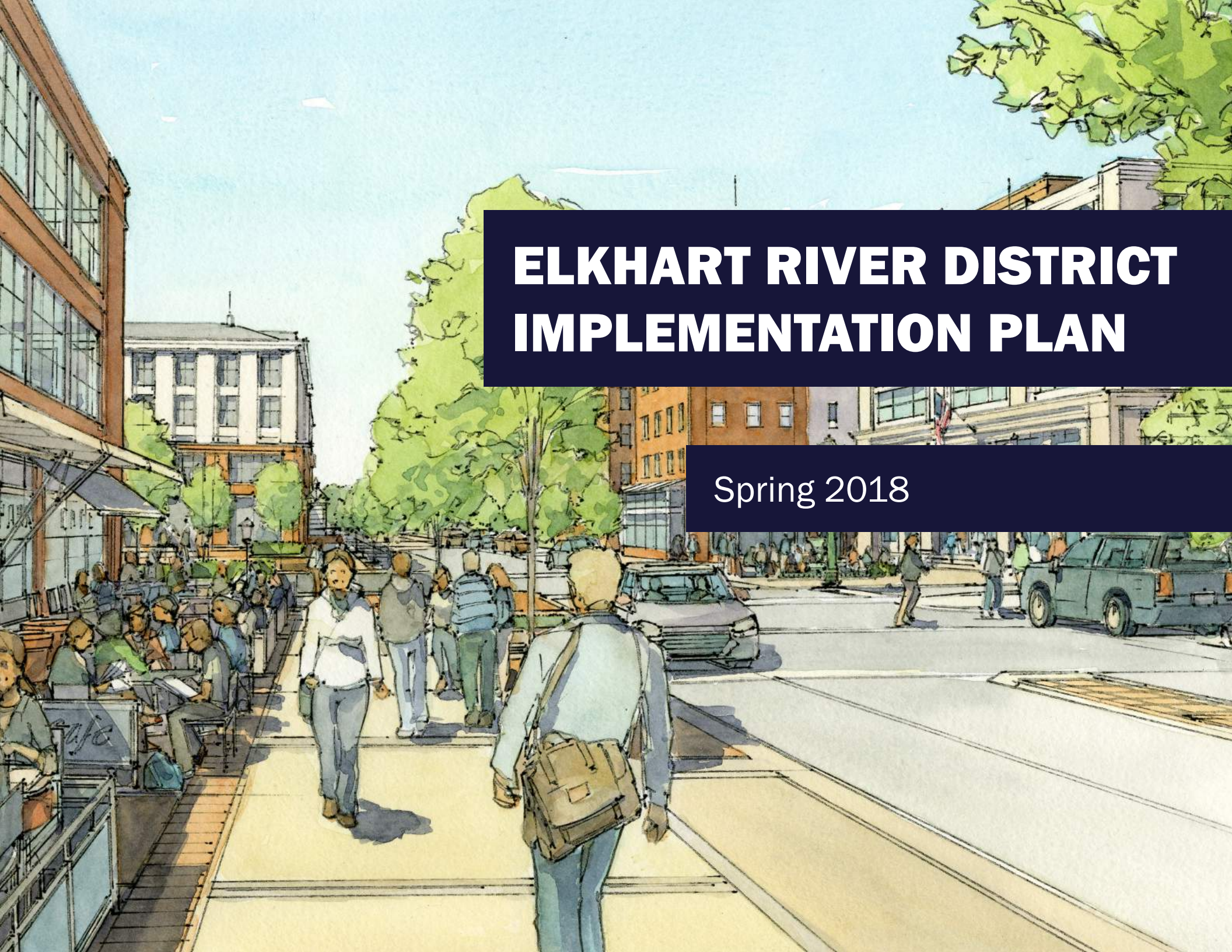


ELKHART RIVER DISTRICT IMPLEMENTATION PLAN

Spring 2018

Prepared for
River District Implementation Team

RD
RIVER
DISTRICT

Prepared by

SPECK & ASSOCIATES LLC

Stantec

RDIT Key Team Members

Shelley Moore
Scott Ford
Dave Weaver

Design Team

Jeff Speck
David Dixon
Jeff Sauser
Phil Schaeffing
Nels Nelson
Anushree Nallapaneni

Table of Contents

Section 1

Background

1.1 Letter from RDIT

Shelley Moore, President, ISC Community Development – RDIT Project Lead
Dave Weaver, President, Kem Krest – RDIT Chair

Moving from the Perfect Storm to Big Opportunity

In recent years, the City of Elkhart has faced an enormity of challenges. At the time of the Great Recession, Elkhart was nationally noted as having the highest unemployment rate in the country, at 20%. The threat of these conditions continues to exist due to Elkhart's concentrated reliance on a single industry.

Though the economic winds have substantially shifted, the Great Recession, and recessions of decades past, weigh heavily on the culture of Elkhart and its ability to adjust to current trends in creating a quality of place where people want to live. In these recent decades, the lack of focus on Placemaking has shown in the way we've not allocated resources and capital investments.

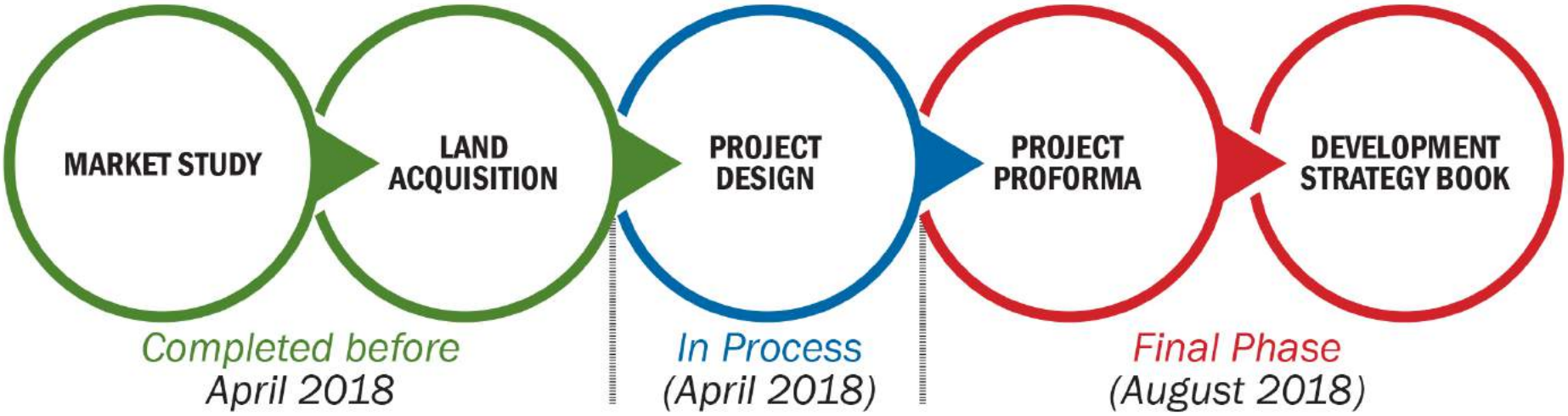
Need to Attract Industry Diversification

The recreational vehicle industry represents 17 of the top 18 economic base industries in our city. Jobs in these base industries are 24.4X concentrated in Elkhart than in the nation. When the recession nearly eliminated the nation's access to disposable income, it exceptionally hit hard Elkhart's manufacturing sector, which represents 50.7% of our economy and 3.4% of Indiana's manufacturing output.

The Elkhart community has a storied entrepreneurial spirt with great examples of public-private partnerships. Wellfield Gardens, The Lerner Theatre, Indiana University South Bend's Elkhart facility, and most recently, the Elkhart Health, Fitness, Aquatics and Community Center have represented such partnerships that have built a solid foundation for redevelopment success.

Through this process, people have often asked, "why the River District and why Elkhart?" Upon review, the themes boiled down to two simple questions: "If not now, when?" and "if not here, where?" Elkhart has an amazing economic engine, an unparalleled community of business and civic leaders and an unprecedented opportunity to do something big that shifts the conversation about Elkhart, by investing in our community to a degree we haven't seen in decades.

Now, with the economic rebound, the expanded economic base of Elkhart County faces the opposite extreme. Just recently, The Wall Street Journal and Fox News have noticed Elkhart's full tilt and featured us



stating that "the future of America's economy looks a lot like Elkhart".

Today, Elkhart County has more than 9,000 open jobs and a two percent unemployment rate – the lowest in the country. Since 2007, The City of Elkhart's base industries have added 4,730 (21%) more jobs than would be expected given national and industry trends. Statewide, one out of every 45 Indiana jobs are in the City of Elkhart. Additionally, 29,000 commuters choose to work in Elkhart, however they live in outside neighboring areas.

Unlike many cities that may be searching for new jobs, Elkhart has jobs with not enough people to fill them. Yet, the memories of the recession have workers leery of Elkhart's stability and ability to provide consistent employment opportunities. This directly places responsibility on the shoulders of our community's leadership to reinvest in ourselves and prove to our potential workforce that we will stabilize, diversify and thrive through the next downturn.

Elkhart's Need for Housing

However, following the lead of our potential workforce's leeriness about economic stability, there is the lack of available housing. Even if the diversity and quality of available jobs were enough to attract all the workforce needed, we would continue to drive away potential residents with our pronounced housing shortage. In 2017, there were only 14 housing starts. At any time, MLS reports on average less than five market-rate apartments being available. The last apartment complex built in Elkhart was in 2002. Yet, by 2030, 75% of all US housing offerings, including Elkhart, will comprise of rented housing.

While our downtown is active, we have the demand and ability to thrive with new and relevant housing solutions. Trends in urbanization emphasize all the characteristics required to first attract and retain the most sought out residents needed to revitalize an economy. Those residents are mid-skilled workers, millennials and seniors. What do they seek? Urban, mixed-use, walkable communities.

Fortunately, our downtown has great bones to build from including a Main Street streetscape, River Walk, and park recreation. Additionally, a 2017 Zimmerman Volk and Associates study reports that our downtown market can absorb 1,000 apartments and for-sale townhomes and condos within the next five years.

Thus, our redevelopment work starts with the expansion of a downtown residential community – with a neighborhood named The River District.

River District Vision to Action

Elkhart's community growth vision starts with developing a thriving urban, mixed-use, walkable community that is a downtown destination emphasizing the rivers and recreational amenities.

In April 2017, the River District planning team, along with the input of 25 private and public stakeholders, presented to the community a River District revitalization vision plan. Immediately, our Mayor and City Council approved a resolution to commission the River District Implementation Team (RDIT) of 17 public-private members to complete the research, design, acquisitions, development, and construction with an approved city investment of $30 million in public infrastructure and amenities.

Already within the River District, construction has ensued for three anchor projects including a 200-unit market-rate apartment complex, state-of-the-art aquatics, fitness and community center, and a signature streetscape for Jackson Boulevard. A fourth mixed-use supermarket and residential project will start early fall of 2018. The commitment of private and public investments now exceeds $150 million. Fifty percent of the 105-acre River District area will complete development within the next three years and we anticipate an additional $150 million of investment to follow.

RDIT members represent all sectors of our community, including the city staff and the professional services of local and national consultants who are actively working together to plan and manage the implementation of all aspects of the plan with investors, developers, and current property owners.

Our work has been thorough and expeditious. The first public works project, the Jackson Boulevard streetscape, was designed and started construction within six months to align with the upcoming spring 2019 opening of the aquatics, fitness and community center and the 200-unit apartment complex. Many more exciting projects will follow, including: access to our downtown waterways, a contiguous Riverwalk path around the district, inviting and charming treelined walkable streets and boulevards, on-street parking, buried utilities and a vibrant community of mixed use activities ready for everyday social collisions. Through these pages you will find a combination of many years work by a great deal of enthusiastic and dedicated members of this community. This is our community plan, this is the River District!

Thank you for your amazing support through this process. We hope you enjoy all that is yet to come in this special community project!

This page intentionally left blank.

1.2 Planning Approach

Jeff Speck, AICP, CNU-A, LEED-AP, Honorary ASLA

How to expand a downtown into an adjacent, largely industrial neighborhood, in a way that makes both places better? This is a question that has occupied cities for centuries, a question that most cities answered properly until about 1930, and then consistently botched for the next fifty years. More recently, a return to the time-tested urban design principles of earlier days has helped many cities, like Portland, West Palm Beach, and Grand Rapids, to grow their centers dramatically with no decline in downtown vitality. To the contrary, the greater critical mass of these cities' downtowns only made their historic cores more successful.

What distinguishes these practices from the misguided approach of the mid-20th century is principally their orientation around the scale and needs of the pedestrian instead of the automobile. Rather than allowing the demand for free-flowing traffic to dominate the design process, successful downtowns are built around the understanding that, while cars—moving and parked—must be accommodated, making a downtown too easy to *drive through* tends to make it not worth *driving to*. When the needs of the automobile are allowed to dominate, streets become highways. And while proper city streets generate street life and real estate value, highways sunder both.

Dozens of distinct factors characterize pedestrian-oriented—*walkable*—urban design. These are outlined in a good number of publications, including the book *Walkable City*, which organizes them around three main categories: Usefulness, Safety, and Comfort. Unless walking satisfies all three categories, people with a choice will choose to drive instead, and those with no choice will be disenfranchised.

These categories can be further described as follows:

A Useful Walk

As Jane Jacobs noted, "Almost nobody travels willingly from sameness to sameness. . . even if the physical effort required is trivial." For people to choose to walk, the walk must serve some purpose. In planning terms, that goal is achieved through mixed use. Or, more accurately, placing the proper balance of the greatest number of uses all within walking distance of each other.

An essential step towards achieving better walkability, therefore, is to consider all of the uses present in a given district, and to see which uses are lacking or in short supply. These uses include office, housing, retail, dining, entertainment, hospitality, schools, recreation, worship, and others. The better these uses can be balanced in your downtown, the more walkable it will be. In most downtowns, the use that is most underrepresented is housing. Elkhart is no exception.

The River District is already poised to benefit from some key institutional uses. The new Aquatic Center and supermarket are the sort of anchors that can help a neighborhood to thrive. New residential buildings are already underway, taking advantage of these assets. But the amount of housing planned for the District—and in the downtown as a whole—is a mere fraction of the critical mass needed if these areas are to come alive. Jane Jacobs made a similar observation about New York's Wall Street in 1961, when she noted that this district, with 400,000 workers in very close quarters,

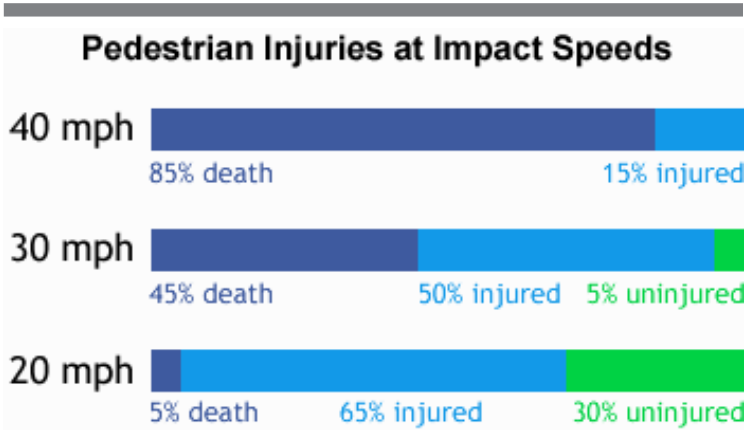
was still “miserable at providing services and amenities,” because it lacked what she called “time spread”: activity around the clock. Why were there no great restaurants or gyms on Wall Street? Because a great restaurant or gym needs both daytime and evening clientele, which only exists in places where people both work and live.
The Zimmerman Volk housing market analysis provided for the River District, included ahead as Appendix 2, documents how the District is poised to support an influx of 680 to 880 new homes over the next five years. Providing locations for this housing will be a key strategy of any plan that attempts to improve the balance of uses downtown.

A final component of the useful walk is well-designed and programed public spaces: plazas, squares, greens, trails, and parks. In addition to making needed improvements to Lundquist Park and completing the existing Riverwalk so that it forms a full circuit around the River District, a proper plan for the District will be organized around not just streets and blocks, but also a hierarchy of distinct civic places that give character to the community while providing opportunities for a wide range of public events.

Well-programmed public spaces are a key tool for creating community. (Rosa Parks Circle, Grand Rapids)

A Safe Walk

While crime is sometimes a concern, most people who avoid walking do so because the walk feels dangerous due to the very real threat of vehicles moving at high speed near the sidewalk. Statistically, moving automobiles are much more of a dangerous threat to people walking than is crime.



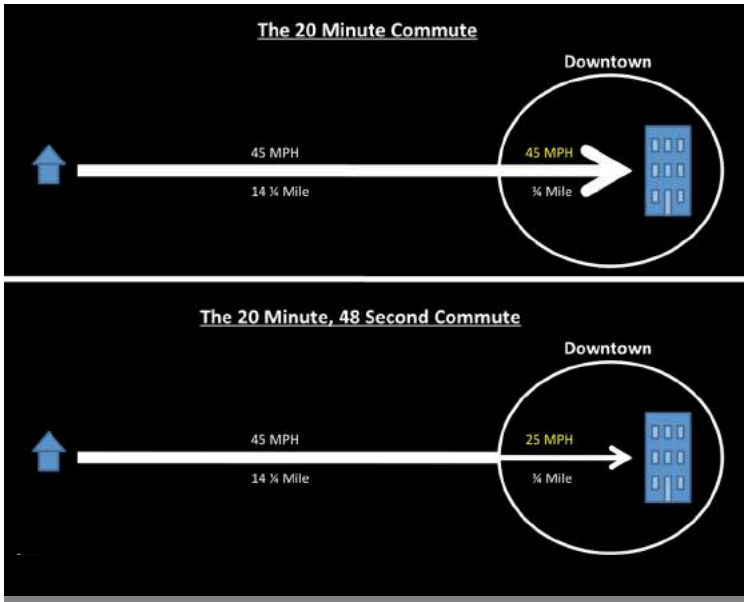
Keeping drivers at or below 25 mph is essential to pedestrian safety in downtown Elkhart.

Street life is dramatically impacted by the speed of vehicles. Whether they know it or not, most pedestrians understand in their bones that a person hit by a car traveling at 35 mph is roughly eight times as likely to die than if the car is traveling at 25 mph. Any community that is interested in street life—or human lives—must carefully consider the speed at which it allows cars to drive in places where people are walking.

In most American cities, the place where people are most likely to walk is the downtown. Acknowledging this fact opens up real possibilities, as it allows us to have dramatic impact on walking while impacting driving only

minimally. By focusing on vehicle speeds in downtown, we can make walking safer for the most pedestrians with the least amount of driver inconvenience.

The illustration below tries to make this point clear. It shows how the difference between an attractive and a repellant downtown may be less than a minute of drive time. Would most people be willing to spare 48 seconds each day if it meant that their city was a place worth arriving at? Probably.



This diagram, from Nelson\Nygaard, describes how a significant change in downtown speeds typically results in a minimal change to commute times.

This logic explains why a growing number of cities have instituted "20 is Plenty" ordinances in their downtowns, and a few have even settled on 18 mph as the target speed. But lowering speed limits is only the half of it. The more important step is to engineer the streets for the desired speed, which means eliminating wider lanes and other inducements to speeding.

If the key to making a street safe is to keep automobiles at reasonable speeds—and to protect pedestrians from them—we must address the principal factors that determine driver speed and pedestrian exposure.

In Elkhart, there are four:

1. **The number of driving lanes;**
2. **Lane width;**
3. **On-street parking; and**
4. **Street trees.**

The understanding of how each of these factors impacts both driver and pedestrian behavior has evolved tremendously over the past few decades. Much of what many traffic engineers were taught in school has been invalidated, and many of the lessons learned are counterintuitive. Each of these four criteria is discussed at below, in order that current best practices can direct the redesign of the River District's streets.

1. The Proper Number of Driving Lanes

The more lanes a street has, the faster traffic tends to go, and the further pedestrians have to cross. Removing unnecessary driving lanes frees up valuable pavement for more valuable uses, such as curb parking and wider sidewalks.

In the River District, this conversation is most relevant as pertains to Jackson Boulevard. As a four-laner without a center turn lane, it is the type of street that cities have been modifying all around the US, with great results. Because, strangely, the data shows that when a

Areas of Successful Road Diet Implementation - Volume Changes				
Location	Street	Change	ADT Before	ADT After
Oakland, CA	High Street		22,000	24,000
San Francisco, CA	Valencia Street		22,200	20,000
San Leandro, CA	East 14th Street		17,700	16,700
Santa Monica, CA	Main Street	4 Lanes to 2+TWLTL+Bike Lanes	20,000	18,000
Orlando, FL	Edgewater Drive		20,500	21,000
Charlotte, NC	East Boulevard		21,400	18,400
Reno, NV	South Wells Avenue		18,000	17,500
East Lansing, MI	Abbott Road		15,000	21,000
East Lansing, MI	Grand River Boulevard	4 Lanes to 2+TWLTL+Bike Lanes	23,000	23,000
Duluth, MN	21st Avenue East		17,000	17,000
Ramsey, MN	Rice Street		18,700	16,400
Helen MT	U.S. 12		18,000	18,000
Toronto, ON	Danforth	4 Lanes to 2 + Turning Pockets + Bike Lanes	22,000	22,000
Toronto, ON	St. George Street	4 Lanes to 2 + TWLTL + Bike Lanes	15,000	15,000
Lewistown, PA	Electric Avenue	4 Lanes to 2+TWLTL+Bike Lanes	13,000	14,500
Bellevue, WA	Montana Street	4 Lanes to 2+TWLTL+Bike Lanes	18,500	18,500
Bellevue, WA	120th Avenue, NE	4 Lanes to 2+TWLTL+Bike Lanes	16,900	16,900
Covington, WA	State Road 516		29,900	32,800
Kirkland, WA	Lake Washington Boulevard - South of 83	4 Lanes to 2+TWLTL+Bike Lanes	23,000	25,900
Seattle, WA	Dexter Avenue, N, East side of Queen	4 Lanes to 2+TWLTL+Bike Lanes	13,606	14,949
Seattle, WA	North 45th Street	4 Lanes to 2+TWLTL	19,421	20,274
Seattle, WA	Madison Street	4 Lanes 2+TWLTL	17,000	18,000
Seattle, WA	West Government Way/ Gilmen Avenue W., From West Ruffner St. to 31st Avenue W	4 Lanes 2+TWLTL+Bike Lanes	17,000	18,000

On average, these 23 road diets compiled by the consulting firm Nelson\Nygaard had almost no impact on the overall vehicular through-put of their streets.

4-lane street is converted to a 2-lane street with a center, the capacity of the street does not drop.

How this happens requires some explanation. First, it must be acknowledged that 4-lane roads are dangerous. Because the turning lane is also the passing lane, drivers speed in the same lane in which drivers stop. Drivers that jockey right to avoid rear-ending a stopped vehicle are often rear-ended themselves. Additionally, cars turning left can be "T-boned" by approaching drivers whose views are blocked by parallel traffic.

But, conversely, because the passing lane is also the turning lane, drivers that wish to continue straight often find their paths blocked, and cars jockeying from lane-to-lane create wave-pulse congestion impacts that slow traffic.

It comes as no surprise that 4-lane to 3-lane road diets save lives. When Edgewater Drive in Orlando was dieted, injuries to road users dropped by 68%. What many do find surprising, however—and are unwilling to believe—is that a road diet does not reduce a street's capacity. A study of 23 different 4-to-3-lane road diets across North America demonstrated, overall, a very slight average rise in the number of vehicles using the streets each day.

And then there's the other win, the 10 to 12 feet of recovered asphalt that can be put to better use. This can become bike lanes, a lane of parking, additional sidewalk, or landscape. Since Elkhart Boulevard is the commercial heart of the River District, it makes sense to prioritize curb parking and ample sidewalks along this corridor. And to the degree that more budget is available, it is probably best spent on inserting a median with trees in those places where no left turns occur, to further calm traffic. In the best road diets, the center turn lane is not continuous.

Since the data are so powerful, public education is an important and effective component of the road-diet process. The greatest resistance often comes from merchants, who worry that the diet will dramatically lower the number of potential shoppers passing their businesses. Again, the data suggests otherwise. When Oakland's Telegraph Avenue was dieted, retail sales went up 9%, most likely due to the fact that the amount of pedestrian activity doubled.

Such a 4-to-3-lane road diet was already being planned for Jackson Boulevard by the City of Elkhart prior to the commencement of this study. The pages ahead show the outcome of a collaboration between the City and the design team to settle on an ideal configuration for this important thoroughfare.

2. Lanes of Proper Width

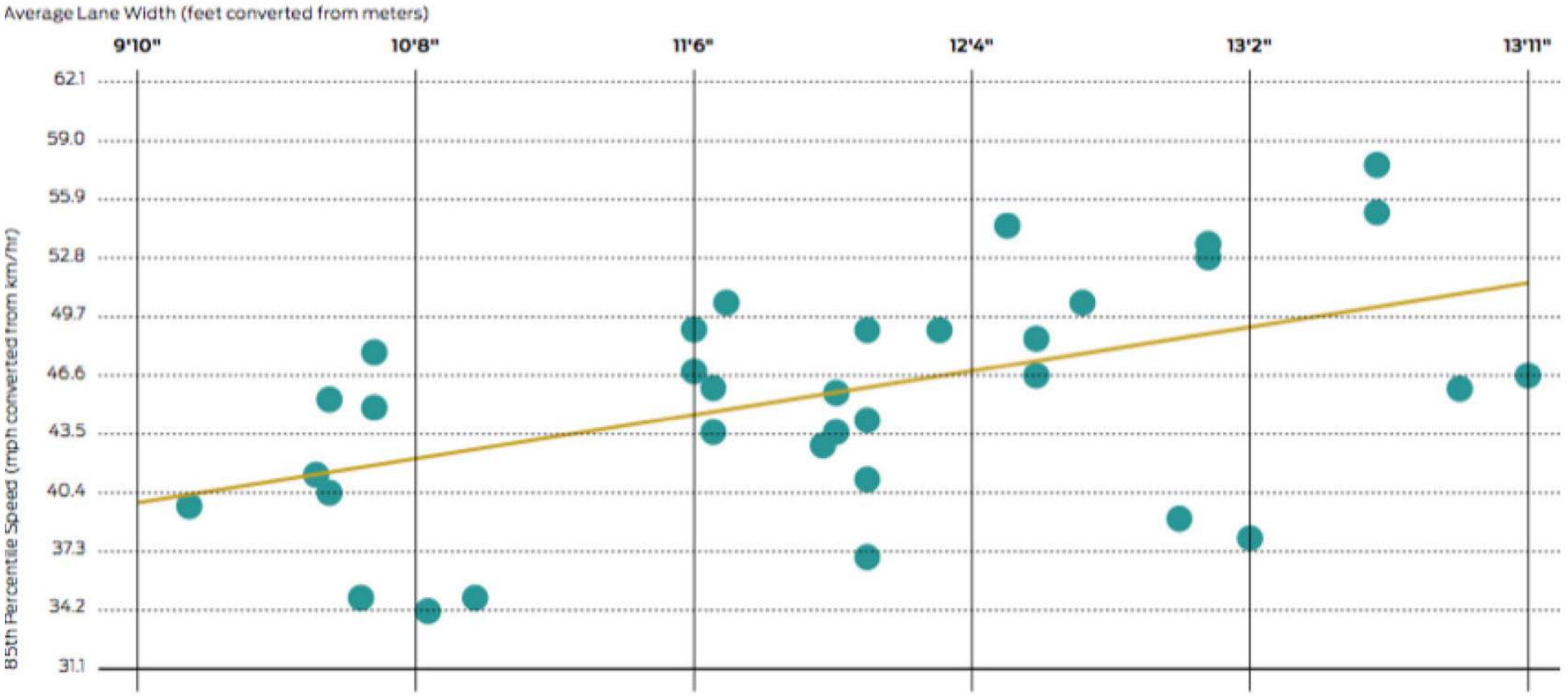
Different-width traffic lanes correspond to different driving speeds. A typical American urban lane is 10 feet wide, which comfortably supports speeds of 35 mph. A typical American highway lane is 12 feet wide, which comfortably supports speeds of 70 mph. Drivers instinctively understand the connection between lane width and driving speed, and speed up when presented with wider lanes, even in urban locations. For this reason, any urban lane width in excess of 10 feet encourages speeds that can increase risk to people walking.

Many streets in downtown Elkhart contain lanes that are 12 feet wide or more, and drivers can be observed approaching highway speeds when using them. It is surprising to learn, then, that the correlation between lane width and driving speed, accident frequency, and accident severity is a very recent discovery of the traffic engineering profession, and contradicts decades of conventional wisdom within that profession. Even today, many traffic engineers will still claim that wider lanes are safer. This understanding is accurate when applied to highways, where most people set their speeds in relation to posted speed limits. But on city streets, most people drive not the posted speed, but the speed which feels comfortable, which is faster when the lanes are wider. Fortunately, a number of recent studies provide ample evidence of the dangers posed by lanes 12 feet wide and more.

In acknowledgement of this body of research, numerous organizations and agencies, like NACTO (The National Association of City Transportation Officials) have recently begun to endorse 10 foot lanes for use in urban contexts. NACTO's *Urban Street Design Guide* lists 10 feet as the standard, saying, "Lane widths of 10 feet are appropriate in urban areas and have a positive impact on a street's safety without impacting traffic operations."

This same conclusion was reached by ITE, the Institute of Transportation Engineers. According to the *ITE Traffic Engineering Handbook, 7th Edition*, "Ten feet

"Lane widths of 10 feet are appropriate in urban areas and have a positive impact on a street's safety without impacting traffic operations." **— NACTO Urban Street Design Guide**



"As the width of the lane increased, the speed on the roadway increased... When lane widths are 1 m (3.3 ft) greater, speeds are predicted to be 15 km/h (9.4 mph) faster."

Chart source: Fitzpatrick, Kay, Paul Carlson, Marcus Brewer, and Mark Wooldridge. 2000. "Design Factors That Affect Driver Speed on Suburban Streets." *Transportation Research Record* 1751: 18–25.

Study shows that wider travel lanes are correlated with higher vehicle speeds.

should be the default width for general purpose lanes at speeds of 45 mph or less." That statement is telling, as it implies, accurately, that lanes wider than 10 feet encourage speeds greater than 45 mph. In the River District, the greatest opportunity for right-sizing travel lanes can be found on South Elkhart Avenue, where the road's lanes are each effectively more than 20 feet wide.

3. Providing Continuous On-Street Parking

Whether parallel or angled, on-street parking provides a barrier of steel between the roadway and the sidewalk that is necessary if people walking are to feel fully at ease. It also causes people driving to slow down out of concern for possible conflicts with cars parking or pulling out. On-street parking also provides much-needed life to city sidewalks, which are occupied in large part by people walking to and from cars that have been parked a short distance from their destinations.

On-street parking is also essential to successful shopping districts. According to the consultant Robert Gibbs, author of *Urban Retail*, each on-street parking space in a vital shopping area produces between $150,000 and $200,000 in sales.

Several streets in the River District lack a significant amount of their potential on-street parking due to driving lanes that are either too wide or too many in number. Some of these streets have no on-street parking at all. Bringing missing parking back will contribute markedly to the safety and success of the District.

4. Providing Continuous Street Trees

In the context of pedestrian safety, street trees are similar to parked cars in the way that they protect the sidewalks from the moving cars beyond them. They also create a perceptual narrowing of the street that lowers driving speeds. But they only perform this role when they are sturdy, and planted tightly enough to register in drivers' vision.

Most successful downtown sidewalks are lined by continuous on-street parking and street trees.

Recent studies show that, far from posing a hazard to motorists, trees along streets can actually result in fewer injury crashes. One such study, of Orlando's Colonial Drive, found that a section without trees and other vertical objects near the roadway experienced 12 percent more midblock crashes, 45 percent more injurious crashes, and a dramatically higher number of fatal crashes: six vs. zero.

When planting street trees, it is best that "arboring" species are selected and planted such that the tree canopies will touch once the trees have matured. While a few River District streets have a good tree canopy, many lack adequate tree cover. This is not surprising given the

cost of planting and maintaining them. These costs are easier to justify when one enumerates the many hidden benefits of shade trees, which include the absorption of storm-water, tailpipe emissions, and UV rays; the lowering of urban heat islands and air-conditioning costs; increased income streams to businesses; and dramatically higher real-estate values (and property tax revenue) on tree-lined streets.

This final item could perhaps provide the motivation necessary for a greater investment in tree planting and maintenance, as the data is compelling. A comprehensive study of the east side of Portland, OR found that an adjacent tree added 3.0 percent to the median sale price of a house, an increase of $8,870. Since there are more houses than street trees, each individual tree was deemed responsible for almost $20,000 in increased real estate value. Extrapolating to the city as a whole, the study's authors found that the presence of healthy street trees likely adds $15.3 million to annual property tax revenues. Meanwhile, the City pays $1.28 million each year for tree planting and maintenance, resulting in a payoff of twelve to one. This twelve-to-one return on investment ignores all the other benefits provided by street trees including their contribution to pedestrian safety.

People are most comfortable in spaces that have firm edges.

A Comfortable Walk

The need for comfortable walk is perhaps the least intuitive part of this discussion, because it insists that people like to be *spatially 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 walking.

Evolutionary biologists tell us how all animals simultaneously seek two things: prospect and refuge. The first allows you to see your 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 from before the Renaissance, in which 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 which people want to flee.

Therefore, in addition to feeling safe from automobiles, humans are not likely to become pedestrians unless they feel enclosed by the edges of 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. If a street is intended to be walkable, then no building along it should be allowed to sit behind a parking lot.

This understanding impacts the River District in two significant ways. First, there currently exist long stretches of Jackson Boulevard, Elkhart Avenue, and Junior Achievement Drive that are flanked by parking lots, severely undermining their walkability. Since these three streets are the main potentially-walkable corridors in the district, new development should be directed along their edges, where they can hide the remaining parking lots from the street.

Second, there are currently plans in the works for three major new developments in the district: the Aquatic Center, a new supermarket, and a collection of apartment houses between this market and the Elkhart River. Before this study began, these three plans all placed their buildings behind parking lots in the conventional car-oriented fashion, damaging their walkability and the general pedestrian comfort of the area. In the Plan that follows, these properties are reconfigured so that their front doors line adjoining sidewalks, and their parking lots are well hidden from view.

The criteria outlined in this essay, which together add up to creating a place in which walking is useful, safe, and comfortable, have driven the Plan outlined in the pages ahead. Most of the programming and design decisions present in the Plan can be traced back to these principles. It is expected that, while the implementation of this Plan, like most, may require some modifications to its details, a shared commitment to these underlying principles will result in an outcome which achieves the same end: a lively, walkable district that reinforces the growing success of downtown Elkhart.

This page intentionally left blank.

1.3 Three Arguments for the Walkable City

Jeff Speck, AICP, CNU-A, LEED-AP, Honorary ASLA

PROLOGUE

This section is a synopsis of the first three chapters of the book *Walkable City: How Downtown Can Save America, One Step at a Time,* by Jeff Speck (Farrar Straus & Giroux, 2012). Full footnotes for all data and quotations can be found in the book. The book's full text is recommended as background reading for those who wish to better understand the theory and experience behind the recommendations in this report.

After several decades arguing for more walkable cities as a designer, this city planner has found that it is more useful to do so as an economist, an epidemiologist, and an environmentalist. What follows is a discussion of why these three groups are all independently fighting for the same thing, which is to redesign our cities around the pedestrian.

The Economic Argument

Many cities ask the same question: How can we attract corporations, citizens, and especially young, entrepreneurial talent? In some cities, they ask it differently: "How can we keep our children from leaving?"

The obvious answer is that cities need to provide the sort of environment that these people want. Surveys—as if we needed them—show how creative class citizens, especially millennials, vastly favor communities with *street life*, the pedestrian culture that can only come from walkability.

The number of 19-year-olds who have opted out of earning driver's licenses has almost tripled since the late seventies, from 1 in 12 to 1 in 4. This driving trend is only a small part of a larger picture that has less to do with cars and more to do with cities, and specifically with how young professionals today view themselves in relation to the city, especially in comparison to previous generations.

The economist Christopher Leinberger compares the experience of today's young professionals with the previous generation. He notes that most 50-year-olds grew up watching *The Brady Bunch, The Partridge Family, and Happy Days,* shows that idealized the late-mid-20th-century suburban standard of low-slung houses on leafy lots, surrounded by more of the same. The millennials in contrast, grew up watching *Seinfeld, Friends*, and, eventually, *Sex and the City*. They matured in a mass culture—of which TV was only one part—that has predisposed them to look favorably upon cities, indeed, to aspire to live in them.

This group represents the biggest population bubble in fifty years. 64 percent of college-educated millennials choose first where they want to live, and only then do they look for a job. According to surveys, fully 77 percent of them plan to live in America's urban cores.

Meanwhile, the generation raised on Friends is not the only major cohort looking for new places to live. There's a larger one: the millennials' parents, the front-end boomers. They are citizens that every city wants—significant personal savings, no schoolkids.

And according to Christopher Leinberger, empty nesters want walkability.

"This group is finding that their suburban houses are too big. . . All those empty rooms have to be heated, cooled, and cleaned, and the unused backyard maintained. Suburban houses can be socially isolating, especially as aging eyes and slower reflexes make driving everywhere less comfortable."

In the 1980s, city planners began hearing from sociologists about something called a NORC: a Naturally Occurring Retirement Community. Over the past decade, a growing number of retirees have been abandoning their large-lot houses to resettle in mixed-use urban centers. For many of them, that increased walkability means all the difference between an essentially housebound existence and several decades of continued independence.

Of the 100 million new households expected to take shape between now and 2025, fully 88 million are projected to be childless. This is a dramatic change from 1970, when almost half of all households included children. These new adults-only households won't be concerned about the quality of local schools or the size of their backyards. This fact will favor cities over suburbs, but only those cities that can offer the true urbanism and true walkability that these groups desire.

This growing demand for pedestrian-friendly places is reflected in the runaway success of Walk Score, the website that calculates neighborhood walkability. In this website, which gets millions of hits a day, addresses are ranked in five categories, with a score of 50 needed to cross the *Somewhat Walkable* threshold. 70 points earns a Very Walkable ranking, and anything above 90 qualifies as a *Walker's Paradise*. San Francisco's Chinatown earns a 100, while Los Angeles' Mulholland Drive ranks a 9. (Downtown Lancaster earns an 87, good overall, but about average for a mid-sized downtown.)

If Walk Score is so useful in helping people decide where to live, then it can also help us determine how much they value walkability. Now that it has been around for a few years, some resourceful economists have had the opportunity to study the relationship between Walk Score and real estate value, and they have put a price on it: $500 to $3000 *per point*. In a very typical city, Charlotte, North Carolina, the economist Joe Cortright, found that each Walk Score point was worth $2000—that's $200,000 across the full scale.

That is the value that houses get for being walkable. But what about cities themselves? Does being more walkable make a whole city worth more?

In 2007, Joe Cortright, the economist responsible for the Walk Score value study cited above, published a report called "Portland's Green Dividend," in which he asked the question: what does Portland get for being walkable? To set the stage, it is useful to describe what makes

Portland different. Beginning in the 1970s, Portland made a series of decisions that fundamentally altered the way the city was to grow. While most American cities were building more highways, Portland invested in transit and biking. While most cities were reaming out their roadways to speed traffic, Portland implemented a Skinny Streets program. While most American cities were amassing a spare tire of undifferentiated sprawl, Portland instituted an urban growth boundary. These efforts and others like them, over several decades—a blink of the eye in planner time—have changed the way that Portlanders live.

This change is not dramatic—were it not for the roving hordes of bicyclists, it might be invisible—but it is significant. While almost every other American city saw its residents drive farther and farther every year, and spend more and more of their time stuck in traffic, Portland's vehicle miles traveled per person peaked in 1996. Now, compared to other major metropolitan areas, Portlanders on average drive 20 percent less.

According to Cortright, this 20 percent (4 miles per citizen per day) adds up to $1.1 billion of savings each year, which equals fully 1.5 percent of all personal income earned in the region. And that number ignores time not wasted in traffic: peak travel times have actually dropped 11 minutes per day. Cortright calculates this improvement at another $1.5 billion.

What happens to these savings? Portland is reputed to have the most independent bookstores per capita and the most roof racks per capita. These claims are slight exaggerations, but they reflect a documented above-average consumption of recreation of all kinds. Portland has more restaurants per capita than all other large cities except Seattle and San Francisco.

More significantly, whatever they are used for, these savings are considerably more likely to stay local than if spent on driving. Almost 85 percent of money expended on cars and gas leaves the local economy—much of it, of course, bound for the Middle-East. A significant amount of the money saved probably goes into housing, since that is a national tendency: families that spend less on transportation spend more on their homes, which is as local as investments get.

That's the good news about Portland. Meanwhile, what's happened to the rest of the country? While transportation used to absorb only one tenth of a typical family's budget (1960), it now consumes more than one in five dollars spent. The typical "working-class" family, remarkably, pays more for transportation than for housing.

The typical "working-class" family, remarkably, pays more for transportation than for housing.

This circumstance exists because the typical American working family now lives in suburbia, where the practice of "drive-'til-you-qualify" reigns supreme. Families of limited means move further and further away from city centers in order to find housing that is cheap enough to meet bank lending requirements. Unfortunately, in so doing, they often find that driving costs outweigh any savings, and their total household expenses escalate.

No surprise, then, that as gasoline broke $4.00 per gallon and the housing bubble burst, the epicenter of foreclosures occurred at the urban periphery, places that required families to have a fleet of cars in order to participate in society, draining their mortgage carrying capacity. These are the neighborhoods that were not hurt by the housing bubble bursting; they were ruined by it.

This is bad news for Orlando and Phoenix, but it's good news for New York, Chicago, and Portland. But the real Portland story is perhaps not its transportation but something else: young, smart people are moving to Portland in droves. Over the decade of the 1990s, the number of college-educated 25- to 34-year-olds increased 50 percent in the Portland metropolitan area—five times faster than in the nation as a whole.

There is another kind of walkability dividend, aside from resources saved and resources reinvested: resources attracted by being a place where people want to live. The conventional wisdom used to be that creating a strong economy came first, and that increased population and a higher quality of life would follow. The converse now seems more likely: creating a higher quality of life is the first step to attracting new residents and jobs. This is why Chris Leinberger believes that "all the fancy economic development strategies, such as developing a biomedical cluster, an aerospace cluster, or whatever the current economic development 'flavor of the month' might be, do not hold a candle to the power of a great walkable urban place."

The Epidemiological Argument

On July 9, 2004, three epidemiologists published a book called *Urban Sprawl and Public Health*. Until that day, the main arguments for building walkable cities were principally aesthetic and social. More significantly, almost nobody but the planners was making them. But it turns out that while the planners were shouting into the wilderness about the frustrations, anomie, and sheer waste of suburban sprawl, a small platoon of physicians were quietly doing something much more useful: they were documenting how our built environment was killing us, in at least three different ways: obesity, asthma, and car crashes.

The numbers are compelling. According to the U.S. Centers for Disease Control, fully one-third of American children born after 2000 will become diabetics. For the first time in history, the current generation of youth are expected to live shorter lives than their parents. This is due partly to diet, but partly to planning: the methodical eradication from our communities of the *useful walk* has helped to create the least-active generation in American history.

For the first time in history, the current generation of youth are expected to live shorter lives than their parents.

In any discussion about American health, obesity has to be front and center. In the mid-1970s, only about one in ten Americans was obese, which put us where much of Europe is right now. What has happened in the intervening thirty years is astonishing: by 2007, that rate had risen to one in three, with a second third of the population "clearly overweight." According to the rules of the U.S. military, twenty-five percent of young men and forty percent of young women are too fat to enlist.

Much has been written about the absurdity of the American corn-based diet and its contribution to our national girth. But our body weight is a function of calories in and calories out, and the latest data suggests that diet is actually the smaller factor. One recent study, published in the *British Medical Journal*, called "Gluttony or Sloth?" found that obesity correlated much more strongly with inactivity than with diet. Meanwhile, at the Mayo Clinic, Dr. James Levine put test subjects in motion-detecting underwear, placed them all on the same diet, and then began to stuff them with additional calories. As anticipated, some subjects gained weight while others didn't. Expecting to find a metabolic factor at work, he learned instead that the outcome was entirely attributable to physical activity. The people who got fatter made fewer unconscious motions and, indeed, spent on average two more hours per day sitting down.

Over the past decade, there has been a series of studies that attribute obesity to the automotive lifestyle and, better yet, to the automotive landscape. One study, in San Diego, reported that 60 percent of residents in a "low-walkable" neighborhood were overweight, compared to only 35 percent in a "high-walkable" neighborhood. Another, a six-year analysis of 100,000 Massachusetts residents found that the lowest Body Mass Index averages were located in Boston and its inner ring suburbs, while the highest could be found in the "car-dependent" outer ring surrounding Interstate 495.

Now, let's turn to asthma. About fourteen Americans die each day from asthma attacks. That number does not seem particularly high, but it is three times the rate of 1990. Now, 7 percent of American's suffer from Asthma in some form.

Pollution isn't what it used to be. American smog now comes principally from tailpipes, not factories. It is considerably worse than it was a generation ago, and it is unsurprisingly worst in our most auto-dependent cities, like Los Angeles and Houston. In 2007, Phoenix recorded three full months of days in which it was deemed unhealthy for the general public to leave their homes.

Finally, for most healthy Americans, the greatest threat to that health is car crashes. Most people take the risks of driving for granted, as if they were some inevitable natural phenomenon—but they aren't. While the U.S. suffers 12 traffic fatalities annually per 100,000 population, Germany, with its no-speed-limit Autobahn, has only 7, and Japan rates a 4. New York City beats them all, with a rate of 3. If our entire country shared New York City's traffic statistics, we would prevent more than 24,000 deaths a year.

San Francisco and Portland both compete with New York, with rates below 3 deaths per 100,000 population, respectively. Meanwhile, Tulsa comes in at 14 and Orlando at 20. Clearly, it's not just how much you drive, but where you drive, and more accurately how those places were designed. Older, denser cities have much lower automobile fatality rates than newer, sprawling ones. Ironically, it is the places shaped around automobiles that seem most effective at smashing them into each other.

In search of some good news, we can turn to Dan Buettner, the National Geographic host and bestselling author responsible for *The Blue Zones: Lessons for Living Longer from the People Who've Lived the Longest*. After a tour of the world's longevity hot spots, Buettner takes his readers through the "Power Nine: the lessons from the Blue Zones, a cross cultural distillation of the world's best practices in health and longevity." Lesson One is "Move Naturally":

"Longevity all-stars don't run marathons or compete in triathlons; they don't transform themselves into weekend warriors on Saturday morning. Instead, they engage in regular, low-intensity physical activity, often as a part of a daily work routine. Rather than exercising for the sake of exercising, try to make changes to your lifestyle. Ride a bicycle instead of driving. Walk to the store instead of driving. . ."

Like most writers on the subject, Buettner and his sources neglect to discuss how these "lifestyle" choices are inevitably a function of the design of the built environment. They may be powerfully linked to place—the Blue Zones are zones, after all—but there is scant admission that walking to the store is more possible, more enjoyable, and more likely to become habit in some places than in others. It is those places that hold the most promise for the physical and social health of our society.

The Environmental Argument

In 2001, Scott Bernstein, at the Center for Neighborhood Technology in inner-city Chicago, produced a set of maps that are still changing the way Americans think about their country. In these maps, remarkably, the red and the green switched places. This reversal, perhaps even more than the health discussion, threatens to make walkability relevant again.

On typical carbon maps, areas with the greatest amounts of carbon output are shown in bright red, and those with the least are shown in green, with areas in between shown in orange and yellow. The hotter the color, the greater the contribution to climate change.

Historically, these maps looked like the night-sky satellite photos of the United States: hot around the cities, cooler in the suburbs, and coolest in the country. Wherever there are lots of people, there is lots of pollution. A typical carbon map, such as that produced in 2002 by the Vulcan Project at Purdue University, sends a very clear signal: countryside good, cities bad.

These maps are well in keeping with the history of the environmental movement in the United States, which has traditionally been anti-city, as has so much American thought. This strain traces its roots back to Thomas Jefferson, who described large cities as "pestilential to the morals, the health, and the liberties of man." Not without a sense of humor, he went on: "When we get piled up upon one another in large cities, as in Europe, we shall become as corrupt as in Europe, and go to eating one another as they do there."

For a long time, these were the only type of carbon map, and there is certainly a logic in looking at pollution from a location-by-location perspective. But this logic was based on an unconsidered assumption, which is that the most meaningful way to measure carbon is by the square mile.

This assumption is false. The best way to measure carbon is per person. Places should be judged not by how much carbon they emit, but by how much carbon they cause

us to emit. There are only so many people in the United States at any given time, and they can be encouraged to live where they have the smallest environmental footprint. That place turns out to be the city—the denser the better.

Or, as the economist Ed Glaser puts it: "We are a destructive species, and if you love nature, stay away from it. The best means of protecting the environment is to live in the heart of a city."

"The best means of protecting the environment is to live in the heart of the city."

No American city performs quite like New York. The average New Yorker consumes roughly one third the electricity of the average Dallas resident, and ultimately generates less than one third the greenhouse gases of the average American. The average resident of Manhattan consumes gasoline "at a rate that the country as a whole hasn't matched since the mid-1920s."

New York is America's densest big city and, not coincidentally, the greenest. But why stop there?: New York consumes half the gasoline of Atlanta. But Toronto cuts that number in half, as does Sydney—and most European cities use only half as much as those places.

This condition exists not because our buildings or cars are less efficient, or our buildings are less green, but because our cities are not as well organized around walking. This point was made clear in a recent EPA study, "Location Efficiency and Building Type—Boiling it Down to BTUs," that compared four factors: drivable vs. walkable ("transit-oriented") location; conventional construction vs. green building; single-family vs. multifamily housing; and conventional vs. hybrid automobiles. The study demonstrated that, while every factor counts, none counts nearly as much as walkability. Specifically, it showed how, in drivable locations, transportation energy use consistently tops household energy use, in some cases by more than 2.4 to 1. As a result, the most green home (with Prius) in sprawl still loses out to the least green home in a walkable neighborhood.

It turns out that trading all of your incandescent light bulbs for energy-savers conserves as much carbon per year as living in a walkable neighborhood does each week. Why, then, is the vast majority of our national conversation on sustainability about the former and not the latter? Witold Rybczynski puts it this way:

"Rather than trying to change behavior to reduce carbon emissions, politicians and entrepreneurs have sold greening to the public as a kind of accessorizing. "Keep doing what you're doing," is the message, just add another solar panel, a wind turbine, a bamboo floor, whatever. But a solar-heated house in the suburbs is still a house in the suburbs, and if you have to drive to it—even in a Prius—it's hardly green."

This accessorizing message has been an easy sell in America, where it is considered politically unwise to ask consumers to sacrifice, to alter their quality of life in service of some larger national goal, such as keeping a dozen of our largest cities above sea level. But what if there were a more positive quality-of-life discussion, one that allowed us to satisfy consumer demands that have not been met by a real estate industry centered on suburban sprawl?

The gold standard of quality-of-life rankings is the Mercer Survey, which carefully compares global cities in ten categories including political stability, economics, social quality, health, education, recreation, housing, and even climate. Its rankings shift slightly from year to year, but the top ten cities always seem to include a number of places where they speak German (Vienna, Zurich, Dusseldorf, etc.) along with Vancouver, Auckland, and Sydney. These are all places with compact settlement patterns, good transit, and principally walkable neighborhoods. Indeed, there isn't a single auto-oriented city in the top 50. The highest rated American cities in 2010, which don't appear until number 31, are Honolulu, San Francisco, Boston, Chicago, Washington, New York, and Seattle.

Looking at this ranking, the message is clear. America's cities, which are twice as efficient as its suburbs, burn twice the fuel of European, Canadian, and Aussie/Kiwi places. Yet the quality of life in these foreign cities deemed considerably higher. This is not to say that quality of life is directly related to sustainability, but merely that many Americans, by striving for a better life, might find themselves moving to places that are more like the winners. . . or better yet, might try transforming their cities to resemble the winners. This sort of transformation could include many things, but one of them would certainly be walkability.

Vancouver, always a top contender, proves a useful model. By the mid-20th century, it was fairly indistinguishable from a typical U.S. city. Then, beginning in the late 50s, when most American cities were building highways, planners in Vancouver began advocating for high-rise housing downtown. This strategy, which included stringent measures for green space and transit, really hit its stride in the 1990s, and the change has been profound. Over the past fifteen years, the amount of walking and biking citywide has doubled, from fifteen percent to thirty percent of all trips. Vancouver is not ranked #1 for livability because it is so sustainable; the things that make it sustainable also make it livable.

Quality of life—which includes both health and wealth—may not be a function of our ecological footprint, but the two are deeply interrelated. To wit, if we pollute so much because we are throwing away time, money, and lives on the highway, then both problems would seem to share a single solution, and that solution is to make our cities more walkable.

1.4 Suburban Remix: The Next Generation of Urban Places

David Dixon FAIA and Jason Beske AICP

A Perfect Storm of Disruption

North America is in the midst of "suburban remix." A perfect storm of challenges has broken apart a 70-year-old suburban growth model shaped around car-focused, relatively affluent, and dispersed development. But as this model falls apart, another far more resilient model is taking shape: walkable, dense, diverse, compact—and *urban*.

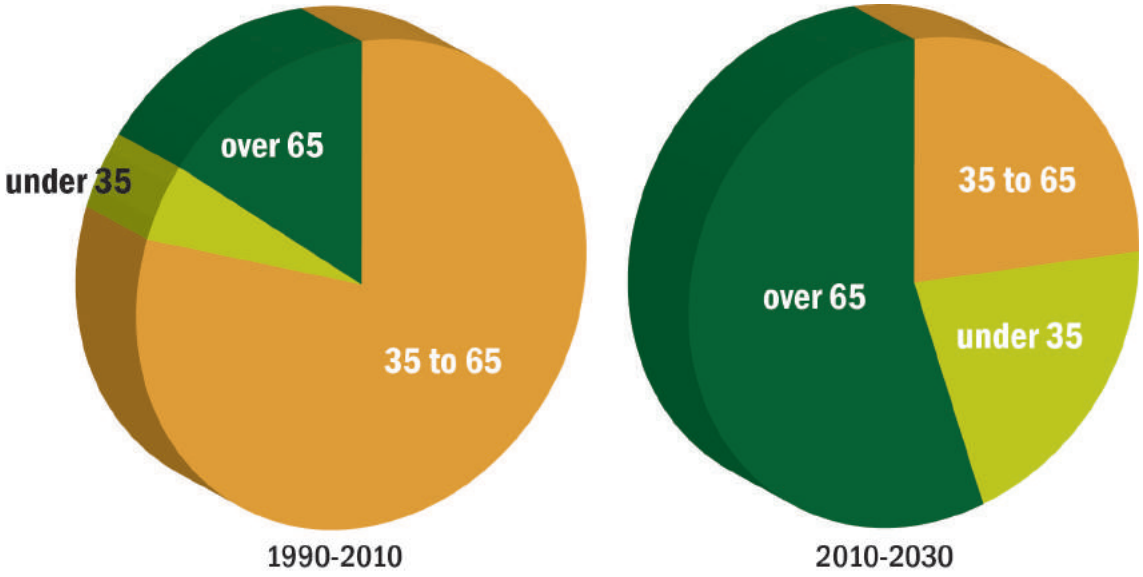
The storm's disruptive power is real. The core market for suburban single-family houses—families with kids—represents roughly half the share of North America's population that it did in 1970. This share will continue to shrink through the 2030s, just as the share represented by households over 65—net sellers of single-family houses—grows rapidly. Meanwhile, younger, educated workers are moving into urban cores, and knowledge industry office demand and investment are following. (Downtowns and dense, walkable suburbs fill Amazon's list of finalists for HQ2).

Unsurprisingly, suburban housing and office values have lagged their urban counterparts since 2000. And, in a dramatic reversal, more people living in poverty now call suburbs home, while affluent households are relocating to cities. This has slowed tax-base growth, battering local budgets. Demographic and economic trends suggest that these dynamics will grow more disruptive over the next two decades—reinforced by the arrival of shared autonomous mobility (see sidebar).

On the green fringes of Washington, DC, Fairfax County, Virginia—long an archetype of affluent, prosperous suburbia dominated by single-family subdivisions—demonstrates the stresses these trends have unleashed. Since the Great Recession, poverty across the county has grown by more than 50 percent; county revenues haven't kept pace with the accompanying costs; and residents have watched as housing values have risen 300 percent faster in nearby Washington.

New Normal: As people 65 and older and 34 or younger come to dominate US population growth—a pattern that will continue through the 2030s—demand for single-family houses in suburbs will fall as demand for multifamily housing rises in urban settings in cities...and suburbs.

Image Source: www.trulia.com



To create a more dynamic live/work quality and attract startups and creative businesses to Dublin, a suburb of Columbus, developer Crawford Hoying introduced "above the store" workspace topped by three floors of housing.

Diverse Lessons

Yet Fairfax County is anything but broken. Spurred by the region's Metrorail transit system, Fairfax has emerged as an early leader in replacing sprawl with a new urban growth model. Over the past decade the County has approved more than $20 billion in higher-density, walkable, mixed-use centers that replace millions of square feet of malls, strip retail centers, and office parks. More important, places like Tysons, Reston Town Center, and the Mosaic District aren't emerging as "developments" but as lively new suburban downtowns and Main Streets that function as the heart for their increasingly diverse communities. Similar transformations are underway in other DC suburbs, such as Arlington, Virginia, and Bethesda, Maryland.

Indeed, suburbs across North America are following suit—even without transit as a catalyst. Consider Dublin, Ohio, on the outskirts of Columbus. Dublin's leaders worried that its expensive subdivisions and prize-winning golf courses hadn't stopped high-wage knowledge workers—along with jobs and investment—from heading to more urban settings. So the town launched a two-year planning process to create a new mixed-use, walkable downtown that would eventually grow to 10 million square feet. Developer Crawford Hoying took a financial risk with the first phase, Bridge Park, by sandwiching innovative "cool office space" between shops and lofts. The concept has been so successful in attracting start-ups and entrepreneurs back to suburbia that Crawford Hoying will build even more as they expand Bridge Park.

Elected officials in Sandy Springs, Georgia, took a political risk that paid off in this conservative Atlanta suburb, once profiled in the *New York Times* for privatizing government services. The mayor and city council used eminent domain—not without controversy—to help create a downtown, City Springs, where none had existed and ensure that it would include a lively mix of civic and cultural activities and a critical mass of housing and office development.

While Dublin and Sandy Springs represent examples of *de novo* downtowns in postwar suburbs, the Northland Company took an infill approach. In the mature Boston suburb of Newton, Northland is redeveloping a smaller strip center along a commercial corridor, transforming it into a new "village center" serving nearby 19th- and early-20th-century neighborhoods. The project preserves an 1860s mill building by adapting it as state-of-the-art office space—across from 21st-century lofts and cafés.

Following decades of outward expansion on the fringes of Kansas City, Overland Park, Kansas, established a vision plan and regulations, guided by extensive community engagement, that promise a more walkable and livable community focused on mixed-use nodes and higher densities. The city's downtown has emerged as a central gathering place built around a growing and diverse residential population, a mix of uses—and, unexpectedly, a lively food scene. Home to a culinary center, specialty food shops, and an array of local dining options, Overland Park's emergence as a more walkable suburb builds on emphasizing authenticity and creating a true heart for the community.

In contrast to these examples drawn from relatively affluent suburbs, Miami Township, south of Dayton Ohio, represents a middle-income suburb in a region hit hard by factory closings. Seeking to jump-start economic growth, the Township created a plan to retrofit a vast area of car-focused development around the Dayton Mall. It has launched redevelopment of 1,000 acres of excess surface parking and outmoded retail and office buildings into a lively mixed-use Main Street known as Miami Crossing. Sears Holdings became one of the first land owners to express interest in redeveloping land it owns at the mall.

And Canada's Ontario Province is several steps ahead of all these communities. In 2005, it adopted the first Places to Grow Act, which sets density targets for residents and jobs in multiple urban growth centers. In response, Greater Toronto Area (GTA) suburbs like Cornell and Mount Pleasant Village have created higher-density, mixed-use developments reminiscent of traditional, walkable urban neighborhoods that line streets with an animated mix of uses.

50 years after Lake Anne Village introduced Reston, Virginia, as a romanticized alternative to traditional suburbia, the community's latest phase—Reston Town Center—is attracting knowledge industry employers and civic celebrations alike to one of America's most robust suburban centers. (photo: Flickr User Ifalbisu under CC by 2.0)

Common DNA

While each of these suburbs offers unique lessons, they share a common DNA of process, policies, and placemaking. Each started with civic leadership—a local official, advocate, or organization that stepped forward and made the case for change. Each community launched a transformative planning process built around inclusive engagement that used education to build strong local support in places where terms like "dense" and "urban" had long been anathema. All market-driven, these initiatives also rely on innovative P3s to fund an "urban" infrastructure of streets, parks, and structured parking. They grow upward, not outward, creating a compact critical mass that supports the people (and disposable income) essential to bringing life to their new streets—without touching a single blade of grass on nearby residential lawns.

These examples also embody shared placemaking principles. Above all, they're walkable—distinguished by lively sidewalks and animated by a wide variety of shops, food, entertainment, and other amenities that invite meandering. They connect to their communities in multiple ways: by bike, on foot, by bus (and sometimes transit), and, of course, by car—they're suburbs, after all. They feature a multilayered public realm, from "active" squares to places of quiet reflection, and they often include a "town green" and other civic spaces that invite their increasingly diverse populations to come together. They offer a plethora of choices for living, working, shopping, and playing, geared to increasingly diverse lifestyles. And they remind us what the overused term "authentic" means—not a mimicking of historic forms but an expression of the living cultures and the history, climate, and ecology that distinguish their communities.

Suburbs are in transition. A perfect storm of accelerating demographic, economic, social, and technological changes has produced unfamiliar challenges. But these are challenges to sprawl, not suburbs. Qualities that began reviving cities 20 years ago—walkable density, placemaking that builds a sense of community, a mix of uses geared to a diverse population—are bringing new life to North America's suburbs. As we enter an urban era, expect it to be as much about suburbs as it is about cities.

Shared Autonomous Mobility

The arrival of autonomous vehicles over the next two decades will have the same impact as the arrival of universal car ownership following World War II.

While many observers predict autonomous mobility will reignite sprawl, the real disruption will come from shared autonomous vehicles (SAVs). Rod Schebesch, head of Stantec's SAV research program, calls these 6- to 12-passenger, electric vehicles "the ultimate mobile device for urban connectivity" and predicts they will be omnipresent on urban streets within a decade. Morgan Stanley projects that SAVs will dominate growth in global automobile manufacturing by the mid-2020s.

SAVs will generate significant dividends for urban centers in cities and suburbs: enriching lifestyles by making every loft, job, gallery, and craft brewery literally an app-click away; reducing development costs by sharply cutting parking demand; and freeing up space for parks and wider sidewalks by reducing street widths and closing surface parking lots. SAVs will not disrupt equally, however. They'll spread rapidly in urban settings with a critical mass of people and destinations. "Urban" will increasingly signify places where mobility is shared, not owned. In lower-density environments, private AVs, although more expensive to own and operate, will dominate but will phase in more slowly.

Section 2

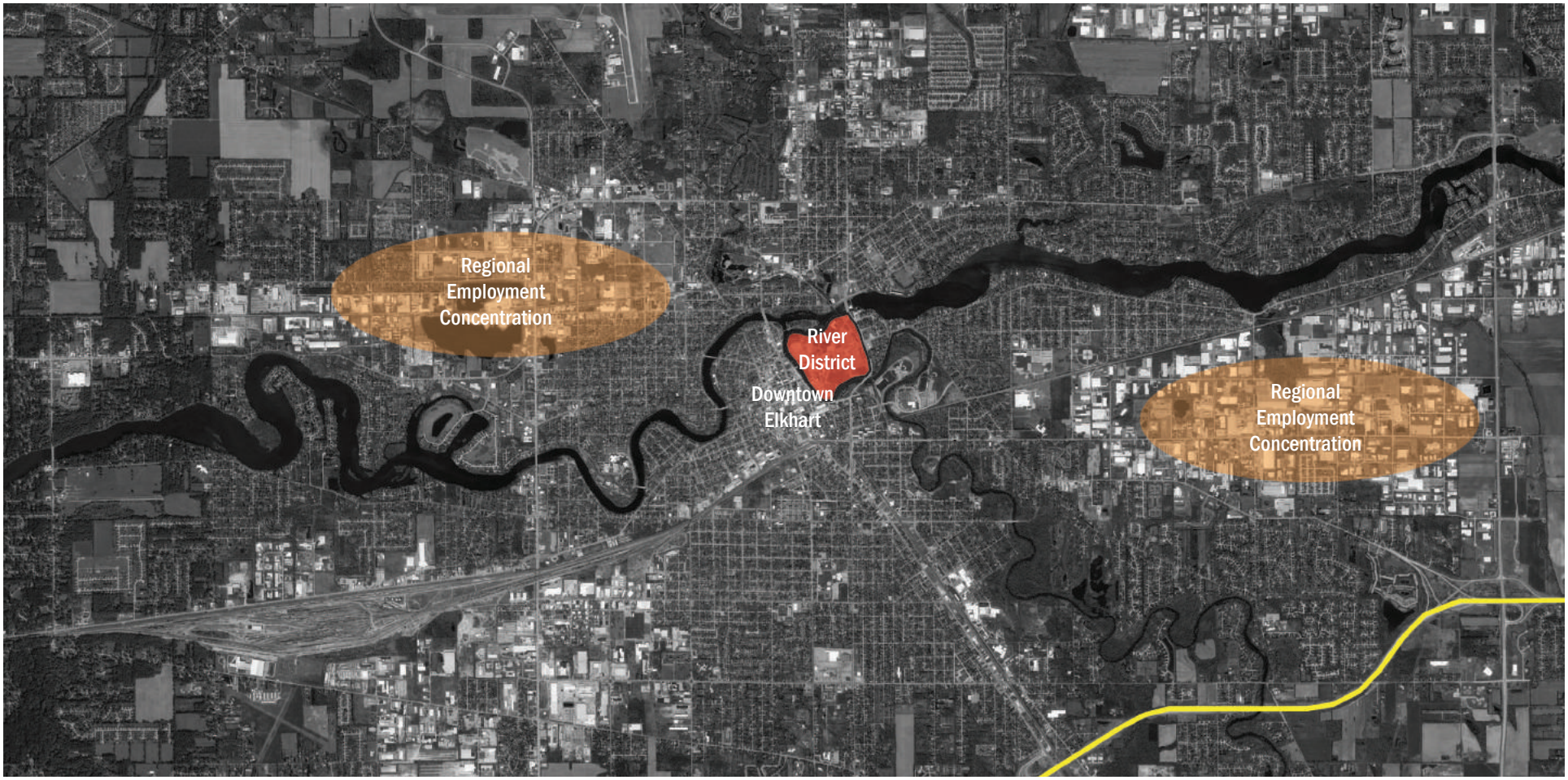
Plan

The Site

The River District is located across the Elkhart River from Downtown and midway between the Elkhart region's primary employment centers.

Elkhart's recent economic history centers on RV manufacturing and associated services and production. Recently, the community has sought strategies to diversify the local economy, extend job opportunities to a broader workforce, attract knowledge sector employees (and the employers that follow them), foster innovation, and revitalize downtown.

The River District Implementation Team seeks to revitalize the River District into a walkable, livable neighborhood that will catalyze substantial progress toward many of these economic development goals.



The Plan

This Master Plan and accompanying Regulating Plan provide the design framework necessary to achieve the walkable, livable River District envisioned by the RDIT and broader Elkhart community.

The following pages detail the Plan's structuring concepts, key features, and signature elements.

Housing

A concentrated critical mass of walkable, urban housing will fuel the River District's revitalization.

During the visioning process, Zimmerman/Volk Associates (ZVA) conducted a housing market study to determine how many new housing units downtown Elkhart could absorb if delivered in the context of a vibrant, walkable neighborhood. The analysis projects, over a five-year timeframe, 680 to 880 rental and for-sale housing units could be supported.

Assuming this rate of absorption continues for the next decade (which prevailing demographic and socioeconomic trends suggest is likely), there is enough market potential to fill the River District–and also areas immediately surrounding, such as downtown proper–with dense urban housing which will welcome enough new residents to truly bring the neighborhood to life.

Already, between the Flaherty & Collins and Great Lakes Capital projects, about 360 units are under construction or in the pipeline. This Plan's first phase will add another nearly 200 units to that initial total, creating momentum that will likely see realization of ZVA's 5-year projections in at most as many years.

NOTE: "du" represents dwelling unit

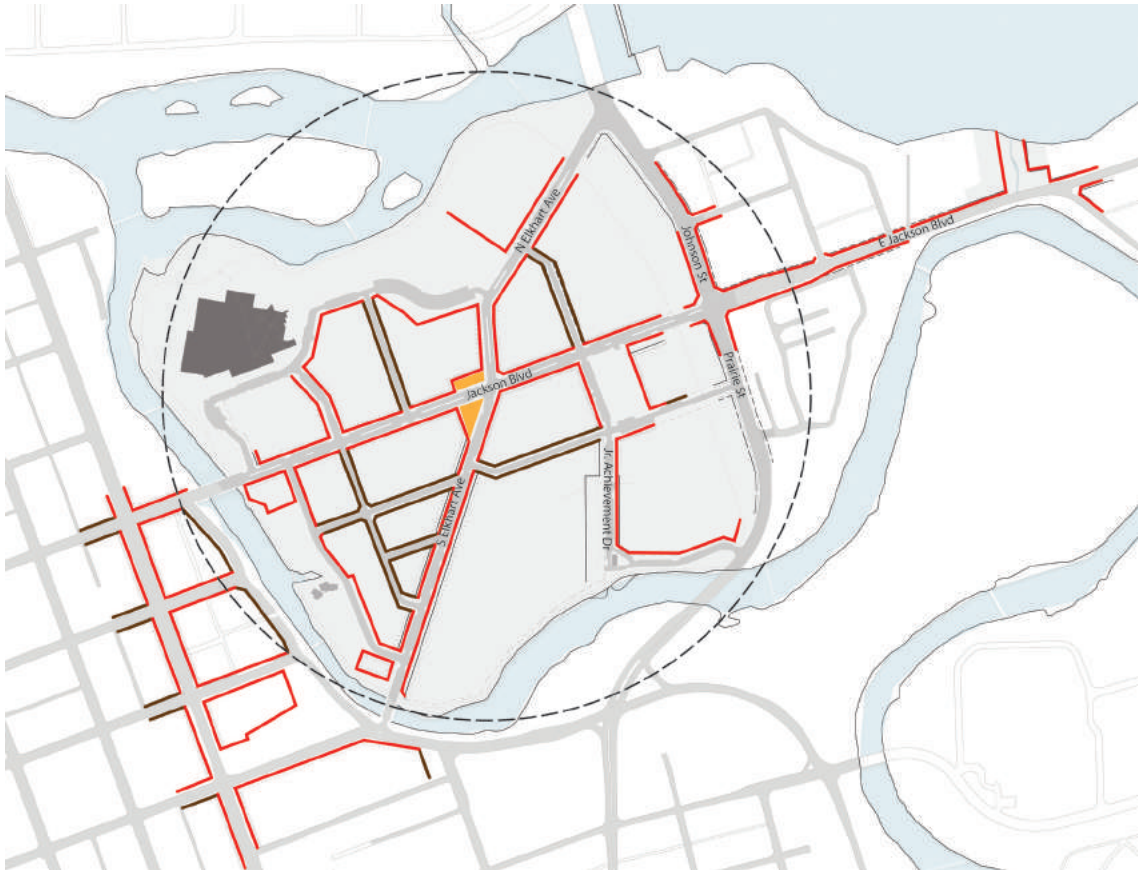
Neighborhood Structure

The Plan extends downtown's walkable street grid across the river. Consistent frontages against sidewalk edges throughout the public realm help make walking useful, safe, and comfortable.

Frontages along the most important streets–"primary frontages"–are expected to attract and sustain pedestrian activity. As such, their design is held to the highest standard in the attached Regulating Plan, to promote walkability and a dynamic sidewalk edge.

Frontages along other streets–"secondary frontages"–are not expected to attract and sustain pedestrian activity and therefore are held to a lesser standard in the attached Regulating Plan, though good design that promotes walkability is still emphasized.

Importantly, the district concentrates this walkable network, and its diversity of public spaces and amenities, within a 5-minute walking radius (itself a few minutes' walk from the historic heart of downtown across the river).



LEGEND

Primary Frontage

Secondary Frontage

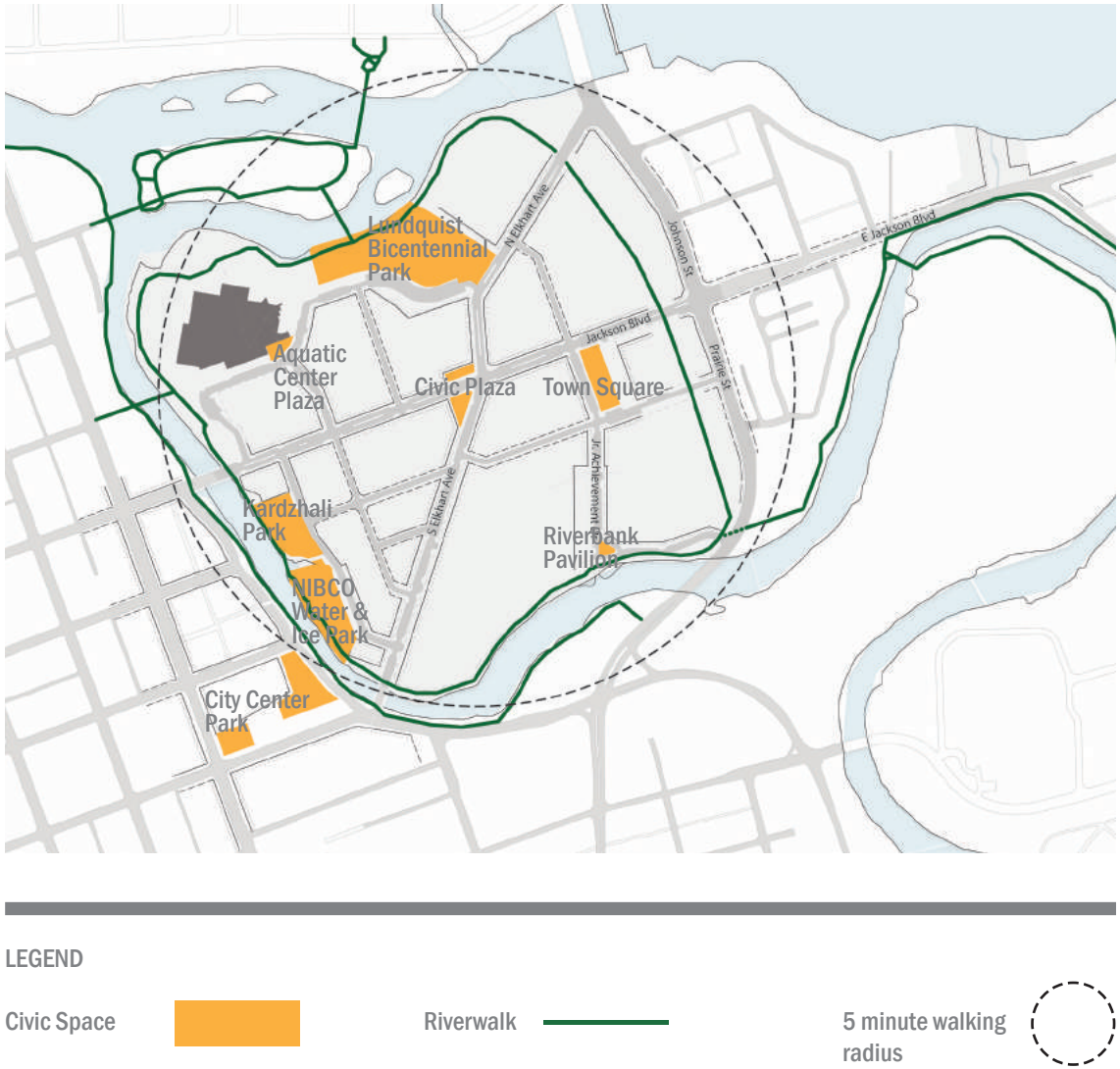
5 minute walking radius

Neighborhood Center

Civic Space Network

The Plan establishes a network of diverse civic spaces that each provide a distinct "place" in the district and serve a unique role in the culture and community of local residents and regional visitors:

- **Civic Plaza**, the district's central public space, containing decorative pavers, shade trees, seating, and more, is lined with restaurants and retail to animate the district's core.
- **Town Square**, a formal composition of lawn, play area, splash pad, and dog park, works with the adjacent supermarket to anchor the district's eastern edge and draw pedestrians down Jackson.
- **Aquatic Center Plaza**, an intimate space framed by the destination's primary entrance, invites visitors down Clark Street to the Center.
- **Lundquist Bicentennial Park**, an existing park, a prime candidate for reinvestment, could become much more integrated into the district's public realm network as a signature interface between the urban environment and the riverfront, and a recreation destination in its own right.
- **Kardzhali Park and NIBCO Water and Ice Park**, existing parks along the riverfront that currently help bring the riverfront to life will only become more important as the district matures around them.
- **Riverbank Pavilion**, an intimate interface with the river, creates a social amenity for the new residential community and a destination for leisure strolls through the district.
- **Riverwalk**, a growing network of riverfront paths and neighborhood connections, will offer a loop route around the district for pedestrians and cyclists, and will tie into regional trail systems.



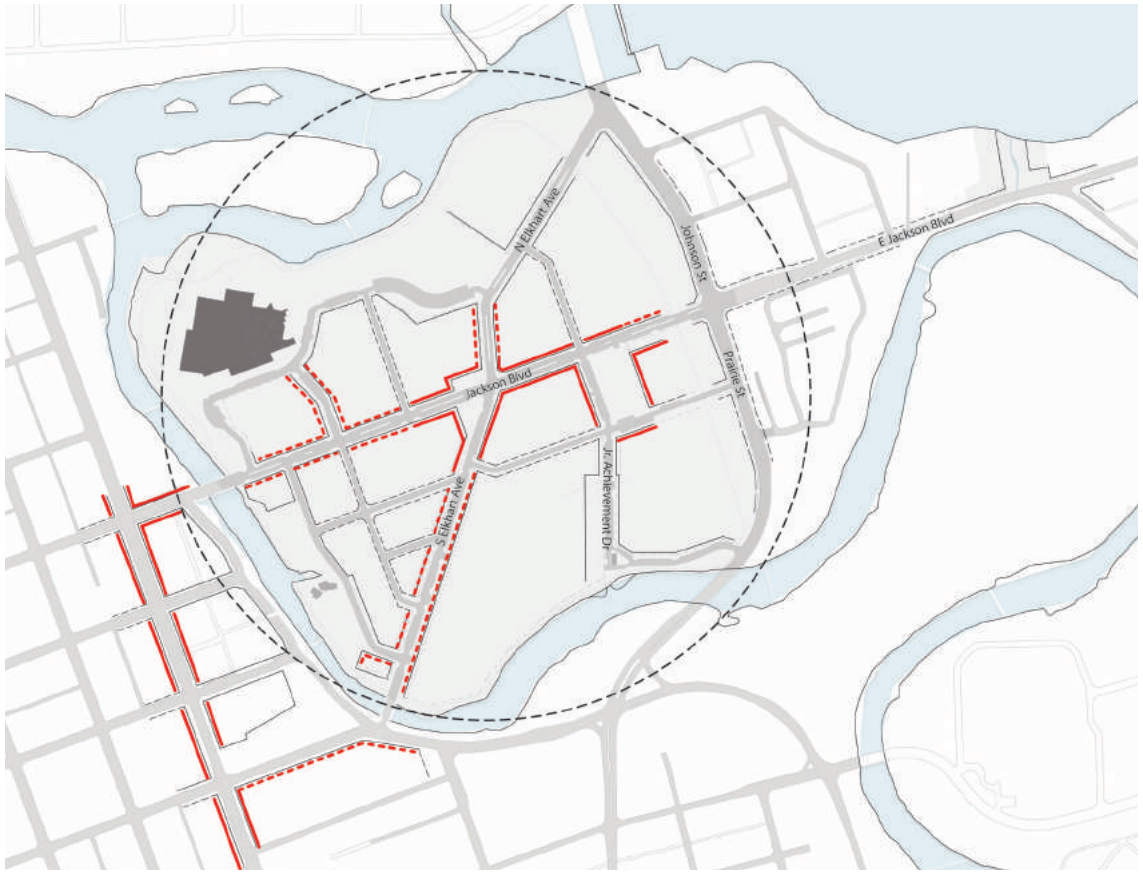
Active/Retail Frontage

Just as the Plan extends downtown's walkable street network across the river, planned retail lining primary streets also extends downtown's shopping environment into the district. This helps animate the district's primary streets and invites pedestrians to stroll between the neighborhood and downtown.

The Plan envisions Jackson Boulevard as the district's primary retail street with Elkhart Avenue as another potential retail corridor.

Retail is required at these two streets' intersection and along Jackson to and around the Town Square to help bring these signature public spaces to life, and to ensure that the district includes an adequate concentration of amenities to serve new residents and attract visitors from downtown and beyond.

Retail is optional elsewhere along Jackson Boulevard and Elkhart Avenue, and flanking Clark in front of the Aquatic Center, to allow for extended retail corridors should the market support them. Retail is not required along these ancillary routes, to avoid unduly competing with downtown's Main Street retail corridor.



LEGEND

Retail Required

Retail Allowed

5 minute walking radius

Jackson Boulevard

The district's signature "main street," Jackson Boulevard is planned to be its most active and walkable corridor.

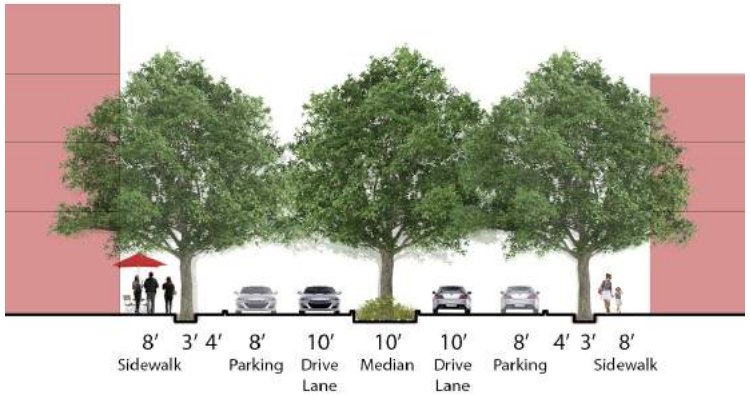
Today, Jackson is an important thoroughfare and auto-oriented connector to downtown. The Plan refines a planned 4-lane to 3-lane "road diet" that maintains traffic capacity while freeing up right-of-way for on-street parking, a more robust planting strip, and more generous sidewalks.

The middle lane functions where needed as a turn lane but otherwise as a planted median, which combined with the on-street parking, effectively constrains the roadway to slow vehicle speeds and improve pedestrian safety.

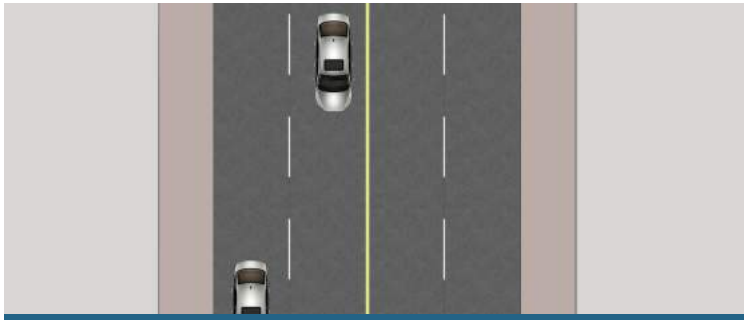
Buildings along Jackson are built to the sidewalk edge to frame the street for improved walkability.

Especially in key locations, such as near the Aquatic Center and at Elkhart Avenue, ground floor retail and café seating will help bring the sidewalk to life and engage passersby with bustling activity.

Current Jackson Boulevard section



Planned Jackson Boulevard section



Current Jackson Boulevard plan

Planned Jackson Boulevard plan

Civic Plaza at Jackson Boulevard

Walking through the heart of the district—along Jackson at the intersection with Elkhart Avenue—pedestrians enjoy the shade of maturing street trees and pass sidewalk cafes beneath multi-story apartments as they head toward the Aquatic Center or downtown.

Aquatic Center

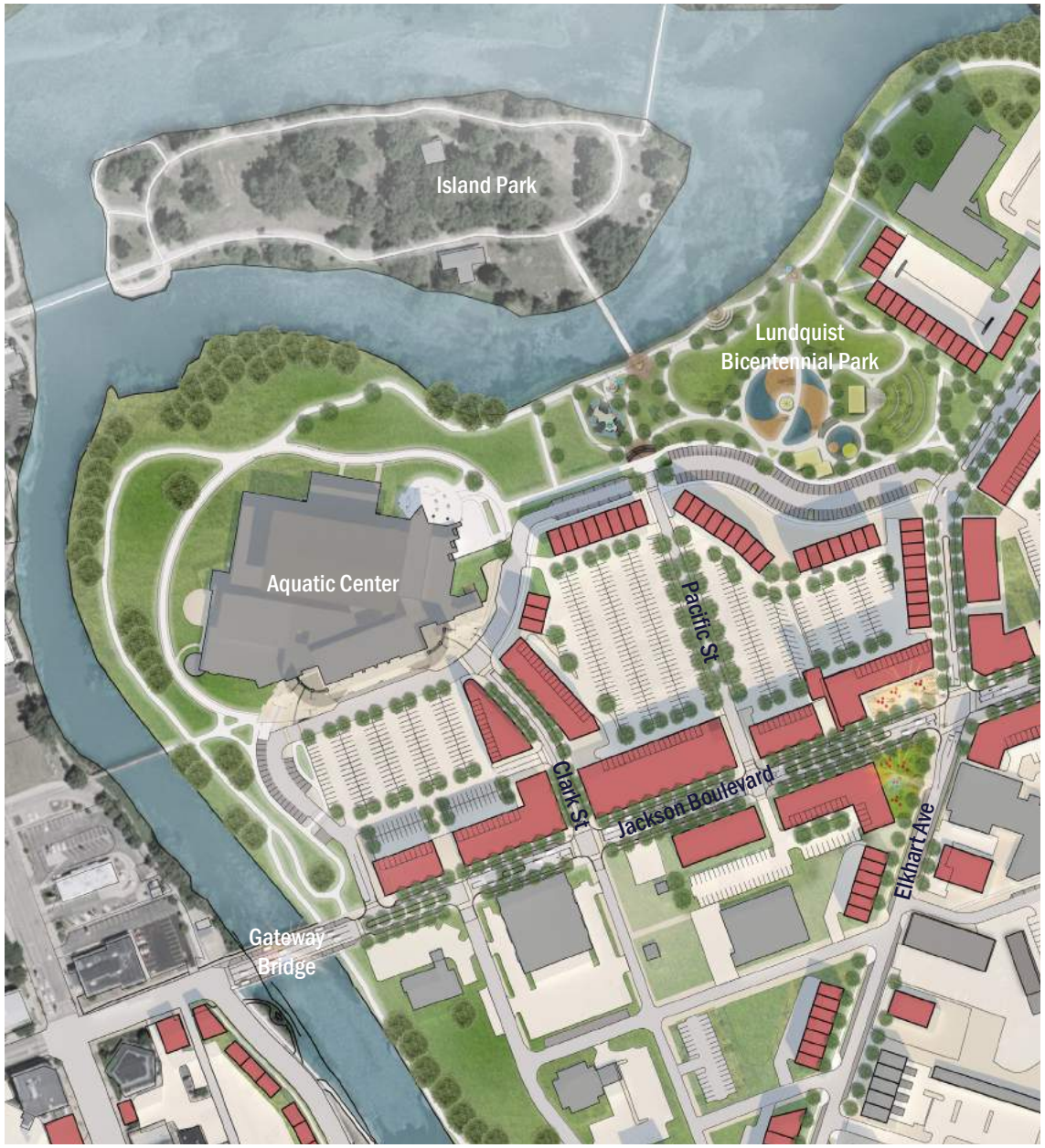
The Aquatic Center, the district's most important destination, anchors the district's largest and perhaps most transformational block.

Jackson Boulevard is the district's signature gateway as it crosses the bridge from downtown, featuring prominent views of the Aquatic Center.

Mixed-use development lines both sides of Jackson along most blocks between the river and Elkhart Avenue, for an almost seamless walkable experience from downtown. On-street parking lines both sides of the street, and abundant off-street parking is located within blocks, hidden from pedestrian view.

At Clark Street, pedestrians are invited to turn the corner and head to the Aquatic Center's eastern entrance or continue to the Civic Plaza and beyond.

Planned renovations and amenity upgrades at Lundquist Bicentennial Park (and potentially Island Park) are reinforced by new townhouses lining several edges to embrace the park with front doors and integrate it (along with the Riverwalk) into the district's broader walkable network of special places.



Aquatic Center at Clark Street

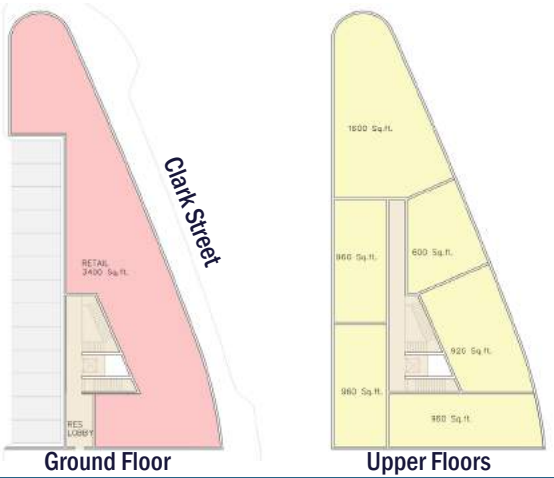
Turning the corner along Jackson into Clark Street, visitors are treated to a framed view of the Aquatic Center and two compact blocks of retail beneath apartments and office space. A modification for the Aquatic Center is recommended to more dramatically receive the view.

Clark Street Extension

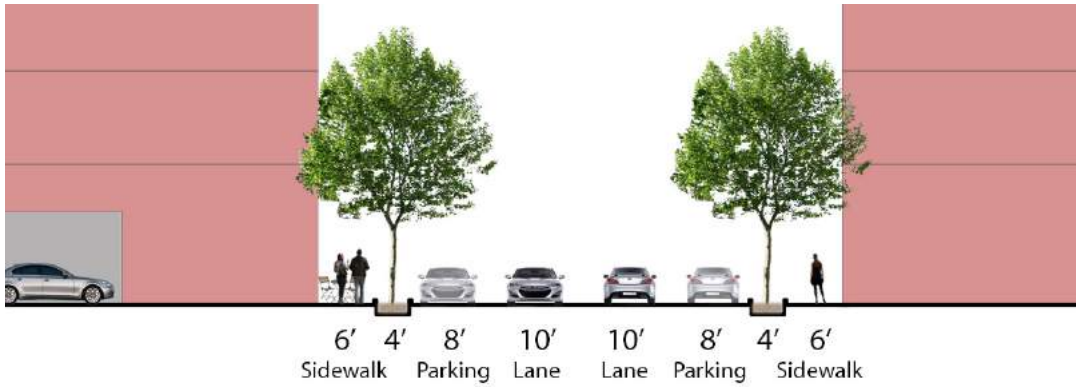
The Plan calls for Clark Street's northward extension across Jackson Boulevard to be the Aquatic Center's most visible public entry. This short link creates a powerful pedestrian connection between the District's signature main street and its primary destination.

Compact mixed-use buildings, on-street parking, and an intimate streetscape make walking to the Aquatic Center comfortable and interesting.

The buildings flanking the Clark Street extension play two important public roles: framing the view to the Aquatic Center's main entrance, and screening large parking lots from pedestrian view. These buildings create an attractive walking environment along an important pedestrian route. While the 'wedge' building west of the Clark Street extension has a unique triangular shape, it still provides functional retail and living space adjacent to the Aquatic Center.



Recommended 'Wedge' building floor plans



Planned Clark Street section

Planned Clark Street plan

Aquatic Center Parking: Daily

To serve its complex mix of uses, the Aquatic Center block's parking supply is tightly calibrated and its usage shared between complementary users throughout the day and week.

For example, housing, office, and the Aquatic Center can share the large lots in the block's center because each use's peak demand occurs at a different time of day or week.

If each use were allocated a dedicated parking supply equal to its peak demand, parking lots would displace development sites and the block would yield considerably less real estate value, nor would it generate the same critical mass of activity.

LEGEND

- Aquatic Center Parking (270 spaces)
- Residential Parking for 104 units (122 spaces)
- Shared Residential (52 units)/Office (108,000 SF) Parking (380 spaces)
- Hotel Parking (94 spaces)
- Jackson Boulevard (73 spaces)
- Park (59 spaces)
- Initial phase of River District redevelopment

Aquatic Center Parking: Events

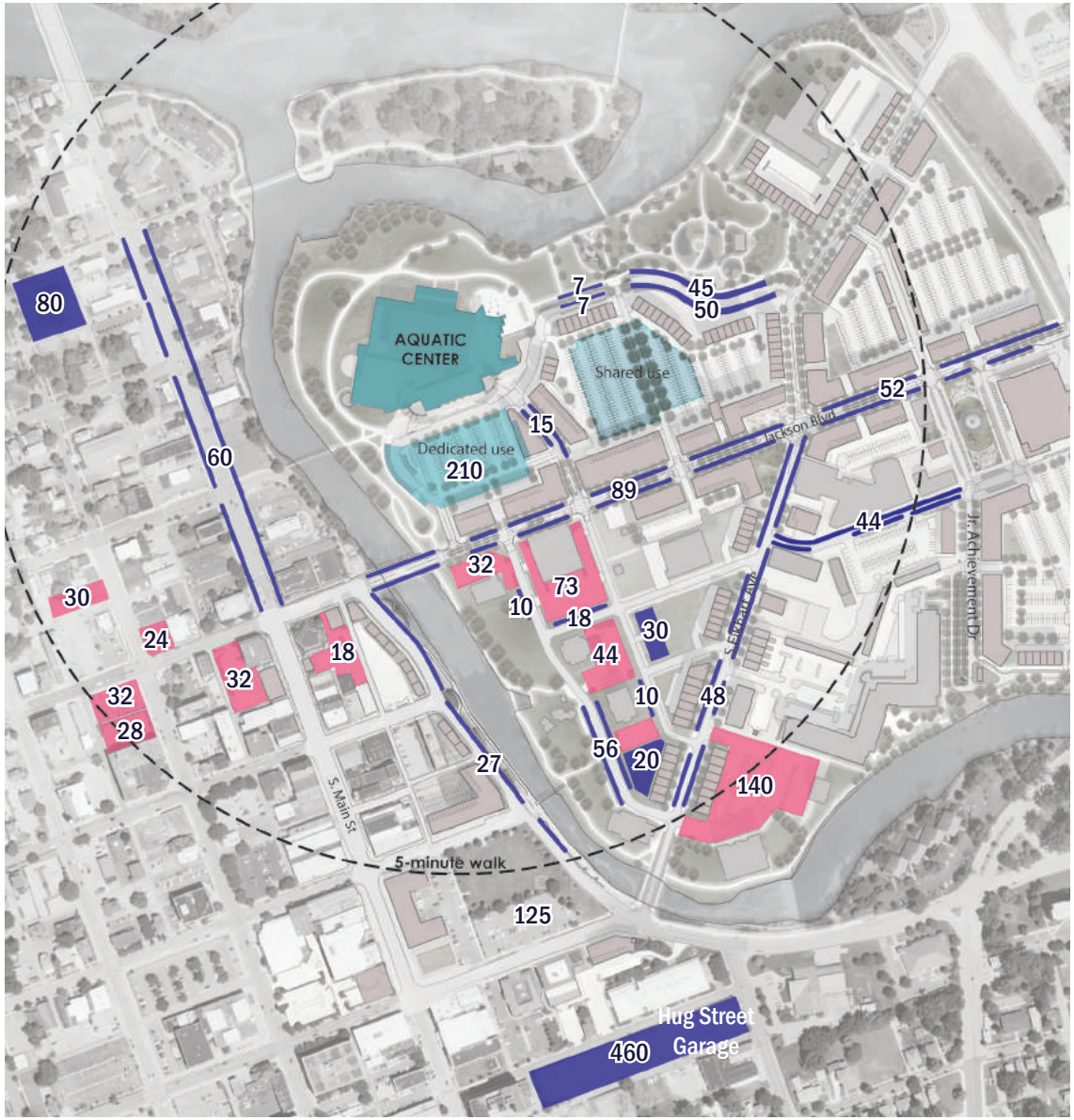
A significant, transformative benefit of the Aquatic Center for the River District and downtown are the periodic major swim meets that will attract thousands of visitors from across the region. If met with a welcoming public realm, these visitors will walk beyond the facility to patronize local businesses and populate signature public spaces in the District and beyond.

As many visitors will arrive by car, events require a parking supply well beyond the Aquatic Center's typical peak demand.

In order to avoid building a costly parking garage for this purpose, the Plan recommends creating a shared parking district that takes advantage of available inventory within a short walk of the Aquatic Center.

Since Aquatic Center events occur on weekends, large parking lots in and around the district normally filled with office workers are empty and therefore available for eventgoers. Additionally, the Hug Street public parking garage downtown can supplement event parking demand. It is a comfortable 5- to 10-minute walk from the Aquatic Center along walkable streets and the riverfront. This pedestrian activity will further enliven the sidewalks in the River District.

This Plan recommends an in-depth downtown-wide shared and "smart" parking study and implementation plan to refine this approach. Such a plan would incorporate technologies like intelligent wayfinding, connected parking spaces, and automated shuttles.



LEGEND: Aquatic Center Shared Parking Strategy

Daily Aquatic Center Parking (Dedicated and Shared)

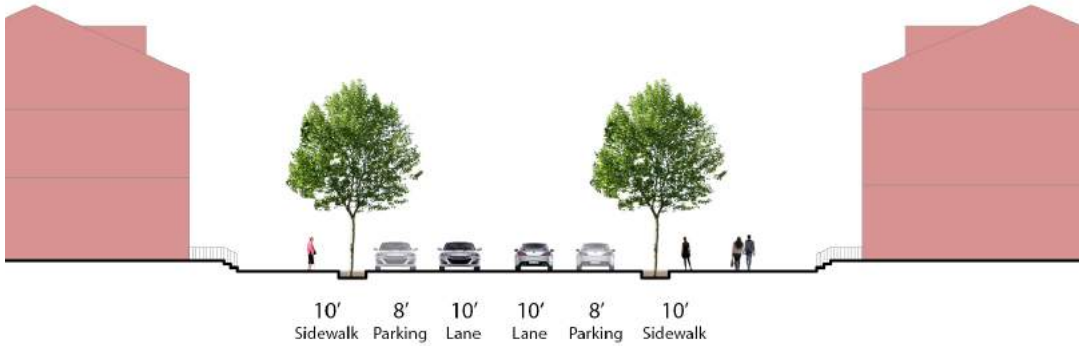
Public Parking

Private Parking (Sharing Opportunity)

South Elkhart Avenue

Extending from the Civic Plaza toward downtown, South Elkhart Avenue will offer a second walkable route into the district.

A mix of townhomes, small apartment buildings, and shops will line and activate this neighborhood street. Tight travel lanes and on-street parking will help slow traffic to improve pedestrian safety. Street trees will add shade and scale to improve walking comfort.



Planned South Elkhart Avenue section

Planned South Elkhart Avenue plan

Southern Block

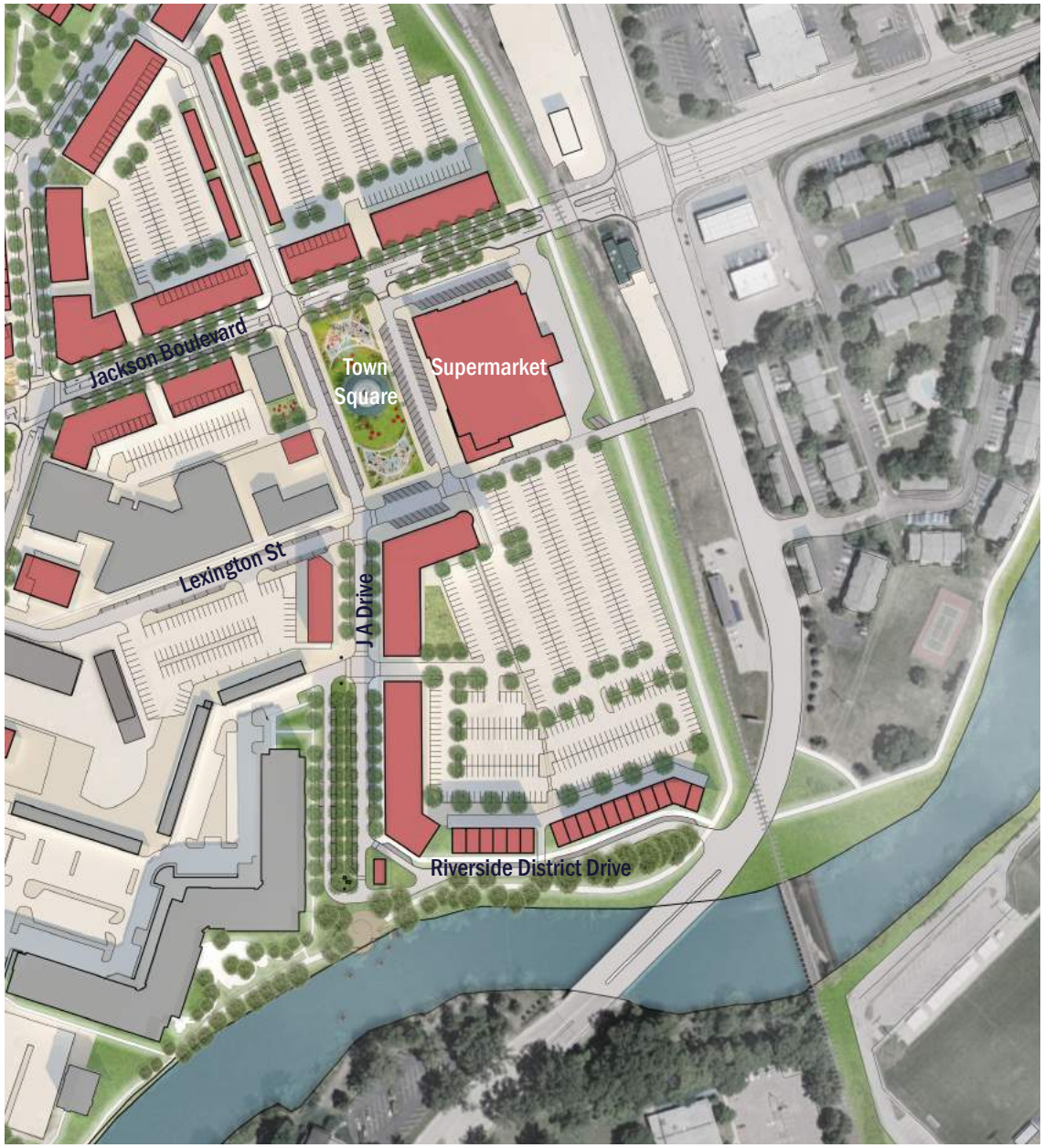
Anchoring the eastern end of Jackson Boulevard, this block features the district's Town Square and a new supermarket. Turning the corner down J A Drive, new and existing retail helps bring the space to life and, together with the apartments at its southern end, frame the large public space in the tradition of a classic urban square.

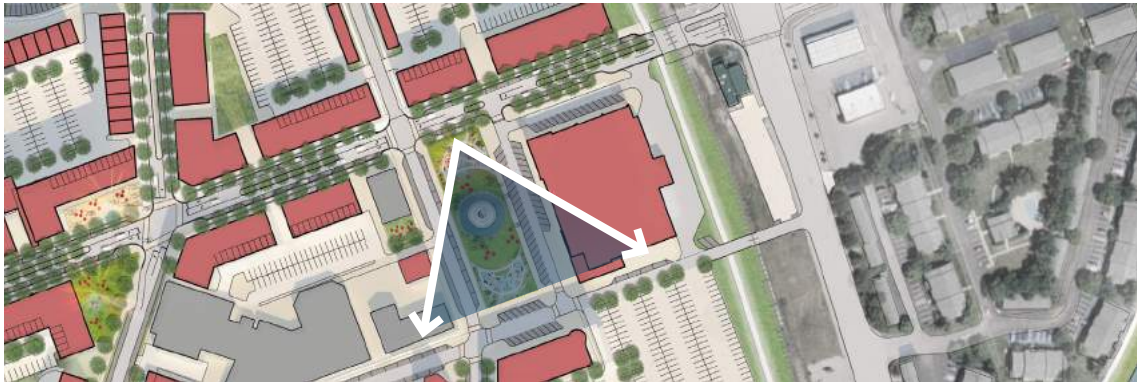
Apartments with front doors and stoops line a redesigned, walkable J A Drive en route to the riverfront, where a seating pavilion allows residents and visitors to enjoy views of the river and watch kayakers pass by. A parking lot enfronting the new housing to the west, under construction, has been reconfigured to resemble an urban boulevard.

The block's southern edge is defined by a new riverfront drive with the Riverwalk on one side and townhomes on the other. This neighborhood street connects to Prairie Street, integrating it into the district's walkable grid of thoroughfares.

All streets are lined with parallel or angled parking on one or both sides to serve retail and Riverwalk visitors. Additionally, a large parking lot–importantly shielded from pedestrian view–provides the bulk of the parking needed for the supermarket and new housing.

Forming the southern edge of the Town Square, Lexington Street is extended to cross the railroad tracks and connect with Prairie Street, creating an important secondary corridor through the district.





Town Square at Jackson Boulevard and J A Drive

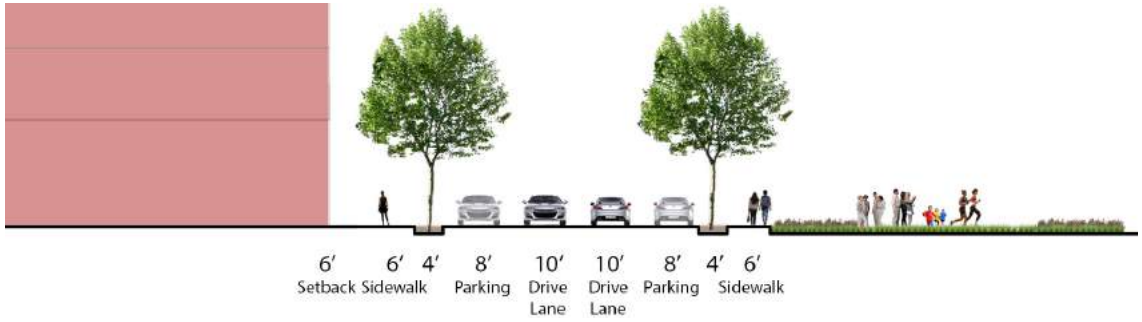
Creating a gateway from the east, the Town Square and the supermarket on its eastern edge promise to become a major draw for district residents and regional visitors. Lined on three sides by retail and housing, the space invites pedestrians to socialize and enjoy its amenities, planned to include play equipment, a splash pad, and a dog park. From here, pedestrians may be drawn down a rebuilt and walkable J A Drive toward the riverfront.

J A Drive

J A Drive between Jackson Boulevard and the River will transform into a walkable neighborhood street that connects some of the district's most important destinations, amenities, and early-stage redevelopment.

A two-lane, tree-lined street with parking on both sides, J A Drive's first block south of Jackson forms the western edge of the Town Square. Infill redevelopment, including restaurants with outdoor seating, will help bring the west side of the street to life.

Proceeding south toward the riverfront, J A Drive becomes the signature address for flanking apartments and townhouses that will comprise the first two major developments completed in the district.

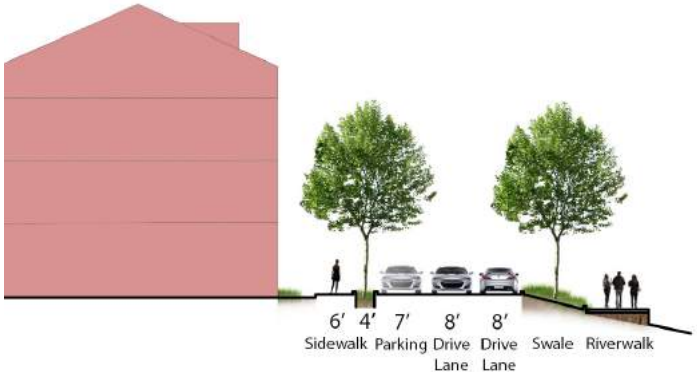


Planned J A Drive section

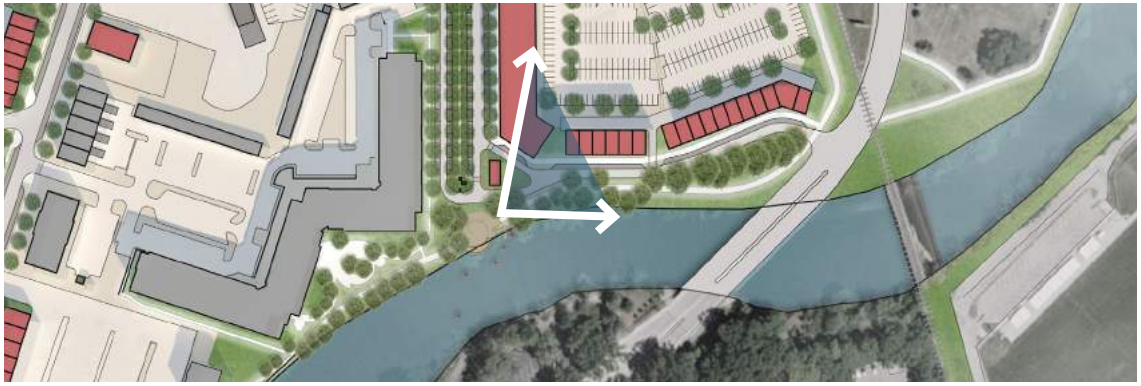
Planned J A Drive plan

Riverside District Drive

Following the water's edge and connecting to Prairie Street, a new riverfront drive extends the walkable network around the corner, creating a new connection with surrounding neighborhoods.



Planned Riverside District Drive section



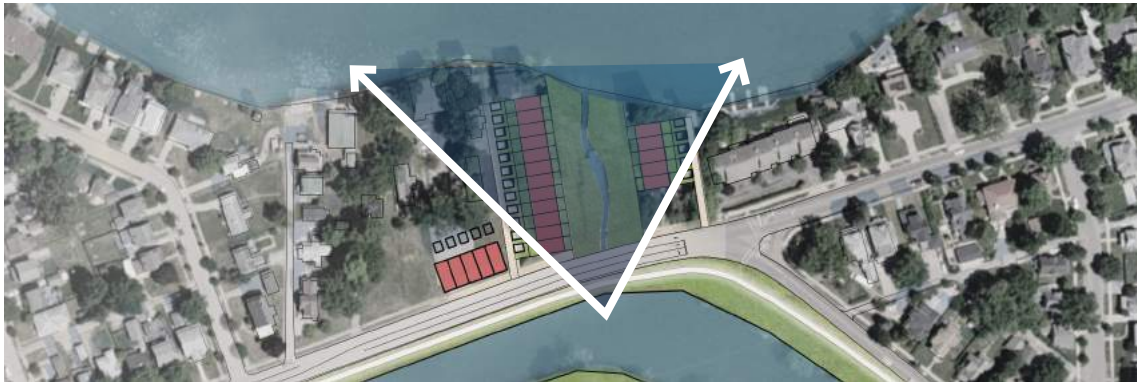
Riverbank Pavilion at J A Drive

J A Drive leads from Jackson Boulevard, past the Town Square, and to a riverfront pavilion where residents and visitors can access the Riverwalk and watch kayakers pass by.

Portage Place

A short walk from the heart of the district, this disinvested City-owned parcel could become a destination park on rare public St. Joseph waterfront. While not an actual portage, this narrow isthmus between two rivers could be celebrated with a central green and water feature, creating a valuable site for upscale housing.

Aligning the townhomes primarily perpendicular to the rivers would give them the experiential (and value-generating) benefits of waterfront property. The proposed plan also preserves two majestic specimen trees in its southeast corner.



Portage Place at Jackson Boulevard

Townhomes line an elegant public park surrounding a simulated portage that seems to connect the St. Joseph and Elkhart Rivers. The park's privileged position, unique landscape, and urban edges would make this one of the City's most desirable locations.

Section 3

Implementation

Phasing

Though the district will be implemented in three phases, the first phase is by far the largest and seeks to introduce a critical mass of new residents, walkable streets and amenities, and improved or new parks and public spaces to jumpstart the neighborhood's revitalization.

At the time of this Plan's publication, parcels within Phase One are either already under construction or have been acquired by RDIT and are being prepped for development. The Aquatic Center, Jackson Boulevard streetscape, and improvements to the Riverwalk are also underway.

Phase Two focuses on the Elkhart Avenue corridor, with streetscape improvements enhancing walkability and infill development along underutilized edges. Additional redevelopment could line the public-facing edges of the senior housing parking lot, transform City Center Park, and add unique housing and riverfront park space to a city-owned parcel near Goshen Avenue.

LEGEND

Phase One: 1-3 years

Phase Two: 3-5 years

Phase Three: 5+ years

Phase One Detail

Recently assembled and currently being prepared for development, this portion of Phase One includes several constituent projects that could be distributed to one or more developers.

A. Townhomes lining an improved riverfront park space
B. Multifamily building along Jackson Boulevard
C. Office building with retail on the ground floor
D. Multifamily buildings with retail on the ground floor
E. Multifamily buildings with retail on the ground floor of the eastern structure (if not both)
F. Multifamily buildings with retail at the easternmost corner framing the Square

For the most part, each of these subparcels includes most or all of the parking needed to serve its envisioned program. Exceptions include the office parcel, whose lot might also serve adjacent housing, and the Aquatic Center after primary office hours (i.e., when office parking demand is low and housing/Aquatic Center demand is high). Also, most retail parking will be provided on-street as Jackson Boulevard and Clark Street are rebuilt to include parallel spaces.

The Implementation Process

The creation of the River District Implementation Plan was developed by the River District Implementation Team (RDIT) that was commissioned by Mayor Neese and the City of Elkhart Common Council. The mission of RDIT is to define the development plan and process for holding constituents accountable for creating a master design, development book, and assembling properties and developers to create the River District.

June 2018, the plan will be adopted by the City of Elkhart Redevelopment Commission. Once adopted the following activities will take place to assure that the plan is implemented in the three phases required.

- Representatives of the RDIT will be selected after June 2018 to continue to meet at least monthly to review designs, schedules, budgets, appropriations and the timely progress of the plan's implementation. This will continue to be a public-private partnership responsible for overseeing the appropriation, construction and redevelopment progress of the plan. Issues that cannot be resolved through the partnership will be reported to the Mayor and Redevelopment Commission for direction.

- After the RFP for developers is released, a committee of five people will be established to receive, review and recommend approvals to the Redevelopment Commission. The responsibility of this committee will be to assure that the principles, guidelines and designs of the approved plan are represented in the approved designs submitted by selected developers.

- RDIT will also be responsible for working with City staff to assure that a clear plan and requirements for repair and maintenance of the River District is established and upheld at all times. Issues will be reported to the Mayor, assigned staff and the Redevelopment Commission as required.

- RDIT in collaboration with the City communications team will continue to coordinate public events to communicate updates and changes with the plan and its implementation progress as required assure a positive standing for the project.

Current Roles

Mayor Time Neese, Project Sponsor

David Henke, City Common Council Liaison

Dave Weaver, RDIT Chair

Shelley Moore, RDIT Project Lead and Communications Director

Crystal Welsh, Redevelopment Commission Liaison

Mike Machlan, Public Works and Infrastructure Liaison

Chriis Chockley - JPR, Design and Infrastructure Project Manager

Courtney Bearsch, City Communications Director

To be determined, Parks, Venues and Recreation Liaison

To be determined, RDIT RFP Review Committee

Currently and until further notice, the individuals above are responsible for the roles identified. They are to meet at least on a monthly basis and report responsibilities and assignments as provided by Insight Strategic Concepts and JPR in project management and budget reports.

Appendix

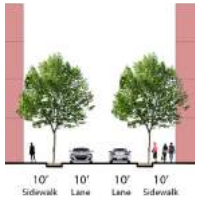
Regulating Plan

Regulating Plan

Thoroughfare Dimensions

Jackson Boulevard

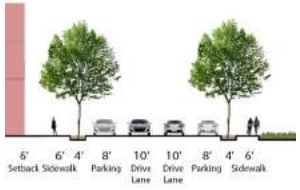
New Small Street

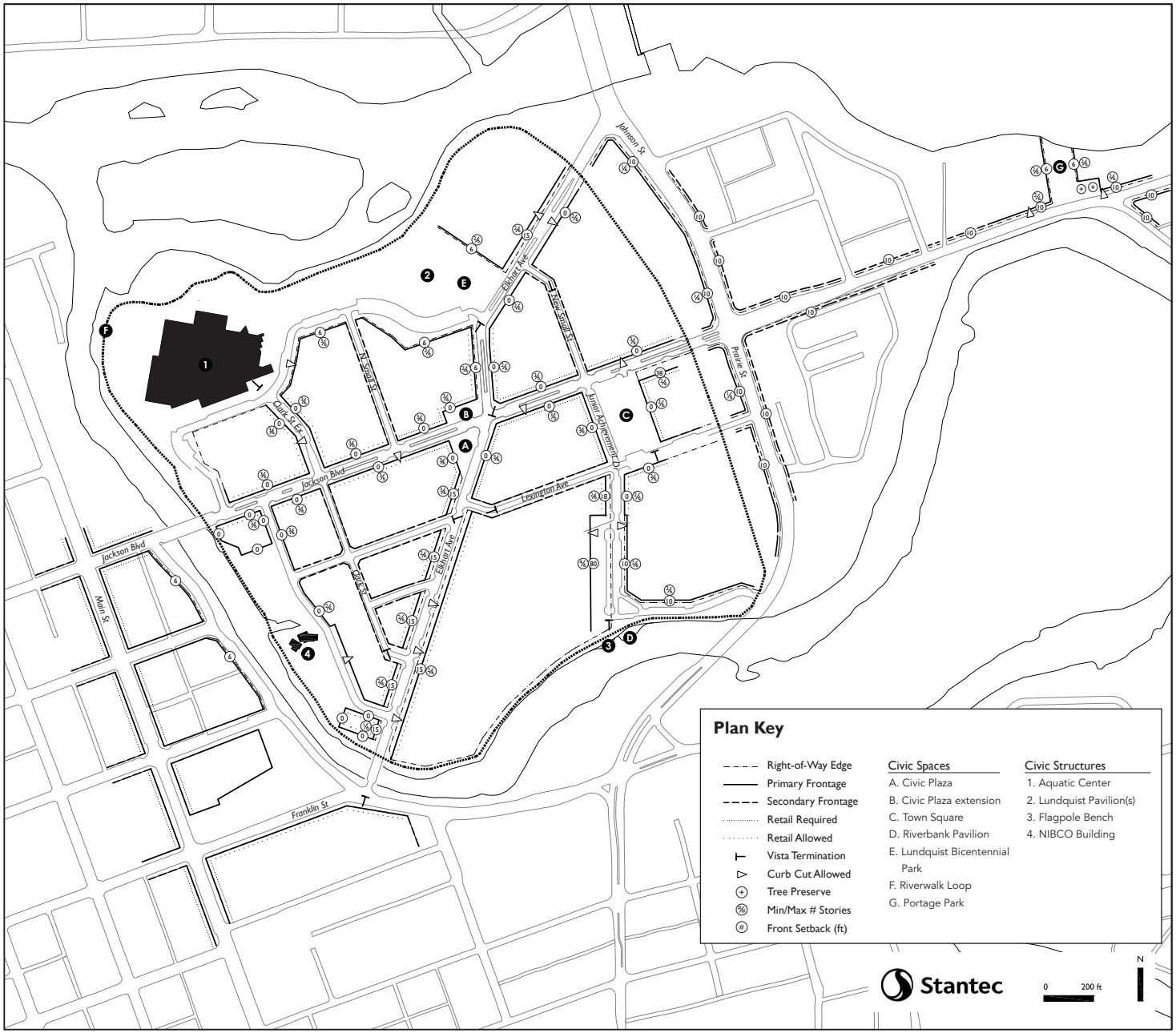


Clark Street Extension

Riverside District Drive

Elkhart Avenue and JA Drive





River District Design Regulations

Table of Contents

I. Definitions

Block: An area surrounded by Streets that is not bisected by any streets.

Bulbout: An area where the sidewalk expands to include the width of the parking lane to narrow a Street's crossing distance.

City: When capitalized, reference to the City of Elkhart government.

Civic Space: An outdoor open space in the Regulating Plan that is neither a right of way nor a platted private property, intended to support social and recreational activities. Civic Spaces may ultimately belong to the City or another entity identified by the City.

Civic Structure: A structure specifically built to enhance the public realm. Such a structure may stand alone or may constitute part of a public or private building.

Curb Cut: A location where a private drive or driveway crosses a sidewalk along a Frontage.

Frontage: An edge of a property that faces a public space such as a Street or square. Regulated Frontages are marked in the Regulating Plan with Frontage Lines.

Frontage, Primary: A Frontage that is expected to attract and sustain pedestrian activity. Primary Frontages are held to a higher standard than Secondary Frontages.

Frontage, Secondary: A Frontage that is not expected to attract and sustain pedestrian activity. Secondary Frontages are held to a lesser standard than Primary Frontages.

Frontage Line: As indicated in the Regulating Plan, a Frontage Line designates the location of a building edge.

Parking, Reserved: Parking not available to the public, but only to specifically identified users (either a single user per space or a set of users for a group of spaces), whether for free or at a fee.

Parking, Shared: Parking available to the public on an unreserved basis for free, or at the same fee for all users. Time limits may be imposed to ensure turn-over. Hours of public availability may also be restricted.

Regulating Plan: The River District Regulating Plan, which applies the details of these Regulations to the redevelopment area. This Plan explicitly describes only those features that are recommended for redevelopment. For example, Frontages are drawn only where new buildings are recommended.

Regulations: When capitalized, the River District Design Regulations—this document.

Retail: As used in this document, Retail refers to retail, dining, entertainment, or similar uses.

Setback: The distance of a building's primary façade from its front property line.

Street: A public thoroughfare typically handling vehicular, bicycle, and pedestrian traffic, characterized by its location at the fronts of properties.

Vista Termination: As indicated on the Regulating Plan, a location on a building that is perspectively framed by a long view down a Street, and required to receive an appropriately-scaled architectural feature.

II. Civic Spaces

The following Civic Spaces are indicated in the Regulating Plan, shown in the most basic schematic design. These designs are to be respected, elaborated upon. They include the following:

A. Civic Plaza: The Civic Plaza is a triangular open space at the intersection of Jackson Boulevard and Elkhart Avenue. It is primarily green, with consistently-spaced trees that align with surrounding street trees. Its design facilitates retail use on its western flank and social gathering at benches near its center. Either the Civic Plaza or the Civic Plaza Extension shall receive a sculptural fountain at its center.

B. Civic Plaza extension: The Civic Plaza Extension is a linear open space opposite of the Civic Plaza on the north side of Jackson Boulevard. It is framed by an L-shaped building, likely a hotel. It is primarily paved, with consistently-spaced trees that align with surrounding street trees. Either the Civic Plaza or the Civic Plaza Extension shall receive a sculptural fountain at its center.

C. Town Square: The Town Square is the River District's signature open space, located at the intersection of JA Drive and Jackson Boulevard adjacent to the redeveloped supermarket and framed by new mixed-use buildings. The Town Square holds an outdoor dining area, a fountain/splash park, a large play structure, and a dog park.

D. Riverbank Pavilion: This amenity is at the intersection of JA Drive and the Riverfront Loop. It supports the launching of small crafts, passive recreation and seating.

E. Lundquist Bicentennial Park: The redevelopment of Lundquist Park shall create an anchor for the Riverwalk. The final programming of the redevelopment shall be determined by a community needs assessment, which may include sports fields, fitness equipment, an amphitheater, passive and active recreation zones, and other facilities. Its eastern edge shall include a tree-lined walkway serving the front stoops of new rowhouses and connecting to the Riverfront Loop.

F. Riverwalk Loop: The existing Riverwalk shall be completed into a loop around the River District, including a multi-use trail on the west side of the railroad tracks running parallel to Prairie/Johnson Street. The Loop of about 1.5 miles or 3 kilometers (with connections to longer trails) will be an important contributor to residents' health and wellness.

G. Portage Park: Portage Park is a new open space at Portage Place, the narrowest transect between the Elkhart River oxbow and the Saint Joseph River off of Jackson Boulevard. Portage Park shall have a central water feature that emulates a portage between the two rivers, and shall be framed by two tree-lined walkways serving the front stoops of new rowhouses and connecting to the riverfront.

III. Civic Structures

The Regulating Plan designates Civic Structures designed to play important placemaking roles within the community. They are as follows:

8. Elkhart Health, Fitness, Aquatics and Community Center: The "Aquatics Center" is a regional attractor that anchors the plan. The Center includes competition pools, fitness facilities, and a community space. Set back from Jackson Boulevard, it

faces north onto the Riverwalk with two main entrances oriented south. It is expected to draw over 35,000 attendees to 20 event weekends a year.

9. **Lundquist Pavilion(s):** Lundquist Park's programming, as determined by the community needs assessment, is to be supported by one or more civic structures in the park relevant to the park's functions for residents and visitors.

10. **NIBCO Water and Ice Park Facility:** This existing Civic Structure supports ice skating with rentals and warming area.

IV. Thoroughfare Design

Configurations: Streets shall conform to the cross-sectional configurations shown in the Regulating Plan. That Plan specifies the width of driving lanes, parking lanes, sidewalks, and medians (if any) for the following thoroughfares:

- Jackson Boulevard
- Elkhart Avenue
- JA Drive
- Riverside District Drive (New)
- Clark Street Extension (New)
- Small Street (New)

Curbs: Curbs shall be vertical without horizontal lips (no gutter pans). Rollover or rounded curbs are only permitted where required to facilitate truck turning motions.

Crosswalks: Crosswalks shall be located to continue all sidewalk trajectories across all intersections and shall be surfaced in a material that contrasts with the Street surface. At minimum dimension and quality of finish, crosswalks shall be 10' wide with zebra striping.

Curb Radii: The curb return radius at Street corners shall be 10 feet at corners without Bulbouts and 15 feet at corners with Bulbouts. The curb return radius at parking lots drives shall be 3 feet. The curb return radius at driveway ends shall be 1 foot. If such radii are not adequate to provide for the turning motions of trucks—with the truck allowed to swerve temporarily into the opposing lane—then they may be increased by only as much as is necessary to make such turning motions possible.

Curb Cuts: Curb Cuts are permitted at Primary Frontages only in those locations specifically indicated in the Plan. At Secondary Frontages, Curb Cuts are allowed to access parking lots but not private driveways or garages. Curb cuts are not regulated in non-Frontage locations. Parking lot drive Curb Cuts may not exceed 20 feet in width, plus curb radii. Driveway Curb Cuts may not exceed 10 feet in width, plus curb radii. Sidewalks crossing parking lot drive and driveway Curb Cuts shall maintain a level grade, creating a vehicular speed table.

Street Planting: The street-tree pattern shall be spaced consistently at an approximate on-center distance not to exceed 30 feet. Street trees shall be located at corners as described ahead, and then spaced regularly from corner to corner. At corners, the corner tree's distance from the intersection shall be ten feet further from the intersection than the stop bar.

Tree Type/Quality: Each Street shall have a single consistent tree type for its entire length. Street trees shall have a minimum height of 10 feet and a minimum caliper of 3 inches at time of planting.

Lighting: Street lights shall be located at the outer edge of all sidewalks, shall be 10 feet to 15 feet tall, and shall be spaced regularly.

Lighting Standards: Streetlighting standards shall be sized appropriately to their low height, and shall use an energy-efficient L.E.D. lamps. Lights shall not be sized and located around the goal of providing uniform coverage, as varying lighting levels are more attractive to pedestrians.

Sidewalk Objects: Any fire hydrants, mailboxes, parking meters, bicycle racks, or other impediments to foot traffic shall be located in the planting zone towards the curb. Benches shall be provided along retail Frontages at a minimum of one per Block face. Benches in the planting zone shall face another bench, perpendicular to the Street. Benches built into building facades are encouraged and may encroach upon the sidewalk to a max. depth of 2 feet. Bicycle Racks are required at a minimum of one per 200 linear feet of sidewalk edge on all streets.

V. Parking

General Approach: Parking demand in mixed-use development functions differently from parking demand in conventional suburban development, for several reasons:

- A pedestrian-friendly environment allows people to walk rather than drive such that, for example, a resident or office worker does not need a parking space at a nearby store or restaurant.
- Large amounts of on-street parking contribute to the number of spaces available.
- A collective Shared Parking supply (rather than site-by-site) allows the system to function and be regulated as an integrated organism.
- Complementary uses surrounding the collective Shared Parking supply allow spaces to serve different functions around the clock, such that, for example, a single space can serve an office worker during the day and a resident at night.

These four factors—a park-once environment, on-street parking, collective supply, and complimentary loads—all impact the off-street parking requirements, as follows:

Parking Supply Requirements: Efficiencies due to increased pedestrian activity lead to the following general parking supply requirements:

- All apartments (rental or condominium) shall be provided with a minimum of 1 parking space per unit, on or off site within 1,000 feet of the unit. While these spaces may be Shared or Reserved, all spaces beyond this minimum shall be Shared.
- All fee-simple houses containing garages may contain up to 2 Reserved Parking spaces per unit in those garages.
- All other uses shall provide a minimum of 2 spaces per 1,000 interior square feet of gross living area, on or off-site within 1,000 feet of the use. The Reserved Parking maximum is also 2 spaces per 1,000 square feet of gross interior area. There is no maximum for Shared Parking.

On-Street Parking: Parking supply calculations shall include nearby on-street parking spaces as the full equivalent of off-street parking spaces.

Collective Parking Supply: Parking calculations may be made comprehensively across multi-Block areas. If not otherwise assigned, any spot within 1,000 feet of its use may be counted towards that use.

VII. Parking Design

Parking Location: Surface parking shall be located to the rear of buildings away from public streets and screened. Loading and servicing of buildings shall be fully screened from Frontages.

Parking Access: As already noted, Curb Cuts for parking lots are allowed along Primary Frontages only where indicated in the Regulating Plan, and without restriction along Secondary Frontages. Front-entry driveways shall not be permitted at any Frontages.

Parking Structure Location: If a large parking structure is ultimately deemed necessary, the recommended location is within the block to the east of the aquatics center.

Structured Parking: The ground floors of any parking structures shall contain a habitable edge at Primary Frontages. Where garage upper stories face Primary Frontages, these shall be lined by habitable buildings or detailed to resemble habitable buildings. Entries into structured parking lots shall be no wider than necessary to provide required access, using 10-foot travel lanes.

Private Garages: Private garages and tuck-under parking shall be accessed from rear lanes or shared driveways at the back of units.

Bicycle Parking: Bicycle use shall be encouraged through the provision of safe and convenient bicycle parking areas. Since the River District is intended to make walking and cycling viable modes of transportation through the provision of appropriate infrastructure, bicycle parking and associated facilities shall be given careful consideration regarding ease of use, convenience, security and adequate space to suit the required function. Visitor bicycle racks shall be located within 100 feet of the primary entries and served with lighting.

VIII. Building Uses

Mixed Use: This plan is intended to include a healthy mix of a wide range of uses, including retail, restaurants, businesses, clean manufacturing, day care, lodging, and a wide variety of residential use types.

Office: While not required, it is recommended that significant amounts of office space be located nearby large areas of housing in order to make use of complimentary parking schedules.

Retail Required/Allowed: Ground-floor Retail (or Dining/Entertainment) Use is required at certain Frontages and allowed at others, as indicated in the Plan. Such use is prohibited at all other Frontages.

IX. Block and Site Design

Building Orientation: The overall building design, massing, and bulk shall orient towards streets and sidewalks. Buildings shall align with streets at grade while upper-story orientation may vary provided that buildings continue to be able to create a sense of enclosure to the public street.

Sense of Enclosure: Buildings shall provide a sense of enclosure to public areas, including streets and parks. Each building shall respond to its setting with contextually appropriate height and character to create harmony among buildings and between buildings and open space. Buildings shall support sidewalk and street-

side activity, gathering of residents, and “eyes on the street”.

Building Access: Buildings that abut rear lanes or parking lots at their rears shall allow only secondary access from these edges, maintaining principal orientation towards their Frontages. Specifically:

- Retail uses may provide one rear door (or double-door) for use by employees and suppliers. Supermarkets and other businesses from which the typical buyer leaves with a heavy burden of products may also allow customers to use this door.

- Office and residential uses may have a single rear door (or double-door), but this door shall be clearly hierarchically inferior to the front door.

In both of the above cases, the Frontage door shall be located in a place that appears appropriate to a front-loaded business, and shall be kept unlocked whenever any other access doors are unlocked.

X. Heights

Building Heights: Each Primary Frontage is assigned a minimum and a maximum allowed building height, as further defined in the Regulations. When two different height requirements meet at a corner, the higher requirement takes precedence around the corner to a distance of at least 10 feet from the Frontage Line. Heights are measured in reference to the sidewalk at the center of the façade. At Secondary Frontages, heights are not regulated but may not exceed 6 stories.

Towers: To encourage an interesting skyline, building areas with a footprint of less that 500 square feet shall have no height limit.

Story Heights: Retail spaces shall have a minimum floor to ceiling height of 12 feet, but 18 feet is recommended. Office spaces shall have a minimum ceiling height of 10 feet. Residential spaces shall have a minimum ceiling height of 8 feet for upper stories and 9 feet for the first floor.

Ground Floor Heights: All retail spaces shall be located on a ground floor placed at grade. Buildings with residential first floors shall locate all first-floor residences a minimum of 12 inches above adjacent sidewalk grade. Handicapped access, when provided on a building with an elevated first floor, shall be placed internal to the building, serving a door at grade.

XI. Building Fronts

Frontages: The Regulating Plan distinguishes between Primary Frontages and other block faces. Primary Frontages require a higher level of urban performance, as further defined in the Regulations.

Frontage Setbacks: All Frontages are assigned Setbacks in the Plan. These Setbacks are also Build-To Lines: they specify the proper location of the building façade, as further defined in these Regulations. Most setbacks are zero (0) feet, but there are exceptions.

Percent Frontages: All buildings shall place a building edge along no less than 75% of their Frontage Lines. The small gaps in Frontage allowed by that percentage shall not occur at building corners, with the exception that corners may be rounded or chamfered. On Primary Frontages, ground stories shall be habitable for at least the first twenty feet of depth, measured as the distance from the facade towards the interior of the building.

Sight Triangles: While they improve visibility, sight triangles increase vehicle speeds and can undermine pedestrian safety. Any requirements pertaining to sight triangles in currently enforced codes shall be waived when in conflict with the Frontage Lines in the Regulating Plan, or with these Regulations' tree-planting requirements.

Vista Terminations: The Plan contains locations on buildings that are framed by long perspective views down a Street—called a Vista Termination. Buildings located at Vista Terminations shall respond with a building element of appropriate size and impact to terminate the vista meaningfully. These shall be aligned properly to be framed symmetrically in the vista. Proper Vista Terminations include raised rooflines, stacks of balconies, grouped window compositions, towers, and cupolas.

Materials: Building materials shall be used in a manner appropriate to their intrinsic formal properties, including their structural capacities as demonstrated in openings and spans. Metal elements shall be natural colored galvanized steel, stainless steel, anodized or electrostatic plated aluminum, marine-grade aluminum, copper, or bronze. Wood elements shall be painted or sealed with an opaque or semi-solid stain, except walking surfaces, which may be left natural. Siding shall be wood or cementitious (Hardie Board or equivalent) and present 8 inches maximum siding width to the weather. All stucco shall be steel troweled with no evidence of the mark of the trowel. Sand cement render shall be applied without control joints. Corner beads are prohibited.

Wall Configurations: The overall building form shall also offer a varied and engaging visual experience and avoid the creation of monolithic structures by using techniques such as the articulation of frontages with offsets, projections, and recesses.

- Buildings shall have different architectural features between the base or first levels of buildings, the mid-section, and the building tops. Large blocks shall be visually broken down into smaller entities.
- Each building façade shall contain at most two different wall materials (not counting foundation walls and trim). Building walls shall be no more than two colors per material used (excluding trim).
- Materials may only transition across horizontal lines, for example, between building stories, and not across vertical lines, except in the case of attachments such as bay windows. (The exception to this rule occurs when a building is intentionally designed to appear as several buildings to break down its scale.)
- When two materials are stacked horizontally, the heavier-looking material shall sit below the lighter-looking material, such as brick below Hardie-board or stone below stucco. When a material transition occurs around a corner, the transition shall occur at a distance from the corner that is appropriate for the materials represented, for example 12 or 16 inches for brick. Expansion joints shall be a rational part of the wall composition and shall be colored to match the wall. Trim, except at stucco, is required where there is a change in material or plane. Trim around lights, outlets, vents, meters, etc. shall match the wall color, not the object color.

Style: The River District shall consist of buildings that are diverse, yet compatible in character with one another, and distinctive without being obtrusive or disorganized.

- Buildings shall strive to achieve notable architecture that is respectful of its neighbors and contributes positively to the overall character of the neighborhood.
- Façades shall create lively, pedestrian-oriented open spaces to enliven the public realm and attract inter-

est and interaction with the site and building without aggressively demanding the attention of passersby.
- Buildings shall not present a historical pastiche. Buildings designed in a traditional style shall limit themselves to that style alone and shall embody that style convincingly. Alternately, a building may appear to be a historical structure that has been renovated with modern additions. In such a case, the fiction of a historical building recently renovated shall be presented in a convincing way.
- Keystones, quoins, and superimposed multiple gables (one gable overlapping another) are prohibited.

Legibility: Primary functions and uses shall be readily determined from the exterior, making the building easy to access and understand. Main entrances shall be clearly identified through architectural features and landscape treatment.

XII. Connection to the Street

Interface Between Buildings and Streets: Design shall consider how the building shall interact with the public realm and consider the qualities and character of the streetscape and its function (retail street or quieter residential street) in siting and designing the building. Ground floors facing public streets, public parks, and publicly accessible pathways shall have spaces that are actively inhabited by people, such as retail stores, consumer service businesses and restaurants, or educational or residential entrances and building lobbies. Windows and doors for these active spaces are prominent aspects of the building and shall be considered accordingly through design. Where a mix of activities is accommodated in a building, the more active uses are encouraged to face Primary Frontages. The location, visibility and design interest of residential and commercial/mixed use entrances, lobbies, main stairs and elevators shall be optimized through establishing a sense of place and presence and a strong relationship to public streets and sidewalks. Building entries shall be visible and inviting and provide a sense of arrival, such that an approaching pedestrian is drawn to the front door.

Individual Residential Units: Individual residential units at or near street level shall be designed with front doors to function in a manner similar to townhouses to create street-level interest and activity for residential frontages. Individual residential entries may provide stoops, lightwells, patios, forecourts, garden walls, porches, canopies, pergolas, porticos, building recesses, and terraces within the setback. Stoops shall only be allowed for ground-floor residential units, and are not allowed for residential lobbies, as those require ramps.

Multi-Unit Residential: Multi-unit residential entrances, lobbies, main stairs, and elevators shall establish a sense of presence and safety through the design and by optimizing the location, visibility, and visual interest.

Non-residential: Non-residential uses shall be oriented towards Primary Frontages. The individuality of commercial uses shall be expressed through narrow frontages with high-quality storefront displays.

- Each street level non-residential bay shall be clearly expressed on the street façade through architectural articulation. Active retail frontages are recommended to use glazed, operable walls that can be opened fully to the street, expanding the public space along the street.
- Non-residential uses shall have a universally accessible external entrance at grade. The primary entrance orientation shall prioritize access from a Primary Frontage. A front door shall be visible from a street or pedestrian connection in a place appropriate for

a pedestrian-oriented, street-facing use. Inset doorways are recommended, and shall include extensive glazing throughout the entryway to preserve visibility from the sidewalk.

XIII. Attachments

Weather Protection: Overhead weather protection extending in the direction of the street shall be provided at all common entrances to residential buildings and non-residential front doors to give a potential visitor the feeling of already being inside. The upper side of weather protection elements shall be designed such that they do not create unsightly conditions or glare from sunlight for upper floors. Weather protection, gutters and downspouts shall be integrated into the design of the structure as a whole and shall avoid a tacked-on appearance. Canopies shall not create a dark or heavy character to the building or spaces they overhang.

Awnings: Awnings are required on Retail Frontages along Jackson Boulevard. Awnings shall be a minimum of 6 feet deep and shall be metal with colored fabric or glass. Fabric awnings shall have a metal structure covered with canvas or synthetic canvas, and be rectangular in shape with straight edges and no side panels or soffit. Awnings shall not be backlit or used as signs, except for a possible single inscription on the flap, not to exceed 6 inches in height. All awnings on a single shop shall have the same depth, material, and color. Fabric awnings are not permitted on residential buildings. All non-single-family buildings without Awnings shall provide some form of shelter from rain at the front door.

Encroachments: Weather protection, including awnings, are the only first-floor attachments allowed to occupy the public right-of-way. On the second floor and above, balconies, bay windows, eaves, lights, and signs may occupy the public right-of-way. No attachment may extend above a vehicular roadbed at a height of less than 15 feet, or above a sidewalk at a height of less than 7 feet. Attachments other than roof eaves may not extend over adjacent private properties.

Stoop Dimensions: Stoops shall be between 3 and 6 feet deep. Stairs may extend to reach the edge of the right-of-way.

Limited Balconies: Balconies, porches, and loggias shall not constitute more than 50% of any facade. Balconies shall be designed as an integral part of the building rather than appearing to be “tacked on”.

Postal Number: Every building shall have a postal number applied within 5 feet of the entrance area. This may not be taller than 6 inches, unless constructed as a signature sculptural element.

XIV. Openings

Blank Walls: Walls at Frontages may not be blank, and shall have at least one window per structural bay per floor, in a pattern that suggests habitation.

Mullions: Mullions, if used, shall either be true divided lights or be affixed to the exterior surface of the window to cast a shadow line. Mullions are recommended for residential windows where stylistically appropriate, and discouraged for retail windows.

Shutters: Vertically hinged shutters, when provided, shall coincide in size to the opening with which they are associated, such that closing them would cover the window area. While not necessarily operable, they shall appear so.

Windows: Window size, placement, shape and detailing contribute substantially to the overall quality of the building and are key features of façade design. Window placement shall enhance the visual coherence of the building, supporting rhythm and overall visual impact through the interrelationship between all windows on the façade, and with other façade elements. Dark or reflective glazing is prohibited for all building types on all floors.

XV. Roofs

Rooftop Design and Uses: Roofs may include a combination of green roofs, solar panels, pitched roofs with or without dormers, and/or amenity area for residents of the building. As viewed by a pedestrian, roof lines and roof form shall reinforce the building's design intent and silhouette, and contribute to the skyline. Roof designs shall prevent falling ice, snow and discharge of roof leaders onto entrances and walkways.

Rooftop Equipment: The screening of rooftop mechanical equipment is required. All rooftop mechanical equipment shall be screened from view from all directions, and from all elevations of equal height or lower, to minimize the negative aesthetic impact upon the view from neighboring buildings and from street level. Said screening shall be consistent with the architecture of the building.

Dormers: Dormers shall be habitable and sized no larger than necessary to hold window(s) and framing.

Skylights: Bubble skylights shall not be visible at Frontages. Flush skylights, where visible at Primary Frontages, shall be organized into a composed pattern.

XVI. Retail Design

Fenestration Ratio: At retail Frontages, the ratio of fenestration to area of the building façade shall be a minimum of 60%. Each facade shall be measured independently.

Kneewall: Front glazing on retail establishments shall begin above a kneewall located 12 inches to 18 inches above sidewalk grade.

Blocked Windows: Drug stores and other commercial tenants shall not place inner partitions in widows that significantly block views into the store.

Interior Lighting: All retail establishments shall be lit in the incandescent (warmer) spectrum, whatever technology is used. Small spotlights are recommended rather than a uniform wash of light.

Sidewalk Extension: All retail uses shall pave any Setbacks to match the adjoining sidewalk.

Alcove: All retail uses shall locate their primary entrances within a small additional setback between 30 and 100 square feet in size, paved to match the sidewalk.

Sidewalk Use: Retail establishments are encouraged to place tables, chairs, and temporary displays on the public sidewalk as long a 5-foot-wide clear corridor is maintained for pedestrian flow. Rails and other barriers separating tables from the pedestrian flow are not permitted, nor is any permanent construction in the public sidewalk. Outdoors, restaurants shall use ceramic, glass, metal and cloth for plates, glasses, silverware, tablecloths and napkins, rather than paper and plastic products.

XVII. Retail Signage

Limitations: The shop-front door, signage and lighting shall be designed as a unified design. There are four types of signage permitted on businesses: a) a signage band, b) a pedestrian blade sign, c) a window logo, and d) an awning band.

These are further limited as follows:

Sign Band: Each building may have a single sign band 60% maximum of the width of the building Frontage max., with a height not to exceed eighteen inches. If a building hold multiple tenants, the use of the sign band width shall be divided among tenants on a pro-rata basis determined by their ground-floor square footage. The sign shall be integrally designed with the building or the associated storefronts in material and color. The sign band may not be internally lit.

Blade Sign: One two-sided blade sign is permitted for each business with a door on the sidewalk level. The blade sign shall be securely affixed to the facade or storefront and may project over the sidewalk so long as it does not interfere with pedestrian flow. The blade sign may not exceed 4 square feet (including mounting hardware) in area in any shape and may not be translucent.

Logo: A logo inscribed on the storefront glass is permitted (one per business per building face), or the name of the store in permanently-affixed cutout lettering. Logos shall not exceed 1 foot in height and lettering shall not exceed 6 inches in height. Upstairs businesses are also allowed logos with the same limitations.

Other Signage: Billboards and other freestanding advertisements are prohibited, as are rooftop, flashing, moving, or intermittently illuminated signs. No sign shall be attached above the second story of any structure.

XVIII. Details

Public Space Design Consistency: Streets, squares, and other public spaces shall be designed with a common vocabulary of paving, curbing, fencing and walls, landscaping, signage, and lighting. This does not mean that all details will be consistent, but rather that all details will be understood to belong to the same family and/or era of design.

Architectural Design Consistency: The architectural character and expression shall be consistent and used on all exterior portions of a structure, with emphases on portions visible from streets, parks, and plazas. Colors and materials shall be consistent on all exterior portions of a structure. Accessory and minor components including porches, canopies, railings, gates, fences, garden walls, lighting, mechanical penthouses, trash areas, and other related design elements shall all utilize a compatible palette to reinforce the overall building style. Building systems and services including utility, solar, data, communications, and service equipment shall also relate to the architectural concept. Any screening of such systems shall be designed to be a logical continuation of the character and expression of the architecture of the building.

Block Variety: The appearance of a “project” or of “megabuildings” shall be avoided by not allowing the same exterior design to be used on block after block

of buildings. While even smaller units of design are encouraged, no more than 250 feet of continuous Street Frontage may appear to have been designed by a single architect.

Eyesores: Unless unavoidable, transformers, lift stations, traffic-control boxes, utility meters, HVAC equipment, and other such machinery shall not be located where visible at or from Primary Frontages. Antennas, radar dishes, chain link fence, Vinyl fencing, barbed wire, razor wire, and chicken wire shall not be permitted where visible at or from Primary Frontages. Dumpsters and trash shall be screened behind enclosures built for that purpose, and said enclosures shall not occur at Primary Frontages.

XIV. Existing Buildings and Uses

General: In several locations on the Regulating Plan, requirements are shown for properties containing existing buildings and uses. While these requirements pertain to the replacement of existing buildings and uses with new ones, they do not mandate such replacement, and such redevelopment can only occur with the owner's consent. Existing uses are thus "grandfathered" in. However, when existing buildings and uses are replaced, they shall be replaced according to the requirements of these Regulations.

ELKHART RIVER DISTRICT IMPLEMENTATION PLAN