUSSION:**
A City’s goals are often not apparent from reading detailed code documents. Infill and redevelopment can be complicated. Where these are important priorities, a City can provide formal or informal design services. Developers who use these services may qualify for expedited processing of their applications. Reducing missteps can save time and money for all parties while assisting in the realization of the municipality’s vision.
1.3 Improve Review Process

**BARRIER**

**CAPACITY**

**CONTEXT**

**SITUATIONS:**
- There is no inter-departmental review process.
- Review process is not described graphically.

**STRATEGIES:**
- Establish a cross-departmental review process.
- Provide a graphic representation of the application review process including submittals, departments, review periods, fees, and approval process.

**DISCUSSION:**
Many cities put applicants in awkward positions when different departments have separate review processes. Sometimes city departments disagree on an application; in other cases, one department may not review applications on a timely basis. Cross-departmental review committees can resolve these problems. Applicants should not be expected to mediate interdepartmental disputes or face unnecessary delays after submitting applications.

Application review processes are often complicated and unclear. Complicated processes are a burden to applicants who must invest additional time and money into the review process rather than in the development project.

1.4 Adopt the International Existing Building Code [IEBC]

**BARRIER**

**CAPACITY**

**CONTEXT**

**SITUATIONS:**
- Older buildings can become a liability rather than an asset when building codes designed for new construction are retroactively applied to renovations of older buildings.

**STRATEGIES:**
- Adopt the International Existing Building Code (IEBC).
- Amend the IEBC to reduce barrier when changing uses.

**DISCUSSION:**
When renovating existing buildings, requirements of the International Building Code often cause unnecessary financial barriers because of code requirements that cannot physically be met. To address the special needs of older (but not necessarily truly historic) buildings, the
International Existing Building Code can be adopted. This simple option is often overlooked even in communities that need it the most.

During the adoption process, cities can adjust the definition of buildings of historic value to address their own situation. For instance, if adaptive reuse of mid-century buildings is desired, buildings of historic value could include all structures built prior to 1970.

Adjustments can also be made to ease changes in use; adaptive re-use is often the saving grace for older buildings.

REFERENCES:
- City of Phoenix Adaptive Reuse Code: [https://www.phoenix.gov/pddsite/Pages/pddarp.aspx](https://www.phoenix.gov/pddsite/Pages/pddarp.aspx)
1.5 Right-Size Application Fees

SITUATIONS:
- Application fees are separated by department, trade, or other means that do not provide a single fee.
- Fees do not vary by project size.

STRATEGIES:
- Combine all department-specific fees into a single fee per application.
- Scale application fees by project size.

DISCUSSION:
Application review and permitting fees should be clear and easily accessible, however they are often difficult to find and obscure in their organization. All fees should be made available in a single location that is well organized and publicly accessible. Where possible, fees should be flat and common fees should be combined. Fees should be adjusted to reflect the policies of the community. If infill and suburban retrofit is a priority, fees in those environments should be less.
1.6 Clear and objective standards

**BARRIER**

**CAPACITY**

**CONTEXT**

[SITUATIONS:
- Code provisions are written in paragraph format.
- Details of code provisions are not listed in numeric or bulleted lists.
- Multiple regulations are combined in complex requirements.
- Regulations and guidelines are mixed in regulatory documents.
- Regulations require judgment from municipal officials.

**STRATEGIES:**
- Consider following Federal Plain Language Guidelines in re-writing regulatory documents.
- Rewrite regulations based upon objective criteria.

**DISCUSSION:**
Complex and obscure regulations narrow the field of developers to those very familiar with the local process and code. Applicants unfamiliar with the codes are unable to easily determine what can be built without spending time and money interpreting difficult code language. Similarly, subjective standards make the development process unclear and unpredictable.

Achieving clear and objective standards may be difficult in places where power is derived through obscurity and subjective judgment. However these discretionary decisions stifle development and perpetuate the current condition.

**REFERENCES:**
1.7 Eliminate subjectivity in design review guidelines

**BARRIER**

**CAPACITY**

**CONTEXT**

[Ui] [Sr]

**SITUATIONS:**
- Applicants are subject to zoning and development regulations as well as design guidelines addressing style, specific site conditions, and other conditions not directly regulated by zoning.

**STRATEGIES:**
- Eliminate subjectivity in design review guidelines. While design guidelines may be appropriate in some situations, such as historic districts, the requirements should be clear and objective.

**DISCUSSION:**
Because state enabling legislation limits municipal power in zoning, many places rely upon guidelines as part of design review processes. Due to the discretionary nature of most guidelines, they tend to create an unpredictable development environment. Complexity and unpredictability are major burdens and limit the development community to those players who have experience in the system and political connections. Any requirements should be clear, concise, and not exposed to negotiation.
1.8 Lot splits | small subdivisions

BARRIER

CAPACITY

CONTEXT

[Sr] [Ui]

SITUATIONS:
- State legislation permits abbreviated processes for small subdivisions but the City’s subdivision processes do not provide an abbreviated path.

STRATEGIES:
- Amend subdivision regulations to provide an abbreviated subdivision process in coordination with state legislation.

DISCUSSION:
Some state legislation permits the subdivision of small properties or a limited number of lots through an abbreviated process. Where this is available, the process should be included in municipal subdivision ordinances and those ordinances simplified for urban conditions.
1.9 Walkable mixed-use district subdivision standards

**BARRIER**

**CAPACITY**

**CONTEXT**

[Ui]  [Sr]

**SITUATIONS:**
- Subdivision regulations do not differentiate between suburban districts and rural, urban or mixed-use districts.

**STRATEGIES:**
- Create a separate set of subdivision requirements for compact, walkable zoning districts.

**DISCUSSION:**
Subdivision requirements often introduce unintended complications in compact, walkable conditions because they are written for suburban contexts. When subdividing property in mixed-use districts, applicants may be confronted with suburban street requirements, utility requirements, buffering, and other inappropriate standards.

1.10 Set development thresholds

**BARRIER**

**CAPACITY**

**CONTEXT**

[Ui]

**SITUATIONS:**
- Development and redevelopment is subject to one set of standards regardless of scale or scope.

**STRATEGIES:**
- Provide relief for small-scale redevelopment and adaptive reuse.

**DISCUSSION:**
Regulations tend to be oriented toward new development on large sites, not reuse and small site development. Standards are setup primarily for the impacts of large development. Thresholds of development should be established to clarify which standards apply to small lots and which apply to large developments.

Determine minimum thresholds where expensive standards may be set aside, for example adaptive reuse conditions may be permitted by right. This strategy requires inter-departmental coordination for determination of threshold standards and adjustments.

Thresholds are a central theme of Lean Urbanism. One-size-fits-all standards disadvantage small projects because they must account for
the largest possible impact and subject all to those standards.

REFERENCES:
- Tigard Triangle Lean Code: http://www.tigard-or.gov/tigard_triangle.php#leanCode

1.11 By-right standards

BARRIER

CAPACITY

CONTEXT

[Sr] [Ui]

SITUATIONS:
- Planning boards and elected officials comment on and negotiate over by-right standards with applicants.

STRATEGIES:
- Develop criteria for clear and objective by-right standards with levels of required review.

DISCUSSION:
There’s an assumption in many local governments that by-right development still has a certain amount of discretion and the administrative procedures can be a challenge. Develop by-right thresholds that include:
NO APPROVAL REQUIRED: Very small projects such as interior changes, changes in use within the same category, and small, unheated projects like decks that are well within the permitted setbacks and lot coverage.

BUILDING PERMIT ONLY: No zoning review required, if in compliance with all lot requirements.

ADMINISTRATIVE REVIEW: Staff review required if application is within 5% [locally calibrated] of the by-right lot standards.

1.12 Revise impact fees
[system development charges]

BARRIER

CAPACITY
XL

CONTEXT
[Ui] [Sr]

DISCUSSION:
In most jurisdictions impact fees are based upon a suburban model with a perpetual growth scenario. Many systems are tied to numbers of residential units, and greatly disincentivize high-density development. Impact fees should be realigned to reflect location and transit access.

REFERENCES:
http://www.scholarsstrategynetwork.org/sites/default/files/ssn_basic_facts_trospere and burge on mitigating urban sprawl1.pdf

2.0 URBAN FORM

This tool’s purpose is not to advocate for a form-based code, but rather to address the small steps that improve urban form. It can build local capacity that may result in more substantial code reform over time.
2.1 Do not require a minimum number of stories

**BARRIER**

- Single story structures will be redeveloped once there is sufficient market demand. Requiring multistory structures where there is not sufficient market demand burdens landowner and may restrict development.

**CAPACITY**

- Single story structures.

**CONTEXT**

- **[Ui]**, **[Sr]**

**SITUATIONS:**
- Zoning code requires a minimum number of stories for buildings in a zone. This is common with pre-recession form-based codes for main street environments.

**STRATEGIES:**
- Remove minimum stories for buildings.

**DISCUSSION:**
Many form-based codes and urban planners required height minimums to ensure walkability and street enclosure, particularly in a main street condition. While this is aspirational, it is no longer considered a best practice post-recession. Successional growth dictates that single story structures will be redeveloped once there is sufficient market demand. Requiring multistory structures where there is not sufficient market demand burdens landowner and may restrict development.
2.2 Front setback regulations

BARRIER

CAPACITY

CONTEXT

[Sr] [Ui]

SITUATIONS:
- Front setbacks often specify minimums only; on large parcels, buildings can be any distance from the street, encouraging parking lots in front of buildings
- In urban contexts, small front setbacks are sometimes permitted but setback ranges or maximums are not specified.

STRATEGIES:
- Amend front setback regulations to specify setback ranges instead just minimums.

DISCUSSION:
A minimum setback alone allows buildings to be unrelated to sidewalk and street activity. Setback ranges or maximum setbacks can ensure interaction between sidewalks and ground floor uses.

Especially in walkable neighborhoods, buildings should be close to sidewalks to provide a relatively consistent street enclosure. This is especially important for mixed-use and commercial buildings. In walkable urban contexts, maximum front setbacks are often 12’ (not applying to forecourts or
terrace), but local observations should be used to set regionally appropriate maximums.

Even in non-pedestrian areas, maximum setbacks ensure that buildings have at least minimal relations with street activity.

2.3 Parking lot location matters

BARRIER

CAPACITY

CONTEXT

[SITuations:
- Parking lots routinely separate buildings from sidewalks and streets.

STRAtegies:
- Establish parking location criteria that prohibit large parking lots between urban buildings and the street, and limit parking between suburban buildings and the street.
- Where alleys do not exist, consider permitting parking at the side of building with a short wall or hedge to screen parked cars from the street.

DISCUSSION:
This is a critical strategy in suburban retrofit situations.
Many urban areas have borrowed suburban zoning codes that allow or even require large front setbacks; the result is often a parking lot between a new building and the street, even in historically, walkable neighborhoods.

In either case, these locational strategies are fairly simple to draft and implement.

2.4 Convert height restrictions to stories

**BARRIER**

**CAPACITY**

**CONTEXT**

[SITUATIONS:]
- Height is measured in feet

**STRATEGIES:**
- Regulate height in stories

**DISCUSSION:**
There are many reasons to convert height regulation from feet into stories, and most of them are environmental and economic. If the applicant is able to build taller ceilings and thus taller windows, they may effectively daylight spaces and increase natural ventilation. Taller ceilings also make spaces more desirable and easier to keep occupied.
When height is limited by feet, the developer will fit as much program into the envelope as possible, often resulting in lower ceilings. Additionally, the streetscape that results tends to be made up by buildings exactly as tall as the height limit, and therefore a consistent and flat facade that lacks variety.

Regulating height in terms of stories allows the developer to choose the story height according to market demands. Ground floor height may be permitted to be up to 20 feet for nonresidential uses and upper stories are permitted up to 14 feet, floor to ceiling. The structural and mechanical space should not be regulated as it varies by construction type and use.

2.5 Reform FAR

BARRIER

CAPACITY

CONTEXT [Ui] [Sr]

SITUATIONS:
- Building area is restricted by Floor Area Ratio.

STRATEGIES:
- **OPTION 1**: Remove FAR restrictions. Building area should be regulated by a combination of lot coverage, height, and setbacks.
- **OPTION 2**: Right-size FAR by studying the desired building mass per district.  
  - 2.A: Where FAR does not include structured parking in high-density districts, revise FAR to include the area of structures.

DISCUSSION:
Many zoning codes restrict the area of buildings according to Floor Area Ratio (FAR), which is related to the total area of a lot. For example, a FAR of 2.5 on a 10,000 sf lot permits a building with a total area of 25,000 sf. While this seems to make sense, there is no clear connection between the building area permitted and the desired character for the district. Often FAR restrictions are out of scale with district character, permitting far less building than could be accommodated. Because lot coverage, height, and setbacks are all regulated, building size is controlled without the unnecessary complication of FAR.

Because this issue can be contentious, a first step may be to reform FAR. In order to determine appropriate FAR for different districts, the lot coverage, setback, and height restrictions for the zone should be tested on a series of sites to determine the FAR associated with the desired character.

REFERENCES:
FAR was a contentious topic in the Miami21 process. The solution was to right-sized FAR by aligning it more closely with the height, setback, and lot coverage restrictions of real sites.
2.6 Implement a pedestrian/access street grid (A/B)

BARRIER

CAPACITY

CONTEXT [Ui]

SITUATIONS:
- All streets in an urban mixed-use district are held to a very high standard. This is more likely to occur in a form-based code because it prioritizes the design of frontages.

STRATEGIES:
- Regulate pedestrian and access streets with two sets of standards. Pedestrian streets, or the A-grid, have the highest walkability standards, and access streets, or the B-grid, are permitted to accommodate access, deliveries, larger vehicles, and less urban formats.
- B-grid regulations should:
  - Reduce frontage buildout requirements
  - Reduce, but not remove, glazing requirements
  - Permit parking at the frontage with a wall or hedge
  - Maintain the pedestrian street standard for the first 50’ of the access street to protect the quality of the intersection.
DISCUSSION:
Many codes that promote walkability and urban infill require a high standard for frontages along every street. This is critical for the success of the walkable environment, however, consideration must also be given for access, deliveries, garbage collection, etc. In infill situations and existing downtowns, block and lot sizes are often not coordinated with the reality of automobile access. Adding a grid of service, or access streets, alleviates the barrier of creating a high-quality streetscapes everywhere. New development doesn’t often require such a system because automobile and delivery access can be coordinated through the design of place. Where A-B grids are implemented, they provide for a targeted high-quality street network. Once this network has been achieved, the B-streets may be reconsidered.
Many site plan requirements limit the potential for lean, walkable development. This section will address both the most critical and the most attainable issues associated with site plan regulations.
mixed-use areas, main streets, and downtowns.

DISCUSSION:
Often lot size minimums are regulated according to the suburban context. Compact, walkable, mixed-use areas usually include a wide variety of lot sizes. Small lots are essential to variety and vibrancy in these areas.

The simplest solution is to eliminate lot size minimums altogether. This is not as controversial as it may seem. In absence of lot size minimums, a developer creating new lots is still subject to a series of constraints. Because resulting units must be marketable, a the following indirectly regulate minimum lot size:

- **MARKET**: building sizes, unit sizes, and tenant spaces must meet minimum marketable floor areas.
- **BUILDING CODE**: the building code includes minimum sizes for dwelling units, bedrooms, and other spaces.
- **HEIGHT AND SETBACKS**: building height and lot setbacks limit the extent of the building.
- **LOT COVERAGE**: lot coverage further restricts the building envelope beyond lot setbacks.

Another option is to right-size for the context. Townhouse lots may be as small as 1,000 square feet. Small lot single family often occupies lots of 3,000 - 4,500 square feet. Small mixed-use buildings may be as small as 3,000 square feet. This must be locally calibrated to the desired context.

### 3.1 Eliminate or right-size minimum lot size requirements

#### BARRIER

#### CAPACITY

#### CONTEXT

[SU] [Sr]

**SITUATIONS:**
- Minimum lot size requirements are regulated.
- Minimum lot size is greater than 1,500 square feet in mixed-use, mainstreet, or downtown areas.

**STRATEGIES:**
- **OPTION 1**: Eliminate minimum lot size requirements. The building code, lot coverage, and setbacks provide sufficient constraints to ensure lots are buildable.
- **OPTION 2**: Right-size minimum lot sizes
3.2 Eliminate buffer requirements in mixed-use districts

**BARRIER**

**CAPACITY**

**CONTEXT**

[Sr]

**SITUATIONS:**
- Buffer requirements exist between uses or lots in mixed-use districts.

**STRATEGIES:**
- Eliminate buffer requirements within mixed-use districts.

**DISCUSSION:**
Buffering between uses is carried over from conventional suburban development where each use category is tightly controlled and separated from others. While it may be necessary to buffer between mixed-use districts and areas remaining suburban in character, buffer requirements are not compatible within mixed-use areas. Mixed-use relies upon the direct adjacency of multiple uses, and buffering restricts these relationships.

There may be a need for transitions between intensities of mixed-use, but this is best handled through height and step backs rather than buffers.
3.3 Reform vehicular site access standards

BARRIER

CAPACITY

CONTEXT

SITUATIONS:
- Driveways may exceed 24 feet in width in mixed-use areas.
- Curb cuts are permitted more frequently than every 100 feet.

STRATEGIES:
- Limit the maximum width of driveways to 24 feet for two-way travel and 12 feet for one-way travel.
- Encourage off street parking areas to connect between properties and share access points.
- **OPTION 1**: Where alleys exist, restrict vehicular access to sites to alleys and side streets only.
- **OPTION 2**: Where alleys do not exist, restrict vehicular access to one point per site except where life safety requires separate ingress and egress.

DISCUSSION:
Excessive curb cuts increase the number of pedestrian and vehicle conflicts. Site access should be limited where possible. Each driveway and curb cut along a main street deteriorates walkability. Access and parking areas should be shared between lots, with access provided from side streets and alleys where they exist.
3.4 Regulate minimum connectivity standards

**BARRIER**

**CAPACITY**

**CONTEXT**

[Sr]

**SITUATIONS:**
- Existing blocks exceed 2,400 feet in perimeter length in areas identified for suburban retrofit.
- Gated subdivisions are permitted and common.

**STRATEGIES:**
- Restrict new blocks in mixed-use areas to a maximum of 2,400 feet in perimeter length.
- Add connectivity standards for new streets when large parcels, 3 acres or greater, are subdivided.
  - Where a large lot is redeveloped and the block it is within exceeds 2,000 feet in perimeter, require a new street and connections to adjacent parcels or streets.
- Regulate connections to adjacent properties, and streets. If the connection cannot be made, stub-outs should be provided for future connections.

**DISCUSSION:**
Small blocks are necessary for walkability. When suburban areas are retrofitted to walkable urban development, 600 feet is a common metric.
used as a maximum block length for walkable districts. Long blocks provide pedestrians and cyclists with fewer route choices, reducing overall walkability.

Adding streets can be difficult in retrofit situations, both from a right-of-way acquisition standpoint and funding. However if a district is in the process of redevelopment or is not yet redeveloping, right-of-way should be reserved or acquired early before acquisition becomes cost prohibitive.

### STRATEGIES:

**OPTION 1**: Identify locations where new streets may be added with the least impact on existing properties, resulting in blocks close to or less than 2,000 feet in perimeter length.

1. **A**: Acquire the right-of-way required for the new street and construct the street.
2. **B**: Map the right-of-way and require dedication from affected properties as they redevelop. Construct the street once the right-of-way is assembled.

**OPTION 2**: Add requirements for new streets within superblocks, 6 acres or greater.

**OPTION 3**: Where full streets cannot be added, mid-block pedestrian paths may be inserted to increase walkability.

### DISCUSSION:

In the urban context, 500 feet is a common metric used as a maximum block length for walkable districts, although 350 feet is closer to ideal. Where blocks consistently exceed 500 feet, they tend to perform poorly for ground floor commercial. Additionally, long blocks provide pedestrians and cyclists with fewer route choices, reducing overall walkability.

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**3.5 Regulate maximum block sizes**

**BARRIER**

**CAPACITY**

**CONTEXT**

**SITUATIONS:**

- Block size maximums are not regulated in urban areas.
- Existing blocks exceed 2,000 feet in perimeter length in areas identified for urban infill.

- Superblocks are permitted and vacation of street and alley right-of-way is possible.

**STRATEGIES:**

- **OPTION 1**: Identify locations where new streets may be added with the least impact on existing properties, resulting in blocks close to or less than 2,000 feet in perimeter length.
  - **1.A**: Acquire the right-of-way required for the new street and construct the street.
  - **1.B**: Map the right-of-way and require dedication from affected properties as they redevelop. Construct the street once the right-of-way is assembled.

- **OPTION 2**: Add requirements for new streets within superblocks, 6 acres or greater.

- **OPTION 3**: Where full streets cannot be added, mid-block pedestrian paths may be inserted to increase walkability.
4.0 PARKING STRATEGIES

Conventional parking standards create a tremendous economic burden to redevelopment while also single-handedly creating one of the greatest barriers to walkability in the 20th and 21st centuries.

4.1 Reduce parking stall and aisle sizes

**BARRIER**

**CAPACITY**

**CONTEXT**

[Ui] [Sr]

**SITUATIONS:**
- Minimum off-street parking aisle and stall sizes are larger than commonly accepted standards. For 90-degree parking, this is a total of 60 feet for a bay of two parking rows and a two-way aisle.
- On-street parking spaces are required to be larger than 7 feet wide and 22 feet long.

**STRATEGIES:**
- Revise the minimum off-street parking aisle and stall sizes to match commonly accepted minimum standards.
- Revise the minimum on-street parking space to 7 feet wide by 22 feet long.
DISCUSSION:

Efficient parking lot design provides more buildable area on a site. Where minimum off-street parking design standards require larger than normal stalls and aisles, building area or pervious surface is reduced. While eliminating minimum requirements is not likely in most municipalities, the dimensional requirements should be sized to reduce excessive impervious surface.

On-street parking is also often required to be larger than necessary. This results in wider and more expensive streets and may limit its availability. On-street parking space minimums should be 7 feet wide by 22 feet long.
4.2 Enable shared parking

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SITUATIONS:
- Shared parking between multiple uses is not permitted.

STRATEGIES:
- Adopt a shared parking strategy and revise regulations.

DISCUSSION:
A significant number of uses only require parking during limited periods of time. Religious facilities are a good example, with peaks on one or two days a week. Outside of these times, any dedicated parking spaces are empty. Residential parking in urban areas is similar; it is in demand primarily in the evening but less so during the day. Regulations should allow multiple nearby uses to share their parking, reducing the total number of spaces while not affecting the demand.

Shared parking strategies have been widely implemented, proving the concept. APA has studied and published a shared parking schedule worksheet that determines overlapping demand for parking shared between multiple uses. This table should be integrated into parking requirements, enabling the reduction of spaces on a single lot with multiple uses.
4.3 Reduce parking requirements for affordable housing

SITUATIONS:
- Affordable housing requires the same number of parking spaces as market rate housing.

REFERENCES:

STRATEGIES:
- Adopt reduced parking requirements for affordable housing. The reduction depends upon the region, the urban | suburban context, and public transportation access.

DISCUSSION:
While parking for multi-family housing is often a contentious issue, affordable multi-family housing frequently requires less parking than market rate housing. Car ownership is an expensive proposition and many families are only able to afford one vehicle, if that. When affordable housing is required to provide market rate parking spaces, many spaces sit unused and represent a waste of public funding.

- If access to transit is nearby, affordable housing may only require 0.5 spaces per unit.
- Where public transportation is not available, parking may be required at 0.75-1 space per unit. Requirements above this are usually excessive and wasteful.

REFERENCES:
Center for Neighborhood Technology parking demand estimating and database tools from various regions:
http://www.cnt.org/tools/greentrip-parking-database
http://www.rightsizeparking.org
http://www.transformca.org/landing-page/greentrip
4.4 Count on-street parking

BARRIER

CAPACITY

CONTEXT

[SIT] [SR]

SITUATIONS:
- On-street parking does not count toward the required parking by adjacent lots.

STRATEGIES:
- Permit on-street parking along lot frontages to count toward required parking for the lot.

DISCUSSION:
Parking requirements are often excessive and burdensome, particularly in infill situations, and may limit opportunities for redevelopment. Where on-street parking is provided, it can account for a significant number of parking spaces for every block. Because parking spaces cost approximately $9,550 for surface spaces and $19,050 for structured spaces, including land, construction and design costs, but excluding the cost of operations. (Victoria Transport Policy Institute, 2016) This poses a serious financial barrier to development and redevelopment.

Additionally, each space consumes approximately 300 square feet of usable site area. Adaptive reuse situations are extremely sensitive to parking where changes in use may require more parking than can be provided on the lot. In order to equitably share on-street spaces, they should count only for the lots that are directly adjacent to the space.
4.5 Reduce minimum parking requirements

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**CONTEXT**

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**SITUATIONS:**
- Minimum on-site parking counts are regulated.

**STRATEGIES:**
- Reduce minimum parking requirements in mixed-use and walkable urban districts.

**DISCUSSION:**
Most minimum parking requirements are derived from the Institute of Transportation Engineers (ITE) studies and trip generation related to use categories. However the ITE studies were performed in conventional suburban places. A recent study by the University of California in Davis shows that mixed-use districts generate approximately 40% fewer vehicle trips on average than the numbers estimated by ITE’s methodologies. Parking ratios are overestimated by the same amounts as they are also based upon estimated vehicle trips. Prior to the UC Davis study, an early 2000’s study of mixed-use developments showed a 30% reduction, however they used poorly selected examples.

Requiring more parking than is necessary is a financial barrier to development, wastes site area for parking, and increases impervious surface and stormwater management issues. Minimum parking, if used at all, should be conservative. A good starting point is the parking ratios published by Metro, the Portland, Oregon region Metropolitan Planning Organization. These numbers represent the highest minimum parking requirements that a municipality can set for mixed-use districts.

**REFERENCES:**
Oregon Metro parking, see table 3.08-3: [http://www.oregonmetro.gov/sites/default/files/chap308.pdf](http://www.oregonmetro.gov/sites/default/files/chap308.pdf)
4.6 Reevaluate off-street parking requirements

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- Walking

**CAPACITY**

- XL

**CONTEXT**

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- [Sr]

**SITUATIONS:**
- Off-street parking is required for every parcel and often for every use on a parcel, with the number of spaces specified without any local analysis of demand.

**STRATEGIES:**
- Reevaluate whether off-street parking should be required in all districts.

**DISCUSSION:**
Minimum off-street parking requirements have been a mainstay of zoning codes for decades. In recent years, their negative effects have been widely documented, including the validity of the data upon which most were established, the high costs imposed on new construction, and the negative effects of oversized parking lots on our communities and the environment.

There is significant merit to removing minimum parking requirements altogether. In some areas, apartments cannot be rented without two spaces per unit while in others the absence of parking (and the attendant lower rent) may be more valuable than even one space. A restaurant may require
30 spaces in a drive-to location and no spaces at all in a walk-to location.

Financiers may require a minimum number of off-street spaces in order to finance a project, and developers may foresee advantages to providing abundant parking at their full expense because buildings with limited parking may have fewer potential users over time. Parking is so regulated by market demand and financing requirements, that to regulate minimums in a zoning ordinance is redundant.

REFERENCE:
Seattle economic development strategy: http://council.seattle.gov/2012/05/10/removing-minimum-parking-requirements-where-unneeded/

Why minimum parking requirements are bad business: http://shoup.bol.ucla.edu/Trouble.pdf


The true cost of minimum parking requirements for housing, office and retail: http://shoup.bol.ucla.edu/HighCost.pdf

5.0 USE STRATEGIES

Most zoning ordinances are explicit in the segregation of use and density. This section considers strategies to lighten this regulation to encourage economic development within the evolving city.

Since contemporary zoning was introduced in the United States in the early 20th century, ordinances have become more and more rigorous in the control of land use. Use has been the regulatory tool of choice over the last century to exclude specific activities, and potentially types of people, from a community.

As uses and densities have become more and more explicit, regulations have limited a municipality’s ability of nimbly respond to markets, trends, and consumer demand. Suburbia has been the most unfortunate products of this high degree of separation.
5.1 Permit residential uses on ground floors in urban districts.

**BARRIER**
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**CAPACITY**

**CONTEXT**

**SITUATIONS:**
- Ground floor residential is not permitted in urban districts.

**STRATEGIES:**
- Permit ground floor residential uses.

**DISCUSSION:**
Zoning codes often require ground floor commercial uses in mixed-use and urban districts. While main streets should be primarily commercial at the ground floor, requiring commercial use can limit economic development. Often an excessive amount of commercial space required that the market is not able to support. As a result developers may be forced to build commercial space that sits vacant, which is a drain on finances, neighborhood vibrancy, and hinders walkability.

Restricting ground floor residential may also eliminate the ability of small developers to develop mixed-use buildings that rely upon ground floor units to meet ADA requirements. Many mixed-use districts consist of a mix of uses horizontally along a street, not vertically. In some markets vertical mixed-use can be difficult to achieve. And in markets where it is common, it should not be required. The local market should determine the use composition, and apartment buildings along a main street can still add vibrancy.
5.2 Permit, but do not require mixed use in urban districts

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**CAPACITY**
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**CONTEXT**

[SU] [Sr]

**SITUATIONS:**
- Mixed-use is required in a zoning district
- Mixed-use is not permitted in any district.

**STRATEGIES:**
- Permit mixed-use, but do not require it.

**DISCUSSION:**
Mixed-use is critical to neighborhood vibrancy, ensuring a high degree of activity. Where main streets, downtowns, and urban neighborhoods exist or are desired, mixed-use must be permitted.

Mixed-use should be an available option, not a requirement. Successful mixed-use districts are not usually entirely mixed-use, rather they include some single-use buildings, residential and commercial, alongside buildings that are mixed-use. The mix should be flexible and determined by the market.
5.3 Permit non-hazardous, small-scale manufacturing and light industrial in mixed-use districts.

**BARRIER**

**CAPACITY**

M

**CONTEXT**

[Ui] [Sr]

**SITUATIONS:**
- Small-scale manufacturing and light industrial are not permitted in urban, or mixed-use districts.

**STRATEGIES:**
- Permit non-hazardous, small manufacturing and light industrial in urban or mixed-use districts.
- Control types of development with the following regulations:
  - Limit building footprint
  - Limit building width
  - Control environmental impacts including glare, noise, fumes, and combustion.

**DISCUSSION:**
Historically, manufacturing and industrial uses have been restricted from proximity to housing due to the noxious nature of those uses: their noise, smell, and effect on air and water quality. Contemporary small-scale manufacturing and light industrial, however, are not incompatible with residential or mixed-use neighbors provided there are some basic constraints.

Maintaining workspace in urban districts assists in economic diversity and increases the supply of local jobs. Workspace is critical to successful, 24-hour mixed-use districts, and the character of workspace is diversifying. The widest set of uses should be permitted in mixed-use districts, restricting only those that are socially and physically noxious.
5.4 Simplify how the code describes allowable uses of land

**BARRIER**

**CAPACITY**

**CONTEXT**

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**SITUATIONS:**
- The zoning code provides a separate list of uses for each zoning district.
- The zoning code consolidates uses into a single use table, but the table is extremely lengthy and complex.

**STRATEGIES:**
- Remove unnecessary distinctions between uses that have similar impacts.
- Consolidate zoning districts where the distinctions between districts are minor.
- Eliminate district-by-district lists of uses and replace them with a matrix that shows uses and zoning districts.
- Simplify overly complex matrices.

**DISCUSSION:**
Collapse similar uses. A specific use does not require its own category unless it is to be excluded in more than one district. Many zoning codes suffer from overly specific use designations that may unintentionally limit beneficial, unforeseen uses and add unnecessary complexity. The prohibited if not permitted clause can be very detrimental to new use development.

Ideally, uses should be specified according to the broadest category possible, such as Residential, Office, Service, Retail, Manufacturing, Industrial, and Food Service, with as few specific distinctions as possible. In reality there are few outward differences between specific use sub-categories, and those that are regulated by the building code. This strategy enables easier change of uses, keeps buildings occupied, and assists with a robust economy.
5.5 Expand home occupation and live/work allowances

**BARRIER**
- Home occupations are not allowed or are heavily restricted.
- Live/work units are not allowed or are allowed only in very limited areas.

**CAPACITY**
- M

**CONTEXT**

- [Ui] [Sr]

**SITUATIONS:**
- Home occupations are not allowed or are heavily restricted.
- Live/work units are not allowed or are allowed only in very limited areas.

**STRATEGIES:**
- Permit home occupations in all residential zoning districts.
- Expand allowances for home occupation square footage, visitation and employees.
- Permit live/work units in most, if not all, zoning districts.

**DISCUSSION:**
Home-based businesses expand the local economy. Permitting home-based businesses also contributes to home affordability and may assist in the costs of childcare. Some level of home occupation should be permitted in all zoning districts.

In mixed-use districts and more urban neighborhoods, restrictions to size, allowances for employees, and the ability of customers to come to the business location should be expanded or eliminated. Often residential use is prohibited or restricted in commercial or mixed-use districts, excluding the opportunity to develop live/work units. These should be permitted in most, if not all zoning districts. Live/works tend toward small office or service uses and have minimal traffic and parking demands. While some single-family areas may resist their inclusion, they have a very low impact on a neighborhood. At a minimum they should be permitted in all zones except low-density single-family and industrial.
5.6 Reduce requirements for change of use

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**CONTEXT**

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**SITUATIONS:**
- Change of use often results in nonconforming situations, significant impact fee assessments, increases in parking, and older buildings remaining empty and suffering from disinvestment.

**STRATEGIES:**
- Simplify the process for change of use to avoid unnecessary financial and regulatory barriers.

**DISCUSSION:**
Mixed-use districts rely upon the ability of space to change use over time to remain vibrant. As market demands shift, use should be able to adapt. However, many codes and ordinances present significant financial and regulatory barriers to adapting use by the imposition of higher parking requirements, unattainable stormwater infrastructure in an infill condition, nonconforming conditions, and assessment of impact fees.

Together concurrency, new parking, and impact fees could cost a coffee shop conversion $50,000 on top of their hard costs in some municipalities. *(City of Tigard, OR)* The results are vacant storefronts, reduced walkability, and negative impacts to the street or neighborhood. Imposing harsh concurrency standards for change of use hampers economic development. Change of use within an existing building should be permitted with as few requirements as possible. When buildings are redeveloped, they may be assessed for concurrency.
5.7 Coordinate zoning use categories with the International Building Code (IBC)

SITUATIONS:
- Zoning use categories do not align with the use categories in the IBC.

STRATEGIES:
- Revise zoning use categories to align with the larger use categories within the International Building Code.

DISCUSSION:
Both zoning and building codes regulate use and often the two sets of categories have little to do with each other. This requires applicants to reconcile differences between the two codes. While both codes types were developed independently, building codes are heavily based upon use to determine standards of safety while zoning addresses use to avoid general nuisance.

Zoning uses also address differences in explicit uses that affect issues such as parking demand, traffic generation, and noise, but may be revised to match the larger set of IBC uses with conditions or restrictions as necessary to control environmental impact. The result is a tighter coordination between zoning and building regulation, and a much simpler process for applicants.
6.0 SIGN STRATEGIES

Sign regulations can be some of the most complex standards in a zoning ordinance. This short section focuses on the simplification of permit requirements and physical standards.

6.1 Permit signs by right.

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**CAPACITY**

**CONTEXT**

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**SITUATIONS:**
- Sign regulations require conditional permits or excessive specifications even for the most routine types of signs.
SITUATIONS:
Sign standards are lengthy and complicated.

STRATEGIES:
- Simplify sign restrictions and permit requirements.

DISCUSSION:
Reed v. Gilbert probably requires changes to most sign codes, and provides the opportunity to improve them at the same time. Obviously, all sign code changes must be very conscious of First Amendment conflicts and require legal counsel.

Signage standards are some of the most convoluted requirements in most zoning documents, and permit requirements are unnecessarily complicated. Most restrictions are common across sign types but often are unnecessarily repeated.

Permit requirements are frequently excessive. Signage standards should be simple, concise, and aimed at predictability and permit expediency.

6.2 Simplify sign requirements.

SIGN

BARRIER

CAPACITY

CONTEXT

[Ui] [Sr]
Transportation strategies consistently address all the barriers in more categories than any single other topic.
7.1 Reduce minimum parking and travel land widths

**SITUATIONS:**
- Vehicular travel lane minimums exceed 10 feet in width.
- Parallel parking lane minimums exceed 7 feet in width.

**STRATEGIES:**
- Adopt a vehicular travel lane of 10 feet for walkable districts.
- Adopt a parallel parking lane of 7 feet for walkable districts.

**DISCUSSION:**
Roadway width is the primary determinant of vehicle speed, and vehicle speed is a determinant of pedestrian safety in walkable districts. In order to increase pedestrian safety, vehicles must be slowed. The most effective means of slowing vehicles is to right-size the roadway.

Public works standards frequently include minimum travel lane and parallel parking lane widths that encourage high-speed conditions. In many municipalities, these can be as high as 12 and 9 feet respectively. Every inch of width over the bare minimum increases vehicle speed and decreases pedestrian and cyclist safety. Vehicular travel lanes should be permitted at 10 feet generally and 9 feet in residential portions of walkable districts. Provisions may be provided for 10.5 feet along bus routes to address mirror conflicts. Parallel parking lanes should be permitted at 7 feet generally, which accommodates the widest private vehicles.

7.2 Use Effective Turning Radius

**SITUATIONS:**
- Minimum curb return radius in mixed-use districts is greater than 15 feet.

**STRATEGIES:**
- **OPTION 1:** Adopt a new series of curb return radii for mixed-use streets, by street type.
- **OPTION 2:** Adopt reductions to curb return radii to account for on-street parking and bicycle facilities. Curb return radius may be reduced by the combined width of bicycle and parking facilities to a minimum of 10 feet.

**DISCUSSION:**
Curb radii at intersections control the speed at which vehicles turn. Most municipalities use a standard set of curb return radii by functional classification of roadway, often with 25 feet as the smallest radius. These suburban standards are dangerous in walkable districts. Drivers that turn at high speeds are less likely to notice
pedestrians and bicycles, endangering these roadway users. Tight curb radii signal drivers to slow or stop before making a turn.

Curb radius minimums may are justified as accommodation for emergency vehicles with longer wheelbases than private vehicles. The effective radius strategy accounts for the fact that travel lanes are not always directly adjacent to curbs, so turn movements may follow a wider radius than the curb. Parking lanes and bicycle lanes move the travel lane away from the curb and result in an effective turning radius much larger than the actual curb radius. While an effective radius is large, a tight curb radius still signals drivers to take turns cautiously.

### 7.3 Revise clear sight triangles in urban conditions

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**Situations:**
- A single sight triangle standard is applied in all contexts – rural, suburban and compact urban.
- Sidewalks and adjacent planters are greater than 8 feet wide.

**Strategies:**
- Exempt private property from requirements imposed by sight triangles in a compact urban context.
- Revise sight triangle standards according to the width of public frontage (sidewalk + planter) and the presence of parking lanes.

**Discussion:**
Sight triangles are imposed at intersections in order to ensure drivers can see oncoming traffic on intersecting streets. They often restrict planting, buildings, furniture, and parking near the intersection to provide a clear view for drivers.

The intent of sight triangle regulations is sound, however they are often
imposed without regard for context. Where there are wide sidewalks, planters, and parallel parking, drivers are further from the right-of-way edge than they are in suburban conditions. Technically sight triangles should be measured from the point of view of drivers, and therefore account for distance from right-of-way and curbs, see the illustration above from the Institute of Transportation Engineers’ Context Sensitive Solutions. In practice, sight triangle regulations usually specify a distance from the property line, assuming a standard condition for position of curb relative to the right-of-way and position of driver relative to the curb.

In most compact urban environments, every intersection is controlled through signals or stop signs. This control decreases the hazards associated with limited view.

Applying rural and suburban sight triangle requirements to urban contexts results in unbuildable lot areas at corners. Urban character relies on buildings at the majority of lot corners and non-contextual sight triangles can inadvertently erode urban character.

REFERENCES:
ITE Context Sensitive Solutions urban sight triangles: http://library.ite.org/pub/e1c5c43c-2354-d714-51d9-d82b39d4dbad

7.4 Reduce traffic impact study requirements

**BARRIER**

**CAPACITY**

**CONTEXT**

**SITUATIONS:**
- Traffic impact studies are required for most projects including change of use, adaptive reuse, expansion, redevelopment, and new development.

**STRATEGIES:**
- Determine a threshold below which projects may be exempted from providing traffic impact studies.
- Adjust existing code language to reflect the threshold exemption.

**DISCUSSION:**
Traffic impact studies are generally needed for a suburban condition where all new uses generate new vehicle trips, without significant trip chaining, multi-modal access, or park-once opportunities. Additionally, the suburban context includes transportation systems with limited connectivity and the built-in inefficiencies of functional classification. In these conditions new construction, redevelopment, and changes in use can result in significant traffic increases. These traffic increases may require additional roadway lane miles, turning lanes, and other similar system modifications.
Where mixed-use projects are inserted into suburban contexts, the anticipated impact of the whole project is studied and assessed. Subsequent construction and changes in use should not result in additional traffic studies or assessment for new traffic interventions. In rare cases a new use may result in a significant number of new trips. This threshold should be determined and anything that falls below it should not be assessed.

Traffic studies and the cost of off site improvements are expensive. By determining a scale or trip estimate threshold, traffic studies may be exempted for any project under the minimum.

In existing mixed-use districts or districts with urban street grids, traffic studies are generally unnecessary. Only major redevelopment projects adding atypical uses to an urban district generate traffic in amounts requiring mitigation. These projects include convention centers, sports arenas, and other uses which generate significant traffic in peak conditions.

The traffic impact assessment model is built to augment suburban transportation system funding where maintenance and upgrades aren’t supported by adjacent tax revenues. In urban, mixed-use areas, the adjacent tax base is able to fund transportation system upgrades and maintenance. Additionally, by trip chaining, park-once, walking, and biking, transportation system impacts are lower for most uses.

### 7.5 Adopt the UC Davis Modified Trip Generation Standards for mixed-use areas

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**SITUATIONS:**
- One or more walkable, mixed-use districts exist or are allowed.
- Transportation impact is considered in determining fees, off site improvements, on site facilities, or other aspects of development.
**STRATEGIES:**

- **BASELINE:** Adopt the UC Davis Trip Generation methodology, for use in walkable, mixed-use districts.
  - **OPTION 1:** Provide for a blanket 40% reduction in trip generation estimates over the numbers estimated by the ITE Trip Generation Manual.
  - **OPTION 2:** Following the UC Davis Trip Generation methodology, study actual local trip generation in mixed-use areas and publish the results as the standard trip estimates for use in mixed-use areas.

**DISCUSSION:**

The Institute of Transportation Engineer’s (ITE) Trip Generation Manual has been adopted in most municipalities as the standard methodology for estimating vehicle trips. The manual and methodology was created solely for suburban contexts, yet it is applied equally to urban contexts. A series of studies have proven that the manual overestimates vehicle trips for walkable, mixed-use areas, rural areas, and areas served by transit or with a large population of cyclists. Trip generation is often tied to off-site transportation improvements that developers may be required to provide as part of a development agreement, costing tens of thousands to millions of dollars to complete.

The University of California at Davis created an alternative methodology aimed at walkable, mixed-use and multi-modal places. Collectively the areas studied in creating this methodology show an average trip generation that is 40% below those estimated by the ITE’s trip generation manual.

The ITE manual is meant to provide a methodology, it is incorrectly used as a source for the number of vehicle trips generated by any given use. Proper use of the manual would require that local traffic studies be performed in accordance with the manual’s methodology, determining the average vehicle trips generated by different uses in the local context. Because such a study is expensive, complicated, and time consuming, it is rarely performed. As a result the suburban conditions which the ITE measured for their manual is the default context assumed in almost all traffic studies.

As a minimum step towards correcting this issue, a blanket 40% reduction of the numbers stated within the ITE trip generation manual may be used, following the results of UC Davis’s study. The Metropolitan Planning Organization for the Portland, Oregon – Metro has employed a similar strategy. Metro permits a blanket 30% reduction of the numbers stated within the ITE trip generation manual for areas identified as centers and main streets, essentially mixed-use areas. This methodology was developed prior to the UC Davis study.

**REFERENCES:**

While the aspirational, XL version of zoning reform is a form-based code, until the capacity and budget exists to develop one, many incremental steps are available to local government that will support Lean development while improving walkability.