Previous chapters have addressed many of the factors that work together to make a downtown successful, including the proper mix of activities, efficient driving and parking, transit service, and pedestrian and bicycle access and safety. All of these factors are necessary, but even cumulatively they are not sufficient to create a thriving center city. One additional ingredient is essential to downtown success, and that is walkability. Without walkability, it is impossible to generate the pedestrian culture—the "street life"—that turns a downtown into an attraction.

Walkability requires pedestrian safety, but it is much more than that. In addition to feeling safe, pedestrians must also feel comfortable, which is a different discussion altogether. Rather than addressing the speed of cars or the potential for crime, it addresses the spatial definition of the street space, and the fact that people like to feel physically contained by the walls of buildings. Most people enjoy open spaces, long views, and the great outdoors. But people also enjoy—and need—a sense of enclosure to feel comfortable as pedestrians.

Split, Croatia: Humans are instinctively drawn to places with firm edges.

Evolutionary biologists tell us how all animals seek two things: prospect and refuge. The first allows you to see your prey and predators. The second allows you to know that your flanks are protected from attack. That need for refuge, deep in our DNA from millennia of survival, has led us to feel most comfortable in spaces with well-defined edges. This issue has been discussed since before the Renaissance, when it was argued that the ideal street space has a height-to-width ratio of 1:1. More recently, it has been suggested that any ratio beyond 1:6 fails to provide people with an adequate sense of enclosure, creating a sociofugal space: an environment that people want to flee.

Therefore, in addition to feeling safe from automobiles, humans are not likely to become pedestrians unless they feel enclosed by firm street edges. This is accomplished principally by buildings that pull up to the sidewalk. These buildings need to be of adequate height so that the 1:6 rule is not violated, ideally approaching 1:1. Gaps between buildings should not be very wide, and surface parking lots should be screened by structures, as already discussed.

This requirement presents a different kind of challenge to the City, because most of what makes streets comfortable is accomplished not by the public streetscape, but by the private buildings that flank the right-of-way. In this case, the City must take on the role of encouraging new private investment in the right places, and also of recognizing the places where the quality of private investment merits corresponding public investment—and where it doesn't.

With the exception of a few "missing teeth," the buildings surrounding Middle Street provide it with excellent spatial definition.

This issue is the central topic of this chapter, and the foundation of an approach to downtown revitalization that has come to be known as Urban Triage. Developed by Andres Duany, Urban Triage is a concept that makes many planners uncomfortable, but that is particularly necessary in these times of limited public resources.

Urban Triage: An Instrumental Urban Strategy

Most mayors, city council members, municipal planners, and other public servants feel a responsibility to their entire city. This is proper, but it can be counterproductive, because by trying to be universally good, most cities end up universally mediocre. This is particularly the case when it comes to pedestrian activity.

Walkability Analysis and Urban Triage

There are many areas of Lowell that would benefit rom concerted public investment. However, in these days of limited public resources, one has to set priorities about where municipal dollars should be invested and where private development should be most encouraged. This study begins with the assumption that the place to spend money first is in the downtown. But there are two types of areas within the downtown where public investment will have a greater impact on livability than in others.

First, only certain streets in the downtown are framed by buildings that have the potential to attract and sustain pedestrian life. There is little to be gained in livability by improving the sidewalks along a street that is lined by muffler shops and fast-food drive-throughs. These streets should not be allowed to go to seed; the trash must be collected and the potholes filled. But investments in walkability should be made first in those places where an improved public realm is given comfort and interest by an accommodating private realm—or a private realm that can be improved in short order.

Arcand Drive is an essential pedestrian axis through the downtown, but it has weak edges.

Second, there are streets of lower quality than those above, but which are essential pathways between downtown anchors, for example from the historic city center to the Tsongas Arena. These streets require greater investment to become walkable, but that investment is justified by their importance to the downtown pedestrian network.

By studying existing conditions, we can see where streets are most ready, or most needed, to support pedestrian life, and focus there. This technique of Urban Triage may seem mercenary and unfair, but it results in money being spent wisely.

The Urban Frontage Analysis

The drawing on the next page is the Urban Frontage Analysis for downtown Lowell. Frontage is another word for street edge, and it describes the quality of the face which buildings present to the street. This analysis takes into account both of the circumstances described above: where are streets already well shaped by building faces, and where else do they need to be so shaped?

Specifically, the axes marked in green comprise the current Network of Walkability, in which streets (or paths) are fairly consistently shaped by buildings that render them comfortable. In contrast, the axes marked in yellow are streets segments that are not currently comfortable, but are nonetheless very important to walkability. These streets connect key anchors to the existing network, including the two sports venues, the Civic Center, and the Lowell Memorial Auditorium, among others. These axes represent the places where investment to improve street frontage is most desired.

Please note that this analysis only addresses the quality of the buildings flanking the street, and does not consider the traffic or safety characteristics of the thoroughfare. This approach is based on the expectation that streets in potentially walkable areas will be reconfigured for safety in the manner recommended in Chapter 3.

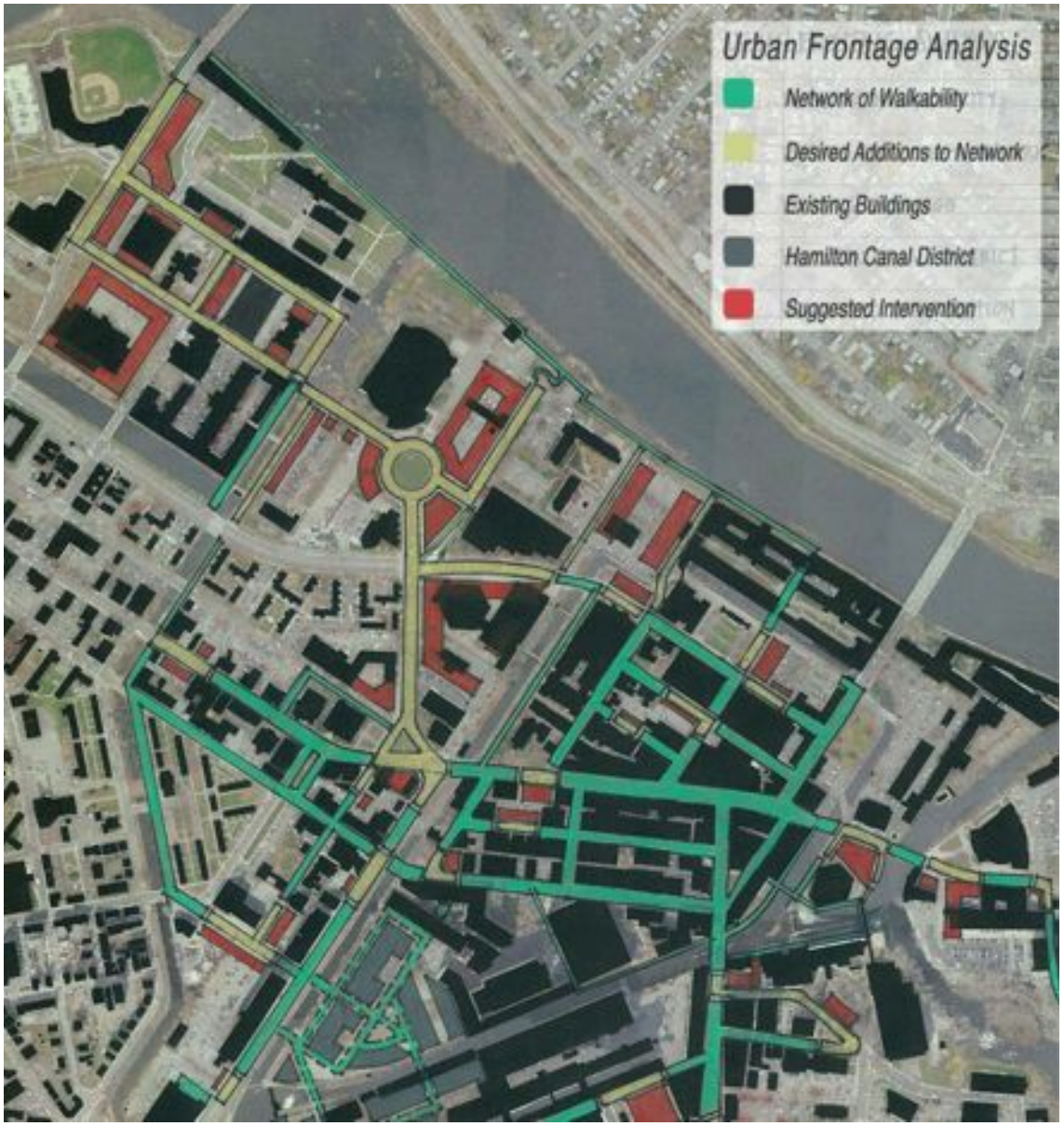
In this drawing, existing buildings have been shaded in black, so it is easy to see which streets have adequate edges and which do not. The buildings in gray are anticipated construction within the Hamilton Canal District, and they are successfully arranged to create a future walkable district, shown with the dashed green line.

Finally, the objects shown in red are what planners refer to as the "missing teeth:" the new interventions that are needed to provide adequate spatial definition where it is lacking within the desired network. Most of these are buildings, but not all of them; some instead must take the form of walls or landscape. Every stretch of yellow street requires a corresponding stretch of red. As these interventions are constructed, the Network of Walkability will become increasingly complete.

In discussing this drawing, it is important to understand the nature of planning. It is not possible to simply put lines on a map and say "put buildings here." Rather, a plan is a mold designed to shape

future economic energy into the most efficacious form. This plan, and others like it, allow a city to use the resources and tools at its disposal to incentivize development in the right places and in the right shape. With a plan, resources and tools are no longer distributed randomly, and synergies between efforts are more likely to occur. In other words, the plan does not say "do this;" it says, "when you do something, this is what you should do."

That noted, the extensive research and discussions that went into this Plan suggest that all of these interventions are possible, many in the short term. The following five chapters describe in detail what these proposals are and how they might be accomplished.



The Urban Frontage Analysis documents where street spaces are most comfortable and most in need of improvement.