A child wearing a blue helmet and a blue t-shirt is riding a green and white bicycle on a paved path. The foreground is filled with a dense patch of purple flowers and green foliage. The background is a soft-focus green landscape.

STEP INTO NaTuRE

with Marion

RDg...
PLANNING • DESIGN

As obesity levels rise, physical activity plummets, and our children have become more likely to recognize a corporate logo than a flower or insect, we know we need a change in how we lead our daily lives. Here in Marion, we believe we can drive that change by taking a new approach to how we design our City.

We want to design our streets, our neighborhoods and our public spaces in a way that promotes active living and allows daily connection to the natural world.

We want to create inspiring spaces that make us healthier and happier.

We want a City where kids walk home from school, and stop to catch frogs in the creek along the way.

We want a City where you can ride your bike to the store, along a series of trails and bike lanes, shaded by a canopy of lush trees.

We want a City where we visit the community garden more than the corner gas station.

While all of the above require personal decisions, they also require an environment where those decisions come easily. Our cities need to be designed to make these actions the obvious ones.

Prepared by
RDG Planning & Design
www.RDGUSA.com

In association with
Peterson Planning Strategies
Healthiest State Initiative



We want Marion to be a place that provides the opportunity and inspiration to lead an active life, immersed in nature. For everyone. Every day.



Look at these pictures – what if one of these was the view outside your door? While one might inspire you to take a walk every day, the other may leave you thinking you're better off staying home.

That's where this guidebook comes in. It provides a set of principles and goals that will guide our future design decisions, to create a community where our residents will be empowered and inspired to be active - to "step" - and to get "into nature" as often as possible.

We think that these principles can be a great guide for almost any city.

Please read on to learn about our vision, and help us make it a reality for Marion, and for every community.

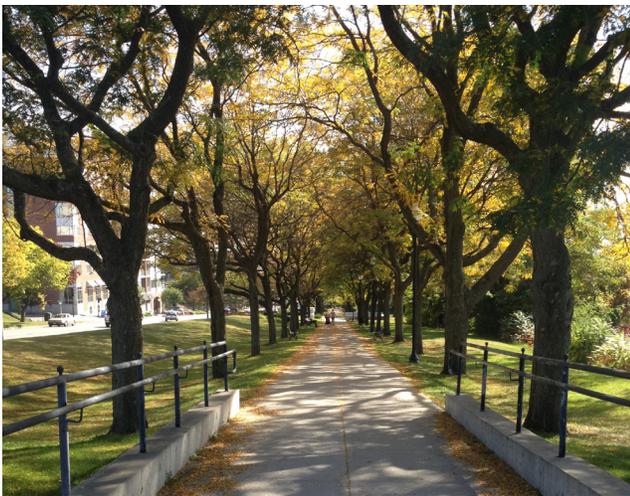
better design for a healthier city



a four-pronged approach

Our “Step Into Nature” principles evolved from a combination of three ideas that are already prevalent in the world of design: Active Living, Active Transportation, and Biophilic Design. This guidebook brings all three of these areas together in an integrated way, and pairs them with a crucial 4th element: Community.

- Active Living – Making physical movement a built-in part of our everyday life.
- Active Transportation - Human-powered travel, such as walking or biking.
- Biophilic Design - Integrating interactions with nature into our buildings and our community.
- Community - A healthy city is not just about design, it's about the people, and how they support each other to live healthy, active lives, immersed in nature.



what is biophilic design?

You might have heard about active living and active transportation before, but biophilic design may be a new idea.

Biophilic design is an innovative way of designing places that connect us to nature, instead of separating us from it. Biophilic design can be applied across a community, and takes different forms depending on the scale:

Regional - Preserving a network of creeks and green corridors assures that we're never far from nature.

Community - A community garden or a city-wide tree canopy keeps us connected to the earth.

Neighborhood - Parks, playgrounds and "micro-nature" (bugs, birds and breezes).

Street - Street-side bioswales and planters (above) bring native grasses close by.

Building - Green roofs, living walls, skylights and water add life to our buildings.

Our cities desperately need to “Step into Nature,” and soon. Here are just a few of the reasons why.

WHY WE NEED THIS GUIDEBOOK

OBESITY AND INACTIVITY ON THE RISE

- 67% of the adult population in Iowa is either overweight or obese. (69% nation-wide)
- Childhood obesity in the U.S. has more than doubled over the past 20 years.
- Only 1 in 5 U.S. adults get the recommended amount of physical activity per week.

INTERACTION WITH NATURE IS LOW

- The average child has less than 30 minutes of unstructured outdoor play per day, compared to more than 7 hours a day spent with electronics.
- In a recent survey by the Nature Conservancy, 61% of teenagers said that they did not spend more time outside because they do not have natural areas near their home.

ENVIRONMENT IN NEED

- The water quality for Iowa's lakes, rivers and streams is in crisis. The way we design our cities can influence this positively or negatively.
- Iowa has one of the most altered landscapes in the world. Less than 1/10th of 1% of our native prairie landscape remains. Restoration can bring back important eco-systems.

why now, why here?

We like to say in Marion that "healthy living is in our DNA." Lately, we've been doing a lot of work to make sure we live up to that motto. And we're getting some help from a lot of valued partners.

WHY MARION?

BLUE ZONES PROJECT

- Marion completed the Blue Zones project, a community well-being initiative designed to make healthy choices easier through changes to environment, policy and social networks.
- 20% of our citizens were engaged in Blue Zones. Our High School became the first in the nation to be "Blue Zones Certified," along with many of our local businesses.

LINN COUNTY COALITION

- In 2015, we formed a coalition of like-minded organizations to make Linn County more active and healthy. Members include: City of Marion, Hawkeye Community Action Program, Linn County Public Health, Blue Zones Marion, Blue Zones Cedar Rapids, Corridor MPO, City of Cedar Rapids, Linn County Food Systems, Linn County Planning and Development, APA Iowa Chapter, and Iowa Public Health Association.
- The coalition's work (including this guidebook) is funded by the Plan4Health initiative, a partnership of the American Planning Association, American Public Health Association, and the CDC.

IOWA HEALTHIEST STATE INITIATIVE

- Our work pairs nicely with this initiative, which is intended to help Iowa fulfill the Governor's goal of becoming the healthiest state in the Nation.

how to use this guidebook

STEP INTO NaTuRE

This guidebook has 6 "big ideas," covered in six chapters. Each chapter has the following sections:

- An overview article explaining the idea and why it matters
- "What it looks like" - a photo spread showing what the idea looks like in action
- "Our Vision" of what our community will be like once this idea is implemented
- "How to Plan for It" - a summary of how to plan for the idea and discuss it as a community
- "How to Implement It" - specific strategies for implementing the idea



01 Green Network

Preserve a Connected Network of "Green" Spaces.

02 (inter)Active Neighborhoods

Give our neighborhoods the right mix of places, spaces and 'graces' to promote active living and connection to nature.

03 Just a Step

Ensure that active living and nature are always just a "step" away.



03



05



04



06

summary

04 Active Transportation

Provide safe streets, -side-walks, and trails that prioritize people-powered movement and natural features.

05 Develop the Culture

Develop a community culture of active living, with nature

06 Step Together

Collaborate with the private and non-profit sectors, and neighboring communities, to be more "green" and active.

A lush green meadow with tall grasses and white daisies. The field is filled with a variety of plants, including tall grasses and numerous small white flowers with yellow centers. The background shows a dense line of green trees or bushes.

A biophilic city is a city abundant with nature, a city that looks for opportunities to repair and restore and creatively insert nature wherever it can.

- Timothy Beatley, *Biophilic Cities*

PRESERVE A CONNECTED NETWORK OF "GREEN" SPACES

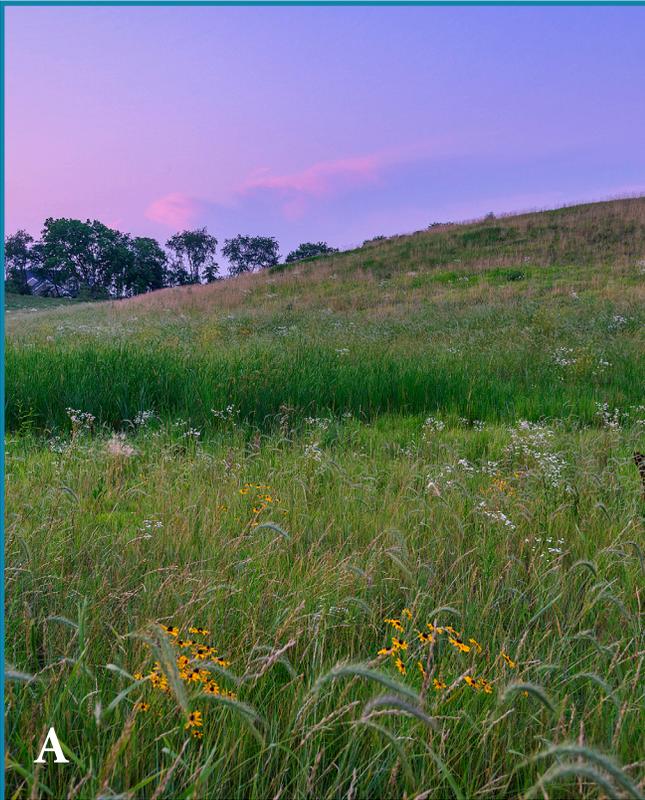
We need to create and maintain a network of connected natural areas, parks and open spaces. These spaces will be strategically located such that they will preserve nature's ability to: manage stormwater, flooding and water quality; provide habitat for plants and animals; and provide fertile land to grow food. This network of green will include both "wild" untouched areas, and "tame" people-oriented areas that allow us to interact with nature, lead active lifestyles, create small-scale urban agriculture, and participate in outdoor activities.

150 years ago, before most of our urban areas were imagined, the natural landscape of Iowa hosted a system of interconnected features that worked together to provide clean water, a range of habitats for plants and animals, and our characteristic rich, fertile soil. Over the years, human development has altered this landscape, and compromised its ability to function. As we built or farmed over top of wetlands, drainage areas, floodplains, trees, prairie and more, we created problems with water and soil quality, flooding, and species loss. We also lost out on places that could inspire us to lead active lives in the great outdoors.

This is not an inevitable result of progress. Our cities can continue to grow and prosper, while limiting disruption of the natural process, and providing the community with access to the outdoors. One of the most important things we can do is preserve an interconnected network of strategically-located natural spaces and parks. While some land will still be open for cities to grow, other land will be flagged for preservation and parks, and be protected from development. This will allow the landscape to continue its work keeping our water clean, our habitat diverse, and our soils rich. It will provide room to restore the valuable prairie that enriches our top soil and stabilizes our stream banks. It will give us more opportunities to do activities like hiking, kayaking, biking and more. It will help draw people to our community and improve our property values. Preserving these "green" spaces, in the right places, allows us to grow our cities in a way that connects with nature, rather than degrades it.

The green network provides a spectrum of outdoor spaces, from wild, untouched prairie, to the manicured lawn of a baseball field, and everything in between.

green network





A

The green network should include large "wild" spaces that have minimal human interaction.

B

Trails promote active lifestyles and provide the opportunity to be immersed in nature.

C

A robust parks system fosters active living and connects people to each other and to nature.

D

Designated areas for small-scale urban agriculture are part of the green network.

E

Rain gardens, bioswales, and native landscaping are techniques to manage stormwater and add green space to our cities.

F

Preserving natural stream corridors helps manage stormwater, connects larger pieces of the green network, and provides routes for trails.

G

Creating a green network requires regional collaboration with neighboring jurisdictions and other local organizations.



what it looks like

We envision a place that is...

Connected

All of our parks, trails and "wild" spaces are connected to each other, as part of an integrated system.

Wild and Tame

We have the full spectrum of "green," from manicured fields for organized recreation, to wooded trails, to restored prairie.

Mindful of Water

Our green network mimics the natural system of rainwater management, thereby preventing flooding and improving our water quality.

Rich with Wildlife

We provide habitats for animals and plants, both large and small, and the necessary links between them.

Fertile

We can grow food within our city, and protect larger farmsteads outside the city.

Protected

Our most environmentally sensitive land is protected from development, while areas that allow development have environmentally-friendly guidelines.

Active and Healthy

A robust green network will inspire our residents to get outside and be active.

Collaborative

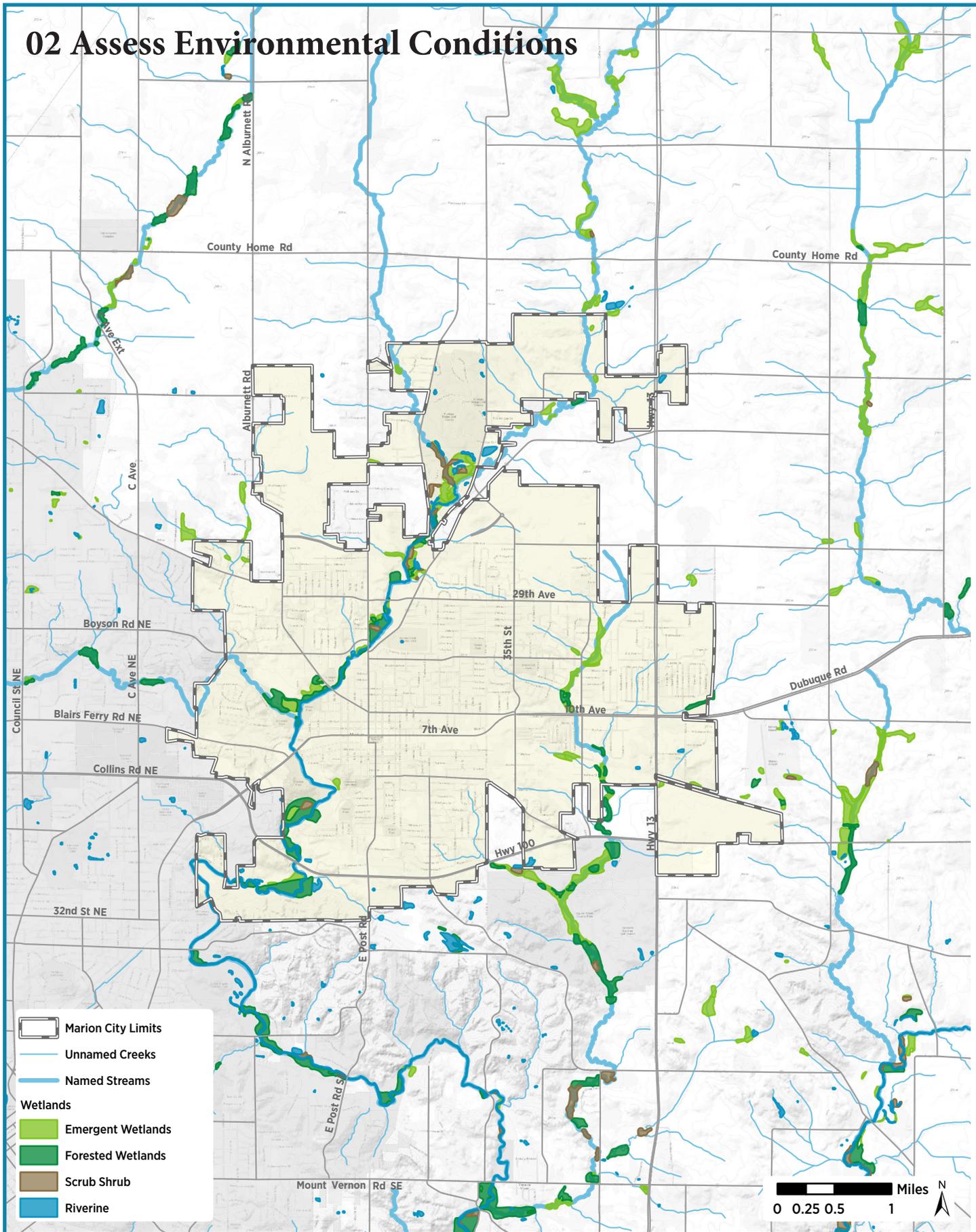
We will collaborate with our neighbors to preserve a regional green network.

A few ways we'll know we're moving forward...

1. We see children playing in our woods, prairie, streams and lakes.
2. We create a new "green" link between two parks or green spaces.
3. The banks of our neighborhood creek stop eroding.
4. A powerful rainstorm passes without any flash flooding.
5. We see wildlife in our parks and open spaces.
6. Lunch at the local elementary school features fresh produce from the community garden.
7. We can ride our bike for miles without ever leaving nature.
8. We feel comfortable swimming and fishing in our lakes and streams, because we know the water is clean.
9. We have money available each year to acquire new green space and maintain our current spaces.

our vision

02 Assess Environmental Conditions



01

Identify current green spaces and connection gaps

Inventory and map all existing green spaces. This includes parks, open space, stormwater detention and wooded areas.

02

Assess environmental conditions

Assess environmental conditions for all land, both in the city and in its path of growth, to identify what new areas should be added to the green network. Items to consider include: floodplains, wetlands, streams, soil quality, topography, vegetation, species richness, sandy soils, critical natural resource areas, principal flow paths, and drainage-ways.

03

Designate preservation areas before development occurs

Preservation areas should be identified based on environmental conditions and the existing network. Designate these spaces in growth areas before development occurs. Also, consider re-establishing natural corridors in areas that are already developed. For example, if homes or businesses are located in the floodplain, they may choose to re-locate over time. When this happens, the land should be returned to its natural state, rather than re-developed. This identification should be done in conjunction with the land use plan, as part of the comprehensive plan process.

04

Provide a balance of larger natural areas and corridors

It's important to preserve larger tracts of land in addition to smaller connecting corridors, even though the former may be more difficult. While some species can live on the edge, in a "wildlife corridor," others need large, wide tracts to survive.

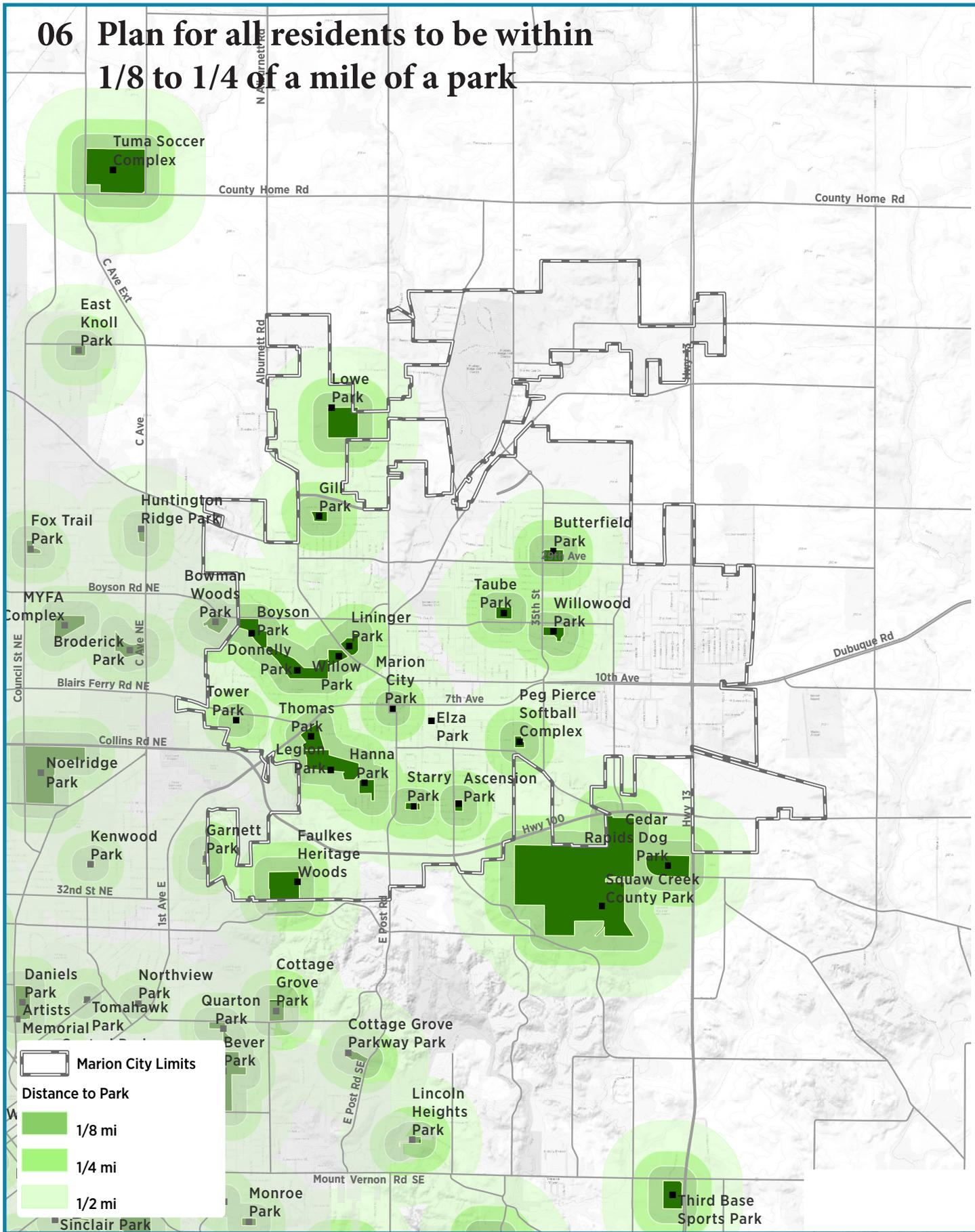
05

Determine the use: Wild, Play, or Food?

- Wild: These are untouched spaces with no or minimal human interaction. These undisturbed areas are needed for many plants and animals to thrive.
- Play: Areas for "play" include parks, trails and water trails.
- Food: Some spaces should be designated for small-scale urban agriculture.

how to plan for it

06 Plan for all residents to be within 1/8 to 1/4 of a mile of a park



06

Plan for all residents to be within 1/8-1/4 mile of a park

Consider service areas that recognize human powered movement: All residential areas should have a park within 1/8-1/4 mile walking distance. Areas where residents are outside of a 1/8 mile should have access to attractive green streets that guide them to parks.

07

Determine ownership of green spaces

Determine if natural spaces will be publicly or privately owned. Create standards and a nexus to require the dedication of these natural or sensitive environmental spaces and park to be used to obtain publicly owned spaces at the time of development or before. Things to consider include the need for public access and the plan for maintenance.

- Private spaces are typically held by a property owner or a homeowners association. Downsides include the possibility of neglected maintenance, and restriction of public use.
- Public ownership has the upside of public access. Maintenance can potentially be programmed into the parks budget to make sure issues are addressed before getting out of hand.

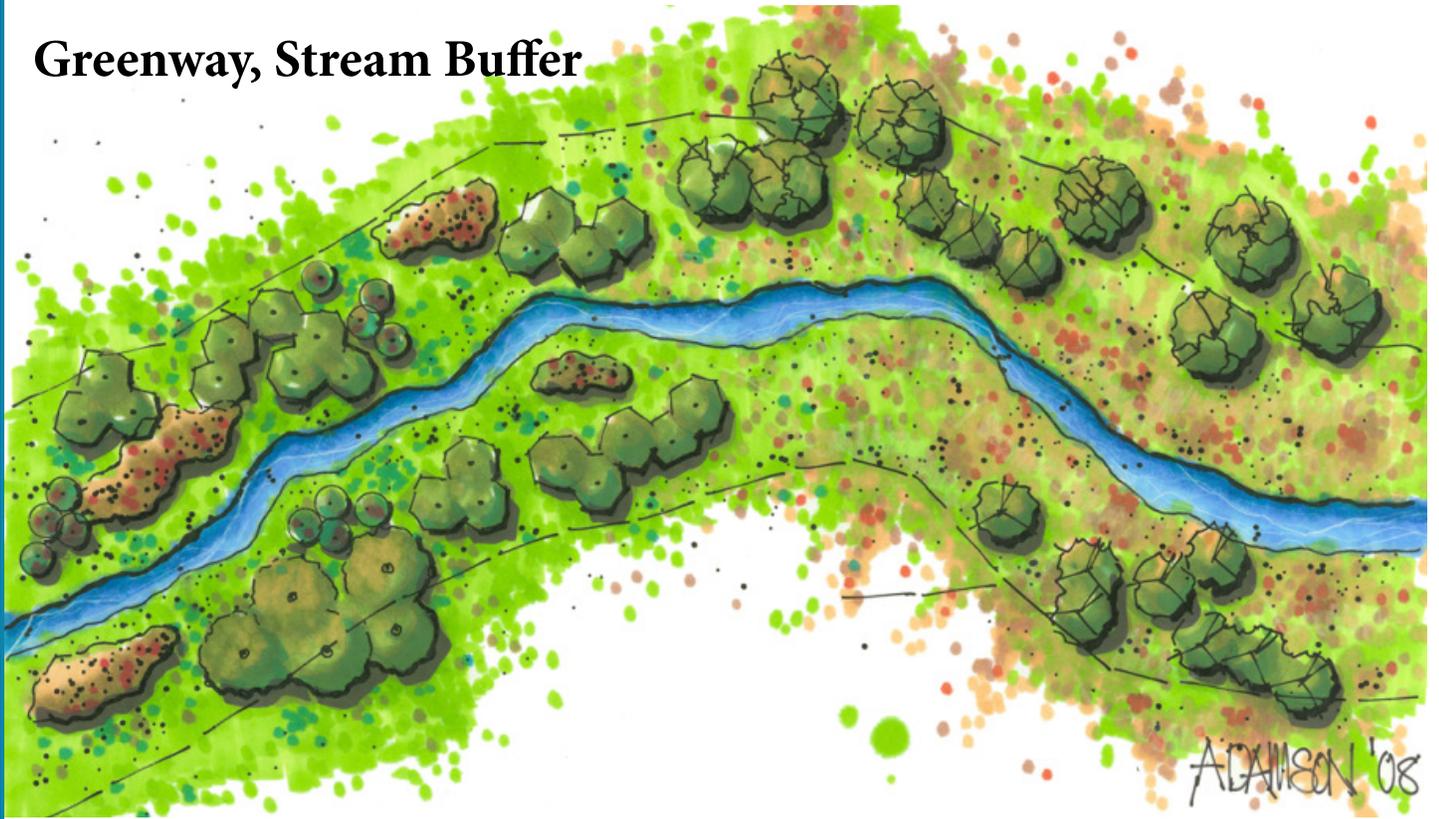
08

Work with regional partners

- Coordinate with regional jurisdictions, especially those in your watershed, to create a continuous regional system of parks and open spaces - this is particularly beneficial for trail systems, flood mitigation and water quality benefits.
- Coordinate with school system to and adjacent jurisdictions to establish shared use of parks and open spaces.

how to plan for it

Greenway, Stream Buffer



Conventional Drainage



Conservation

Drawings used with permission from Polk County
Soil and Water Conservation District

01

Stream buffer ordinance

A stream buffer ordinance specifies a distance around streams that must be preserved from development. It can be based on a designated floodplain or a prescribed width.

02

Floodplain development ordinance

Cities can pass ordinances prohibiting or restricting development in the 100-year and 500-year floodplains. The ordinance may take a variety of approaches: ban all new construction; ban the creation of new lots; or allow new construction and new lots with restrictions, such as raising structures above the flood level or requiring the dedication of drainageways and buffer areas as part of new development. Some lower impact uses may still be allowed, such as trails or other recreation features.

03

Incentives for property owners

Tax breaks or other incentives for farmers and other property owners to preserve land around streams and/or add plantings to stabilize the banks.

04

Revise the stormwater ordinance and adopt the Iowa Stormwater Management Manual

The stormwater ordinance should encourage or require low impact site design that includes the preservation of open spaces for natural stormwater flow. Rain gardens, bioswales and native landscaping are examples of techniques that meet stormwater requirements and add green space to our cities.

05

Create a stormwater utility

Create a stormwater utility and use the funds to help maintain the natural "green" stormwater system.

06

Revise subdivision ordinance to encourage green space

Subdivision ordinances should allow for development designs that preserve more green space, such as conservation development site design, which clusters homes together to leave more land available for natural spaces.

how to implement it

Idea #1

Encourage Conservation Design



Typical Development Practices



07

Form a watershed management authority

A Watershed Management Authority is an organization that allows cities, counties, Soil and Water Conservation Districts and others to work together on watershed planning. Alternatively, another type of non-profit, such as a regional economic development organization, could coordinate regional planning and implementation efforts. Regional entities can work together to create plans for environmental preservation and recreation. They can also pursue state and federal funding as a region.

Marion In Focus

Indian Creek Watershed Management Authority is among the state's first WMAs to form. The City of Marion is an active participant.

08

Create regional plans for land use, parks, trails, and annexation

Regional implementation starts with regional planning. During planning efforts, be sure to work with neighboring cities right from the start.

09

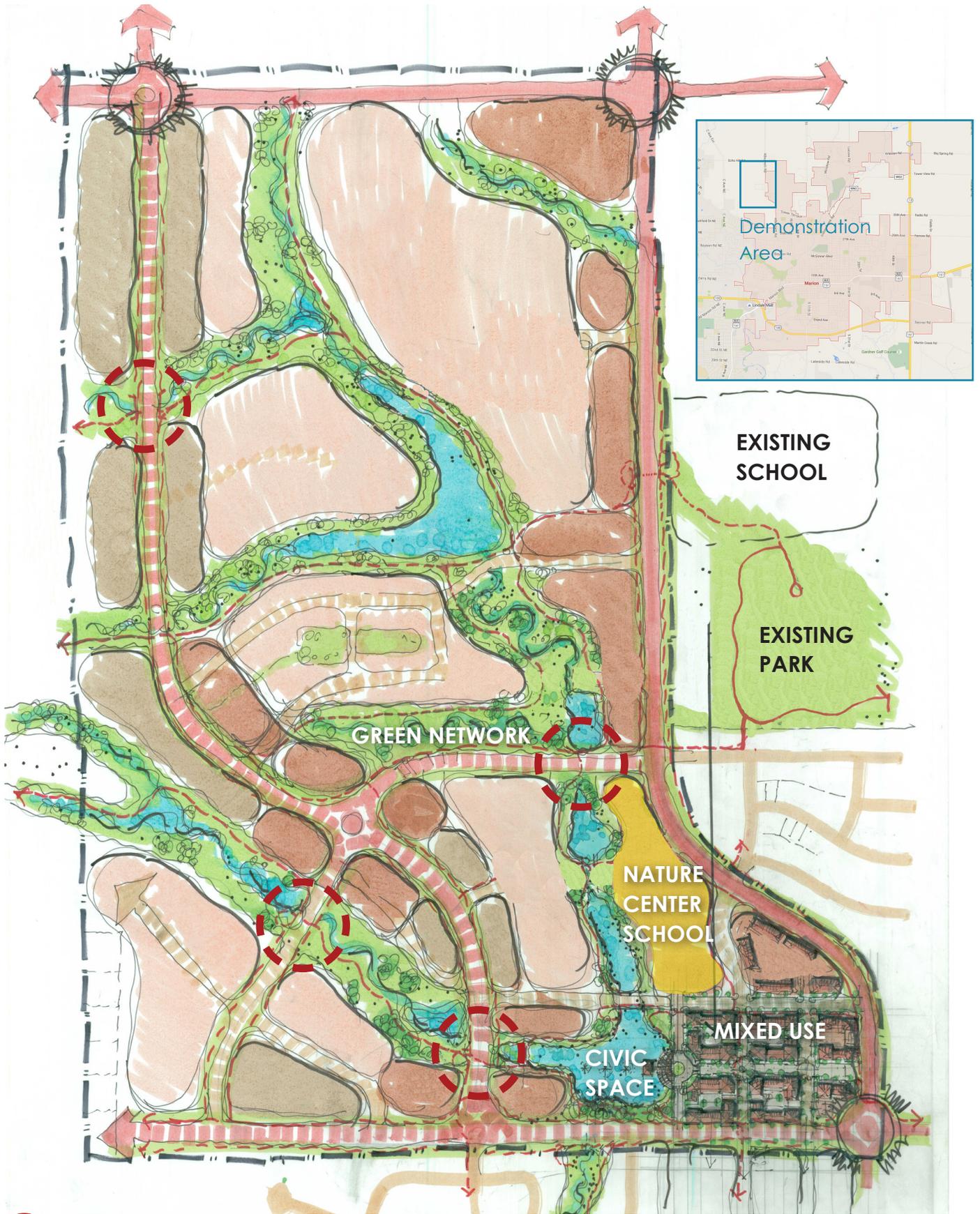
Educate the developers and the public on the value of the green network

Without a collective understanding of the many benefits of green space, and the practices that create them, we will be challenged to develop a fully connected, healthy system. Many players are required for success, especially the development community.

10

Create a reliable funding stream for park acquisition

- Create a sensitive lands and park dedication ordinance in the subdivision code. The ordinance would require developers to dedicate land for parks in new developments. The amount of land required is typically a function of the size of the development, its density, and the city's desired level of service for parks. The ordinance must consider the quality of the donation and its strategic location in the green network, to avoid ending up with marginal bits and pieces of green.
- Form a "Friends" group or other park fund-raising organization.
- Allocate on-going annual budget for maintenance and improvements to parks and trails.
- Use annual budget as a match for outside funding opportunities.



GATEWAY TO NATURE



MULTI-FAMILY CHARACTER



SINGLE-FAMILY CHARACTER

Marion In Focus

GREEN & ACTIVE NEW NEIGHBORHOOD

As Marion grows, we need to consider how we want to design our future neighborhoods. The drawing on the facing page shows a concept for a new neighborhood in the northwest part of Marion.

This area is expected to develop over the next 10-20 years, due to its location, and planned transportation improvements in the area. The neighborhood will likely develop slowly, piece by piece, as property owners decide to sell their land to interested developers. Therefore, a big picture concept such as this is crucial to ensure that these different players are all working toward a common goal.

This new neighborhood is the perfect opportunity to implement the goals of this guidebook.

One goal that this concept illustrates particularly well is to establish a "green network." This plan started by identifying existing streams, soil conditions, and natural drainage patterns, to determine the best places to preserve green space. It provides a connected network that allows water to flow in a way that mimics the natural system. The green network provides routes for trails, places for stormwater storage, and creates a ribbon of green that touches all the residential areas.

NOTABLE FEATURES

Green Network

A connected green network of open spaces, creeks and parks.

Trails (Red Lines)

Multi-use trails weave through the neighborhood & green network.

Nature Center & School

Bring children into nature with a joint school and nature center.

Varying Densities

A mix of low and medium density housing areas provide options.

Eco-District (Mixed-Use)

Eco-friendly businesses can cluster in this walkable mixed use area.

Civic Space

Just west of the eco-district, a potential water-side amphitheater or neighborhood gathering space.

Gateways to Nature

Gateway opportunities occur where green intersects housing areas and street crossings.

See following page for more on notable features.



Marion In Focus

1

Low water crossings - These can be observation bridges or simple, resilient stone-step access points. Ideally, we locate low-water crossings in areas appropriate for encouraging wading, creek-walking, and muddy critter hikes.

2

Public edge - Footpaths, trails and even roadways in this neighborhood need to invite the public to stay, learn, and play. Our circulation system needs (at a minimum) a sufficient public-edge to serve as welcome and corridor for exploration.

3

Pollinator gardens - Simple footpaths can quickly immerse residents and visitors into the beautiful – and critically important – world of butterfly gardens and toxin-free bee-scapes.

4

Trailhead and interpretation - Mini-gateways as pedestrian and/or cycling trailheads with interpretive panels and nature access points help to set this neighborhood apart. These gateways, depending on their location, may feature public amenities such as restrooms, drinking fountains or parking. They may also be more down-scaled in scope, supplying bike racks, benches, or a picnic table. Some gateways may emphasize a particular nature-exploration activity (e.g., providing observation scopes, water-critter catch-nets, or tree ID guides).

5

Nature center & school - It's time we merge day-to-day learning with nature and the outdoors. Proposed here is the significant community amenity of nature center with school-by-day and community access-by-nights and weekends. This School as Gateway-to-Nature drives the ultimate success of this Step-into-Nature neighborhood – serving as a model for Marion and beyond. At the time of this writing, Indian Creek Nature Center plans new facilities. The potential for a public-private partnership here deserves immediate attention.

6

An eco-district, potentially developed through the use of a Natural Resources Overlay District or similar vehicle, can quickly change the face of development in a community by permitting/encouraging enhancements such as small scale wind power, geothermal, green streets, green business incubators, multiple transportation options, and interpretation/education focused on the district's many natural/dynamic features. These are typically active-oriented, vibrant spaces that embrace nature and use conservation as a brand of distinction. This report proposes an eco-district approach to a newly developing area in Marion, Northwest of town, just West of Oakridge Middle School.



Those who contemplate the beauty of the earth find reserves of strength that will endure as long as life lasts.

— Rachel Carson

GIVE OUR NEIGHBORHOODS THE RIGHT MIX OF PLACES, SPACES AND 'GRACES' TO PROMOTE ACTIVE LIVING AND CONNECTION TO NATURE.

All neighborhoods should have a diverse mix of places, both public and private, that are designed to promote the “Step Into Nature” philosophy for active living. This could include community gardens, recreation centers, or playgrounds. These and other places should have quality design features – or “graces” - such as attractive street lighting, pedestrian-scale building facades, interactive or edible landscaping, and public art.

When we talk about a “neighborhood,” we mean more than simply a collection of homes and businesses. Neighborhoods are places with a distinct identity - places that we care about because they inspire us, connect us to others, and help us form lasting memories. When a neighborhood has the right mix, we know it. But it can be hard to put our finger on what makes a neighborhood special.

Countless attributes contribute to the character of a neighborhood - buildings, parks and trails, public events, schools, natural features, public spaces, architecture, streets, art, and people. But the most important piece is interaction. A neighborhood is not only a collection of all the right pieces, it's a place where you interact with other people, with nature, and with all the other elements of the neighborhood environment.

We want our neighborhoods to promote these interactions as much as possible. The foundation to achieving this goal is active living. When we sit at home on the couch and drive to all our destinations, our interaction with the neighborhood and environment is minimized. When we get out and walk, bike or play in our neighborhoods - this is when we have those magic interactions that make our neighborhoods special and meaningful.

What do we need to do to promote neighborhood interaction? It is a combination of making sure we have:

- The right places,
- The right design, &
- The right inspiration

(inter)active neighborhoods



[A biophilic city] is an outdoor city, a physically active city, in which residents spend time enjoying the biological magic and wonder around them.

– Timothy Beatley, *Biophilic Cities*

THE RIGHT PLACES

Some examples of the places we need are:

- Community gardens
- Recreation centers and playgrounds
- Common shelters/grills
- Public spaces & buildings
- Inviting storefronts and private buildings
- Neighborhood schools
- Natural areas

THE RIGHT DESIGN

When we think about the "right design" we consider both the layout and design of the neighborhood, and the design features of each individual building, site or street.

Overall Neighborhood Layout:

The most vibrant neighborhoods include a mix of uses (homes, stores, parks, and more) and densities, with an interconnected street system. In these neighborhoods, activity is a natural part of life because you can easily walk to work, school, the store or the park. Green spaces intersect the neighborhood, providing frequent interaction with nature.

Small-Scale Design Features:

- Biophilic building design for public and private buildings and sites
- Pedestrian-scale street lighting
- Public art
- Landscaping

THE RIGHT INSPIRATION

If we have a neighborhood with the right places and the right design, we need to be inspired to get out in the neighborhood by personal connection to our neighbors, opportunities to attend neighborhood events, and a general culture of neighborly interaction. Go to chapter 5 to read more about this idea!





A

Interactive neighborhoods have a mix of uses - homes, stores, parks and offices.

B

Buildings can integrate nature into the neighborhood with living walls and green roofs.

C

A community vegetable garden provides a great way to be active in the outdoors.

D

A critical part of creating active neighborhoods is to work with developers - to identify any regulatory or market barriers, and/or to build a model neighborhood.

E

Buildings in an active neighborhood should be pedestrian scale - close to the street, with street-side entrances and windows (no blank walls) and design features that break up the facade.

F

We can encourage hours of active, creative play with nature-based playscapes for children (and adults!).

G

Public art can enliven the pedestrian environment and inspire active living.



what it looks like

We envision a place that is...

Neighborly

We know our neighbors because there are places for us to gather, and attractive, safe streets where we frequently cross paths on foot or on bike.

Walkable

Walking in our neighborhood is an interesting and comfortable experience. We have a complete trail and sidewalk network, in a grid-like pattern of short blocks that provide direct routes. Buildings face the sidewalk, trees offer shade, while art and landscaping provide visual interest.

Attractive

Our homes and buildings have good design, public art such as sculptures and murals are plentiful, and there is plenty of "green" - street trees, stormwater planters in the streets, and landscaping on all sites.

Unique and Inspiring

Our neighborhoods have distinct identities that make us feel excited and inspired to live there.

Active and Healthy

There are a wide variety places to go where you can be active and get in nature - parks, recreation centers, trails, and more.

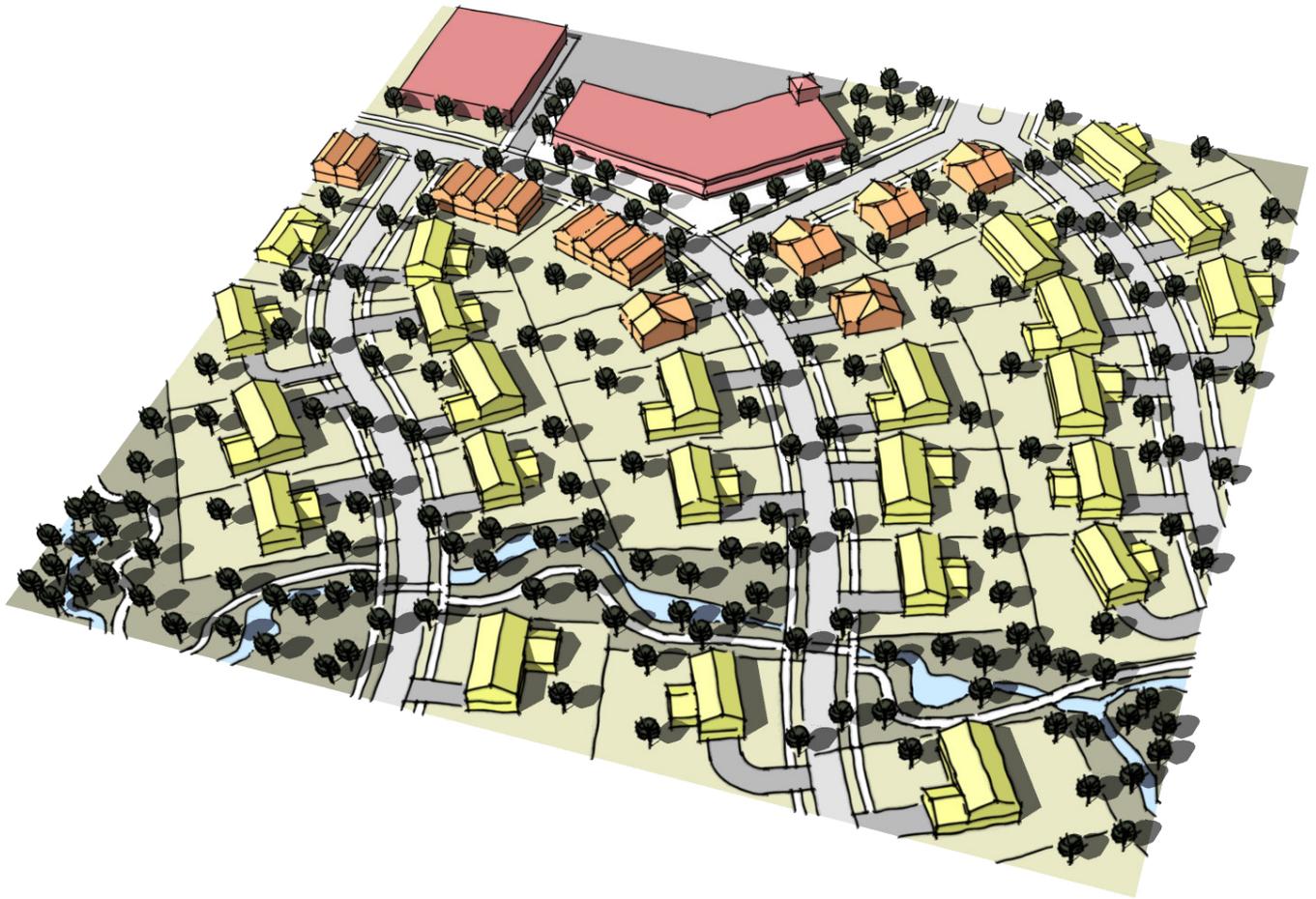
Everything You Need for Your Daily Life

We can meet most of our daily needs within our neighborhood, since it has a mix of homes, stores, schools, parks, offices and more in close proximity.

A few ways we'll know we're moving forward...

1. We see neighbors talking on the sidewalk or waving as they pass.
2. Homes in our neighborhood always sell quickly, because it is THE place to be.
3. Children walk or bike to the neighborhood school every day.
4. Visitors stop to take pictures of a building, a piece of art, or a beautiful landscape in our neighborhood.
5. Our favorite store or restaurant is just down the street, and we can walk or bike there with our family.
6. We feel proud to be a resident of our neighborhood. It is a part of our identity.
7. The people in our neighborhood represent a wide variety of ages, incomes and backgrounds, since there are diverse housing options.
8. On a Saturday morning, our neighborhood is teeming with runners and bikers, taking advantage of the trails, wide sidewalks and bike lanes that weave through our tree-filled neighborhood.

our vision



02 Create a land use plan that includes a mix of uses and densities within neighborhoods

This neighborhood lay-out shows a mix of single family homes (yellow), townhomes and duplexes (orange) and mixed use or commercial (red). This mixing of uses makes the neighborhood both more vibrant and better suited for active transportation. A stream corridor with a green buffer and a trail cuts through the neighborhood, providing access to nature and an inspiration for active recreation such as jogging, walking or biking.

01

Map your neighborhood assets and identify what's missing

The first step to improving our neighborhoods is to identify what assets and resources we already have. Assets to consider include both the tangible - parks, schools, streets and buildings - and the intangible - character, relationships, history & identity.

02

Create a land use plan that includes a mix of uses and densities within neighborhoods

Your city's land use plan, created as part of the comprehensive plan, should encourage a mix of uses within each neighborhood, rather than isolating residential, commercial and civic uses into different parts of the city. Each neighborhood should provide areas for higher density uses, typically at intersections or along major corridors. This layout makes active transportation more feasible, since neighborhood destinations are closer to homes. The increased density can also open up more land for green space. In Marion, "higher density" would be 12+ dwelling units per acre, or a 0.5+ Floor Area Ratio.

03

Identify community preferences for design

Work with the public to identify what design styles and features are the best fit for your community, with regard to building design, landscaping, and streetscaping. One method to achieve this is through a visual preference survey, which asks residents to score images that depict urban elements in a variety of different styles.

04

Make a policy to use active living and biophilic guidelines for public projects

The public sector can help lead by example. The city should plan for how they will demonstrate active living and biophilic design when constructing or renovating public buildings, such as a library, city hall or recreation center. They can pass a resolution that states their intentions and identify a pilot project.

how to plan for it

01 Build new neighborhood destinations



02 Create design guidelines for buildings and landscaping

01

Build new neighborhood destinations

Based on the asset mapping work discussed on the previous page, work with neighborhood associations to plan and fund new neighborhood destinations that encourage residents to gather, get outside, and play. Examples include:

- Community gardens, parks, play areas, common shelters

The city should set aside annual funding for neighborhood improvements that can help supplement independent fundraising by neighborhood associations and other community organizations.

02

Create design guidelines for buildings and landscaping

The design and placement of our buildings and landscaping can greatly effect whether our neighborhoods feel "walkable" or "green." The city can create design guidelines or standards to promote active living and biophilic design, then incorporate these as part of their zoning code or subdivision code. A few guidelines to consider are:

- Small setbacks that put buildings closer to the street
- Placing parking behind buildings, instead of in front yard driveways
- On-street parking can naturally calm the speed of motorists
- Discourage long, blank walls along the public domain. Instead require windows, doors, art, interactive landscapes or other design elements that activate the pedestrian environment.

03

Establish a minimum block size

Long distances between cross-streets can increase trip length and thereby discourage active transportation. Shorter blocks are optimal for active transportation.

04

Revise land use regulations to provide flexibility

Review the zoning code to ensure that it allows medium and high density uses in a variety of settings, and that it allows a mixture of uses in one or more zoning districts. Make revisions as necessary.

how to implement it

05 Reach out to developers



06 Implement a pilot project



05

Reach out to private developers to discuss how to remove barriers to building mixed use and mixed density neighborhoods

Sometimes our city regulations can inadvertently get in the way of the kind of neighborhoods we want to build. Developers often have the best insight on this, and can help cities identify where there may be issues in their subdivision or zoning codes. Developers may also be concerned about what the market can bear. The public realm may be able to help absorb some of the risk of building certain types of development, through cost-sharing programs for infrastructure, or by performing a market study. The public and private sector should work together to identify barriers, and put together a plan for how to overcome them.

06

Implement public and private pilot projects

When the time comes to build or renovate a public building, do so in a way that demonstrates our values of active living and biophilic design. In a similar fashion, a pioneering developer can build a model neighborhood development that embodies our "Step into Nature" principles, as a way of showing others that it can be done successfully in this market.

07

Create and implement a public art program and/or public art commission

Public art programs like Marion's "Imaginart in the alleys" show how art can enliven a neighborhood. But these programs do so much more. Public art on the street encourages pedestrian traffic and provides a place for neighbors to engage with their neighborhood and with each other. Art can often be integrated into nature (or built from nature), thereby encouraging more interaction with the natural world. Public art is a great asset and one way to ensure its continuation is to establish a formal public art program or establish a commission that is charged with selecting and fundraising for new artworks.

how to implement it

Marion In Focus: The Neighborhood

NEW IDEAS IN CORE NEIGHBORHOOD

Neighborhoods compete in a marketplace, much like retail goods. Products present identities, designed to persuade consumers to invest into them. Similarly, whether they want them or not, neighborhoods also have identities – a set of expectations that can guide such decisions as a young family deciding where to buy their first home. “Branding” may be seen as an effort to control and define the product’s identity, whether that “product” is an athletic shoe or a neighborhood. Successful branding efforts also have internal benefits to make homeowners feel positive about their association with it. In the case of consumer products, the payoff is brand loyalty, causing members of the group to buy the product again and even market it to others by word of mouth, wearing t-shirts, or placing decals of logos on their cars. In the case of neighborhoods, successful branding encourages people to buy houses, improve their properties, and market the area to friends. These efforts ultimately make the neighborhood more enjoyable and increase its economic value.

The neighborhood’s landscape should develop an active network, knitted together by walkways and greenways. Open spaces, parks and image of the overall landscape are fundamental to the quality of life in a neighborhood. A plan for open space and parks development assures that the neighborhood’s improvement includes enhancing and expanding attractive spaces to maintain a high level of quality. Investments in the landscape add value to the neighborhood and community, ultimately producing economic and experiential benefits.

Active Destinations, such as parks and schools, add value to the neighborhood, enhancing both the experience of living and value of property. Parks can be major factors in stabilizing existing neighborhoods and the reinvestment of residential areas. Studies have shown that a high-quality, diverse recreational system ranks second only to the educational system in attracting new residents to a community.

NOTABLE FEATURES

Walkability, Sidewalks

Sidewalks and trails are the principal means for moving around a neighborhood by foot, particularly to school, home and other places.

Bikeability

Bike riders should feel they belong on the streets. Signage should direct cyclists to destinations, while raising motorist’s awareness for them.

Green Streets

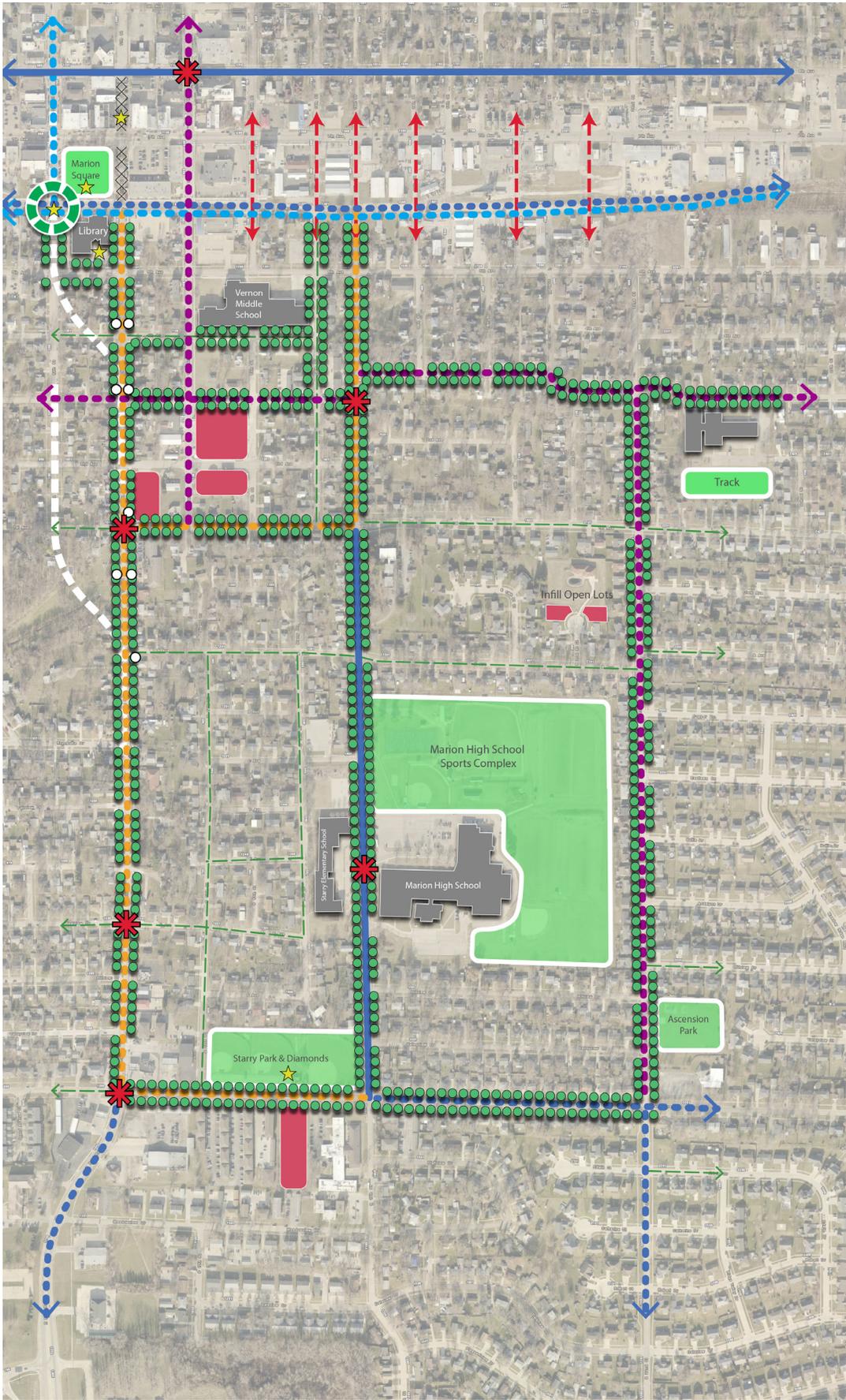
Neighborhood streets should have a canopy of trees, providing shade and improving the neighborhood’s attractiveness.

Stormwater Management

Rain water should be intercepted before leaving the neighborhood.

Crossings

Crosswalks should be well-marked, safe, meet ADA requirements and emphasize school connections.



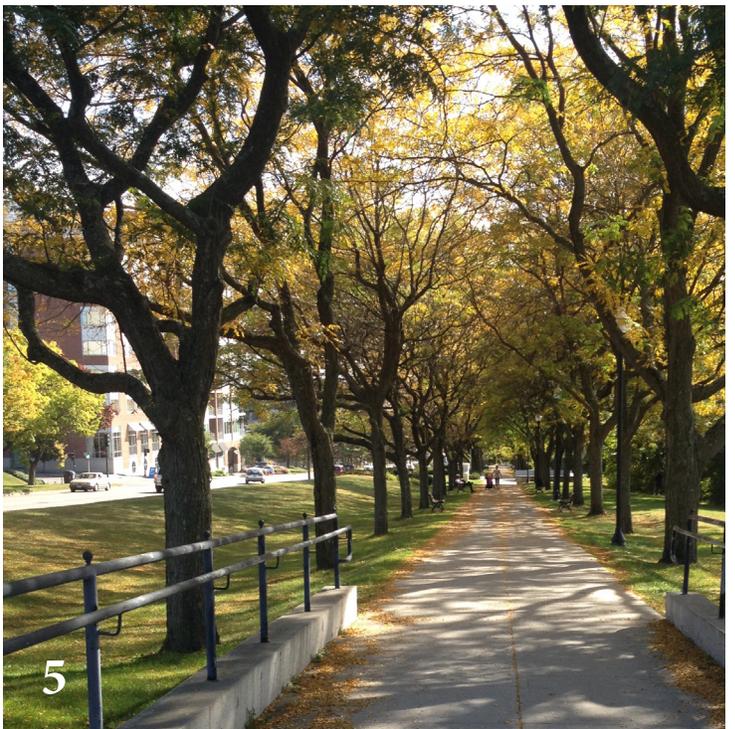
PLACES

- Active Destinations
- ✱ Intersection Improvement
Bike/Ped Enhancements
- ⊙ Gateway Intersection Improvement
& Gateway Art in Center Island
- Development Opportunity
- Stormwater BMP Opportunity
- ★ Public Art

PATHWAYS

- Active Pathways
 - ↔ Supporting Pedestrian Routes
 - ↔ Pedestrian Connections
 - Possible Street Realignment
- | Existing | Proposed | |
|-------------------------------------|--|----------------------|
| — | ●●● | Bike Lane |
| | ●●● | Sidepath |
| | ●●● | Shared Lane Markings |
| | ●●● | Bike Boulevard |

Note: Recommend filling sidewalk gaps and/or widening to minimum width of 4-6'.



Marion In Focus: Neighborhood Features

1

Stormwater planters - Managing stormwater is critical for healthy living. Poor water quality and flooding take their toll on public health and well-being. Stormwater planters can provide additional benefits of calming traffic, creating habitat corridors, and providing natural beauty to streetscapes and urban environments.

2

Pedestrian wayfinding - Communities are strengthened when we readily know our whereabouts and have quick/ready access to the many businesses and amenities at hand. Wayfinding signs also serve as a much-needed point-of-welcome to visitors.

3

Community garden - Fresh, nutritious, and self-empowering – community gardens bring people together in ways practical, creative and self-sustaining.

4

Natural playscape - Increasingly, families want their children playing in the great outdoors, but they have some level of discomfort at first – particularly with young children. Natural playscapes (instead of pre-packaged, metal-and-plastic playgrounds) provide an important gateway for parents, grandparents and wee ones to get connected to a world that once came much more, well, naturally, to people of all ages.

5

Tree canopy - Greening a neighborhood is often thought of as simply “street trees.” While true nature integration is so much more, no one can deny the critical role trees play: shade, disrupting the heat-island effect, cleansing air, and exceptional visual appeal – just to name a few benefits. It's critical, though, we learn the lessons of nature and plant a diverse mix of native species.



... biodiversity is essential, Not optional, to our lives and our health and to our continuing to flourish as a species.

– Timothy Beatley, *Biophilic Cities*

ENSURE THAT ACTIVE LIVING AND NATURE ARE ALWAYS JUST A “STEP” AWAY.

We shouldn't have to make a special trip to be active and get into nature; it must be a seamless part of our daily lives. Our built environment - our buildings and streets - should integrate natural elements within them, and provide accessible gateways into larger natural areas.

When we picture getting into nature, what comes to mind? Perhaps an idyllic walk on a wooded trail, with nothing but the sounds of the birds and a rushing brook beside you? It's a nice image, but finding the time to visit such a setting on a daily basis can prove difficult. What if you could connect to nature without making a special trip to get there? What if you were already in nature every day?

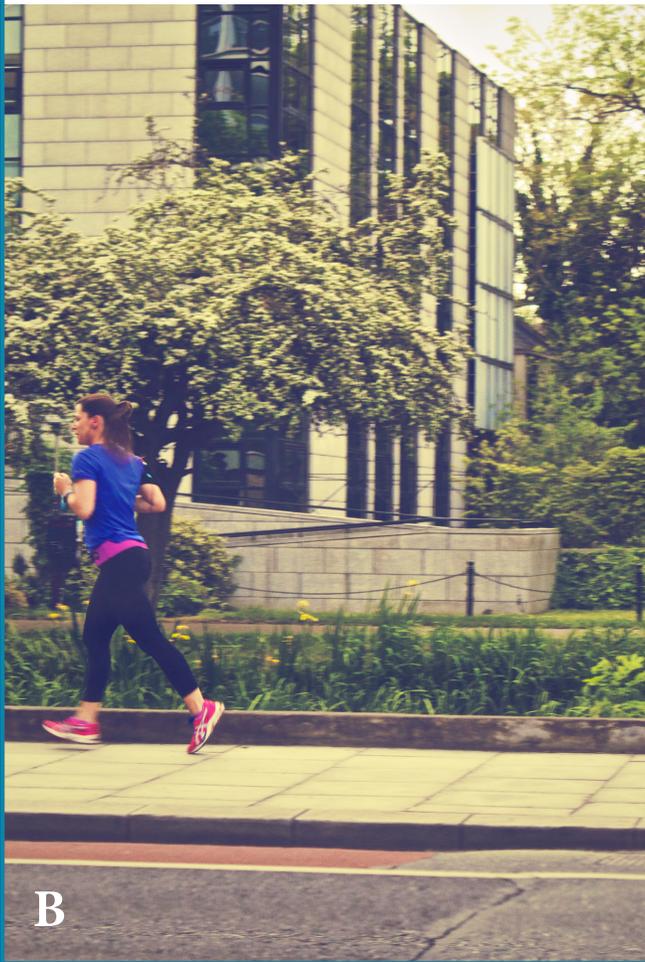
By the same token, finding the time to “be active” every day can feel like a hurdle. Every January 1, we make the promise to visit the gym 5 days a week, only to find ourselves off-track by Ground-Hog Day. What if “being active” weren't something we had to make a special time for, but rather something that was built into our lives?

We can create a life like this – a life where we engage with nature and stay active every day - but it requires more than just personal will-power. We need cities that are designed to create “casual encounters” with nature, and places that ingrain active living into our daily lives.

One of the ways we create natural encounters is to educate ourselves about the “micro-nature” that is all around us. Crickets on the front step, a bird on the windowsill, the wind in our face - these are all part of nature and they are right under our nose, if only we know where to look.

Two other key ways to make sure nature is only a step away are to: 1) integrate natural elements into our buildings and our streets; and 2) provide quick and easy access to our parks and other natural spaces.

just a step away





A

We need clear and inviting gateways into our natural spaces.

B

Streets can function almost as a linear park, with lots of "green" landscaping, stormwater planters, a tree canopy, wide sidewalks for runners, and accommodations for bikers.

C

Integrating nature into our buildings brings it up close and personal, even when we are indoors.

D

Micro-nature - bugs, bees, sunlight, birds, wind, rain - is all around us.

E

Our cities are teeming with natural life, but we need to remember to interact with it.

F

Native grasses are both a benefit for stormwater management and a way to bring our unique landscape into our urban environment.

G

We need to be able to find our way to nature, just as easily as we find our way to the store.



what it looks like

We envision a place that is...

Integrated With Nature

Our buildings follow "biophilic design" principles, to integrate nature into the structure of the building with living walls, green roofs, lots of natural light, and more.

Effortlessly Active

Activity is a part of every day life, and we don't have to drive to the gym to do it.

Appreciative of the Little Things

Our residents are aware of the natural elements that surround them every day, even in the middle of the city: birds, bugs, wind, rain, and even microscopic life.

A Sea of Green

Everyone is close to a park or a natural space of some kind.

Accessible

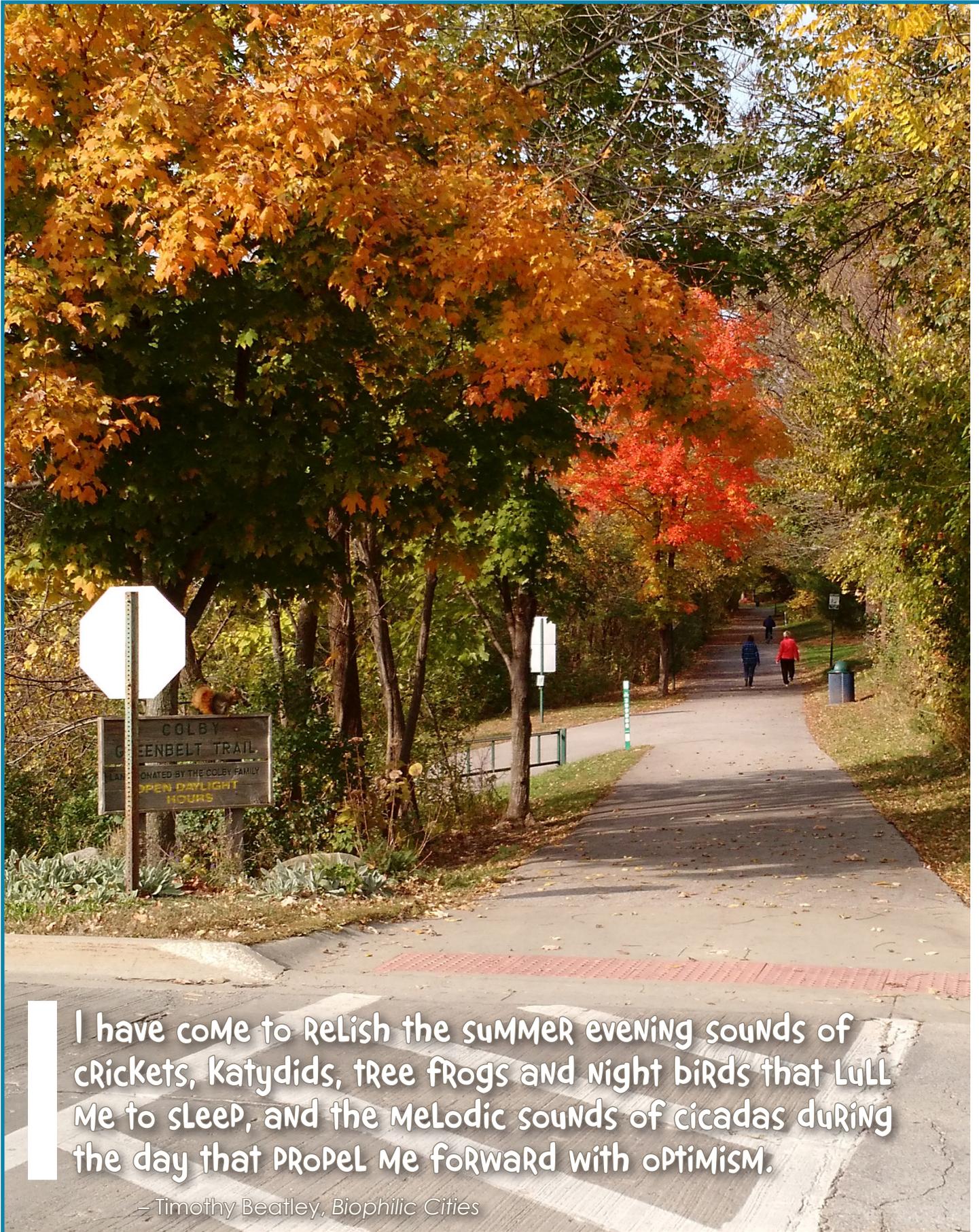
It's easy to find our parks, creeks, and open spaces and easy to get to them. There are clear signs and accessible paths to enter natural spaces.

Active Year-Round

Our active lifestyles don't stop with the first snowfall. Our residents are enthusiastic and adept at a host of both indoor and outdoor winter activities like ice skating, snowshoeing, and cross-country skiing.

A few ways we'll know we're moving forward...

1. Kids attach magnifying glasses to their school packs so they can look at insects during recess.
2. Everyone uses parks and natural features as reference points when giving directions.
3. It's easy to get to a park or a green space without getting in a car.
4. You can harvest a salad for your lunch from the vegetables growing on the living wall in your office.
5. Treadmill sales plummet in our town, because it's always easier and more pleasant to run outside.
6. Families stop by the side of the road to admire wildflowers blooming in a bio-swale.
7. There is not a single moment of your day where you are not connected to nature, even if it is just the sun streaming in the window.
8. You cancel your gym membership because the 6-mile bike ride to work serves as your daily workout.



I have come to RELISH the SUMMER EVENING sounds of CRICKETS, KATYDIDS, TREE FROGS AND NIGHT BIRDS that LULL me to SLEEP, AND the MELODIC sounds of CICADAS during the day that PROPEL me FORWARD with OPTIMISM.

— Timothy Beatley, *Biophilic Cities*

01

Understand your "micro-nature" assets

Even in the most sterile concrete jungle, there is some degree of nature already present. Insects, birds, small plants, wind and sunlight - these are all elements of nature that permeate any urban environment. It's right under our noses, yet many of us miss it, simply because we don't know how to look. The first step to embracing this is to identify and understand the "micro-nature" that is all around us.

02

Map your "green deserts"

Locate areas in your community where there is no access to nature, no active infrastructure (such as sidewalks, trails or bike lanes) and/or no recreation centers or parks. These areas can be priorities for new projects and investments.

how to plan for it



**01 Create and enhance
"gateways" to nature**

01

Create and enhance “gateways” to nature

Increase the number of places where the built environment and the natural environment intersect, and highlight these “gateways” into nature. In the first section, we talked about creating an interconnected network of green that weaves through the urban environment. We can get more people into these greenways by creating gathering points at gateway locations with benches, shelters or other amenities. When a street crosses a creek, create a path from the sidewalk down to the water. Make sure that big natural spaces and parks have a “public edge” along our streets, providing both physical and visible accessibility. This allows us to interact with these spaces, even if it is just to look in as we drive by, on a more regular basis.

02

Make our streets into linear parks

Make our streets into active, natural corridors that support walking, running, and biking as both a recreational activity and a means of transport. Using generous application of street trees, stormwater planters, median landscaping, and more, our streets can be very “green” and be home to their own mini eco-systems.

03

Educate the public about micro-nature

Through on-street interpretation, cool tools (like public microscopes), specific micro-nature programs and speaking to the micro-scale as nature is reintroduced along streets and on buildings, we begin to connect residents of all ages to the life that’s under their feet and fingernails. And never forget the value of cooking classes to engage young and old alike in understanding yeast and other microbes.

04

Provide way-finding to parks, trails and open spaces

We need to do for nature what we do for our buildings, businesses and seats of government – help people find their way. Connect the green dots for easy access and improved experiences.

how to implement it

06 Convert areas of turf grass to native prairie



07 Create design guidelines that encourage biophilic buildings



05

Retrofit the sidewalk system to promote access to natural areas

All residents should live within 1/8 of a mile of a wide sidewalk that connects them to a natural space.

06

Convert areas of turf grass to native prairie and accompany with educational signs

Turf grasses have their place, but often we have placed turf in locations better suited for the native Iowa landscape – prairie, savanna and woodlands. When habitat returns, we reap countless benefits: water quality improvements, erosion reduction and soil preservation, shade, native food sources – not to mention the fun of the nation’s fastest growing sport: bird-watching. Even a small patch of native prairie can provide a meaningful connection to the natural world, as this ecosystem is teeming with life. However, the key to making this a public benefit is to accompany turf conversions with helpful signs - “Prairie restoration in progress” does much to alert the public that something meaningful is happening here – that they’re not viewing a “weed patch” but a marvel of nature.

07

Create design guidelines that encourage biophilic building design

Biophilic buildings connect people with nature by integrating living materials and other aspects of nature into our architecture. Features of a biophilic building might include a green “living” wall, plenty of natural light, natural materials such as wood, indoor water features, a green roof, or patterns and textures that evoke natural elements. We can create design guidelines to help local building designers and developers understand how to create a biophilic building.



We need the design and PLANNING goals of cities to include wonder and awe and fascination and an appreciation for the wildness that every city harbors.

– Timothy Beatley, *Biophilic Cities*

PROVIDE SAFE STREETS, SIDEWALKS, AND TRAILS THAT PRIORITIZE PEOPLE-POWERED MOVEMENT AND NATURAL FEATURES

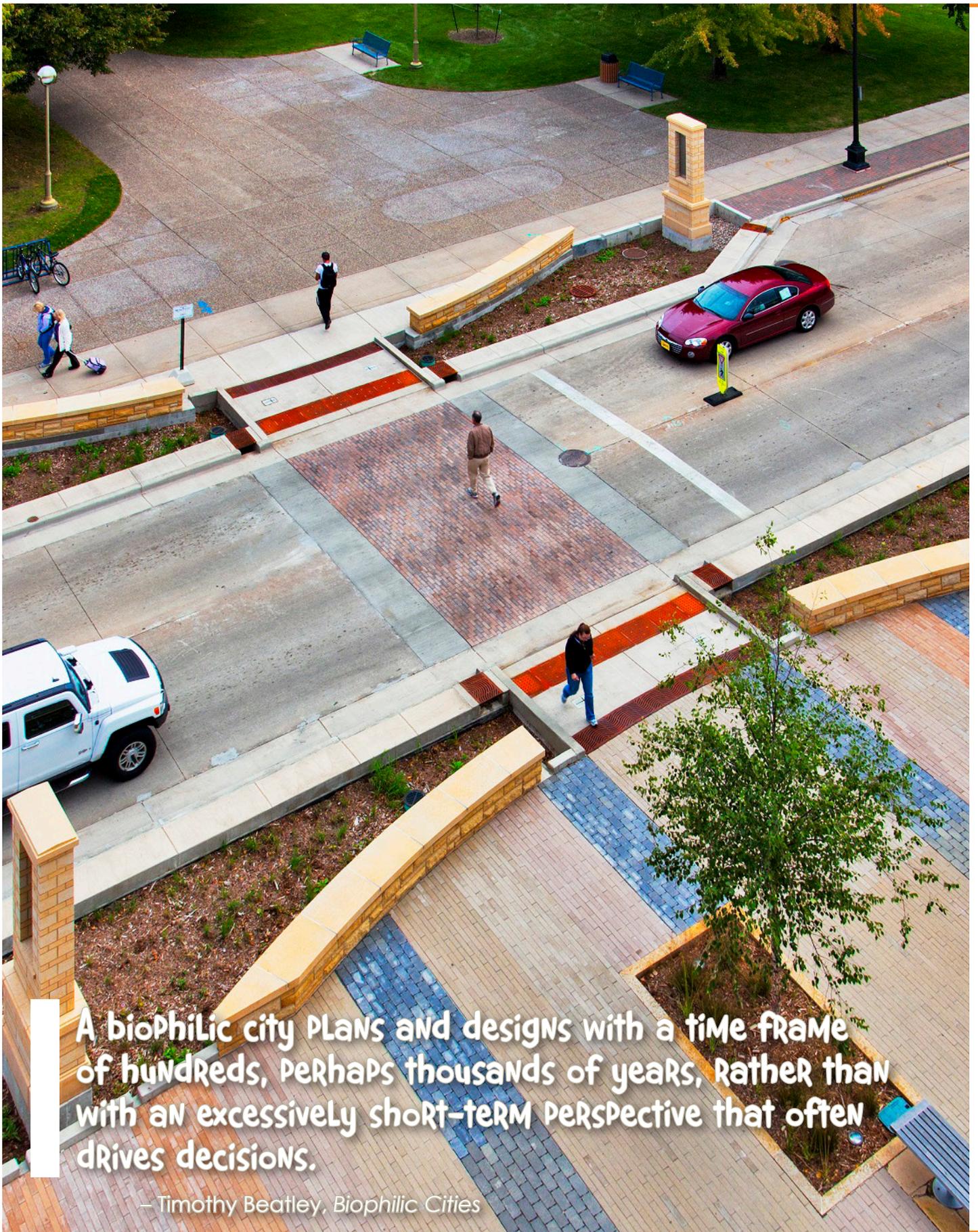
Our streets are our largest public space, and most people encounter them every day. As such, they provide one of our biggest and best opportunities to promote active living and nature. Streets should be designed so that they: encourage active transportation such as walking and biking; use natural elements and landscaping that can also manage stormwater; and provide safe and comfortable travel for all.

Streets, sidewalks, trails - they're more than just a way to get from point A to point B. They have the power to define us. As our largest and most visible public space (they cover around 20%-30% of our developed land), they send a message about our community values and how we want to live our lives.

In many communities, that message is a dismal one. Our transportation system too often sends the message that we value cars over people; that we value concrete over nature.

The role of our streets, or more broadly, our travel "corridors," has evolved over time. In older development areas, established when the automobile was not as prominent as it is today; these corridors connected residential neighborhoods, public institutions and commercial districts and were designed to be accessible by pedestrians, bicyclists, transit riders and automobiles. "Corner store" intersections often served as the social hub of an area. Daily activities could be accommodated a short distance from home at neighborhood schools, branch libraries, small retailers, etc. In many residential neighborhoods the automobile was relegated to the rear yards; alleys were common. The front porches, front yards and streets were the center of social activity and social connection for the neighbors.

Over time, the number of vehicles, the scale and style of homes, the public institutions and business districts changed and became more difficult to access for pedestrians and bicyclists. Today, the new residential neighborhoods are more auto-oriented with wider streets, front loaded garages and no alleys. Parked cars sit in wide driveways while street parking goes unused. The streetscapes seem more about the automobile and less about the connections between neighbors.



A biophilic city plans and designs with a time frame of hundreds, perhaps thousands of years, rather than with an excessively short-term perspective that often drives decisions.

– Timothy Beatley, *Biophilic Cities*

“Physical inactivity is a major contributor to the steady rise in rates of obesity, diabetes, heart disease, stroke, and other chronic health conditions in the United States. Many Americans view walking and bicycling within their communities as unsafe due to heavy traffic and a scarcity of sidewalks, crosswalks, and bicycle facilities. Improving these elements could encourage active transportation such as children biking to school or employees walking to work.”

- Center for Disease Control and Prevention - Healthy Places

Commercial districts have been largely consolidated into larger centers or strips that are developed to advertise to and be accessed by automobile. Neighborhood intersections seem to be more a point of conflict than a point of connection. The accommodation of the automobile has become the design priority, while pedestrians, bicyclists and public transit are left to compete with private vehicles.

Many communities have started to react against the auto-focused trend that has emerged in our corridors. Many residents are calling for "green" streets that support active transportation and bring nature back into the city.

Active transportation can help us address a lot of issues that we'd like to improve in our communities. It can help fight our growing trend of inactivity and obesity by allowing individuals to make healthy and active choices, and safely act on those choices as a matter of their daily routine. By providing thoughtful program and design recommendations, active transportation creates change in the physical environment that recognizes, encourages and accommodates all forms of mobility. Active transportation acknowledges the importance of the automobile, but places an emphasis on personal powered travel and social connections for all types of users.



A



C



B



D



E



A

Sidewalks are the core of the pedestrian network. They should be present on both sides of the street for all corridors.

B

The bicycle network is a combination of bike lanes, trails and shared-use paths, streets with bicycle sharrows, bicycle boulevards, or share-the-road signs.

C

Intersections are where pedestrians and bicyclists are most vulnerable. Curb bump-outs like this one reduce the distance that pedestrians must cross.

D

Crosswalks should be highly visible to motorists to reduce conflict with pedestrians.

E

Our streets are a great place to enhance the "green" network with bioswales and stormwater planters.

F

A median helps slow down traffic and provides a safe resting point for pedestrians.

G

A canopy of trees along streets and sidewalks provides shade for walkers and bikers, and a connection to nature.



what it looks like

We envision a place that is...

Connected

We will be able to walk, bike or drive to meet all of our daily needs.

Safe

Whether we walk, bike or drive, we will feel respected and protected.

Comfortable

Our active corridors allow a place for all users that is well thought out.

Accessible

We are able to safely travel from “front door to front door” of homes, shops, schools, etc. regardless of our mode of travel.

Vibrant

Our transportation system encourages people to be active and connected with one another along their route and at their destinations.

Attractive

The public realm in our active corridors connects us with nature, art and businesses, while walking or bicycling slows us down to enjoy the scenery.

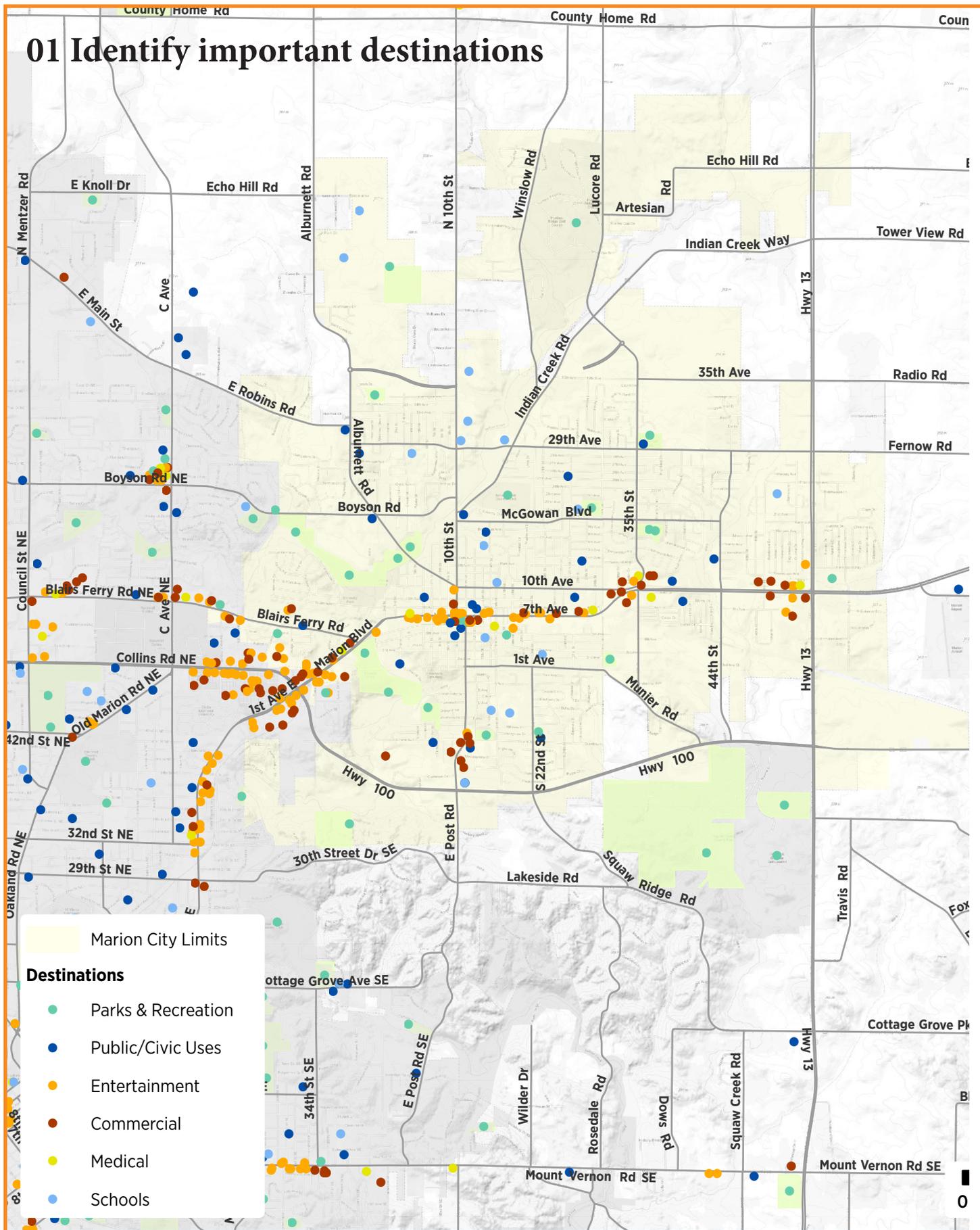
Functional

The active corridors and intersections are appropriately designed to give bicycles, pedestrians and vehicles their place and allow all modes to co-exist.

A few ways we'll know we're moving forward...

1. Children get to school and friend's houses by walking and biking more often than being driven.
2. All of our major streets are active corridors with complete street conversions.
3. When we go shopping or visit a neighborhood on the other side of town, we can park our car one time, then walk to several different locations.
4. Our streets and sidewalks are lively, social gathering places, with sidewalk sales, sidewalk cafes and open street events.
5. Our health improves and we get sick less often, as active living increases and replaces sedentary lifestyles.
6. The police issue fewer speeding tickets - since all roadways are built at an appropriate scale for the context, motorists naturally travel at lower speeds.
7. We have the lowest obesity rates in the state because everyone walks and bikes everywhere.
8. We have many one-car families.
9. Bike racks downtown are packed full, all year round.

01 Identify important destinations



01

Create a “corridors and nodes” map that identifies and classifies transportation paths and important destinations

A “corridor” is any pathway used for travel, such as a street, trail or sidewalk. A “node” is an area of concentrated activity, a destination point. Consider the following when creating your map:

- Inventory and map current “corridors”: streets, trails and sidewalks.
- Identify existing and desired land uses in the areas served by these corridors. Map “desired land use” as an overlay on the corridor map.
- Identify and classify important destinations, or “nodes.” Nodes are places where people will travel to in the city, including parks, schools, shopping (retail, service, and convenience store), entertainment (bars, restaurants, and theaters), and public/civic uses (library, city hall, and post office). Classify nodes according to the area they are expected to draw from: regional, community, or neighborhood.
- Evaluate and classify each corridor by activity level and importance within the system. You can base your classifications on the connections that the corridor makes and/or the land use it serves. For each type of user (motorist, bicyclist or pedestrian) identify if the corridor has a low, moderate, or high level of activity or mobility needs. (Include transit and freight movements in your evaluation). See “How-to Manual” at the end of this report for more information.

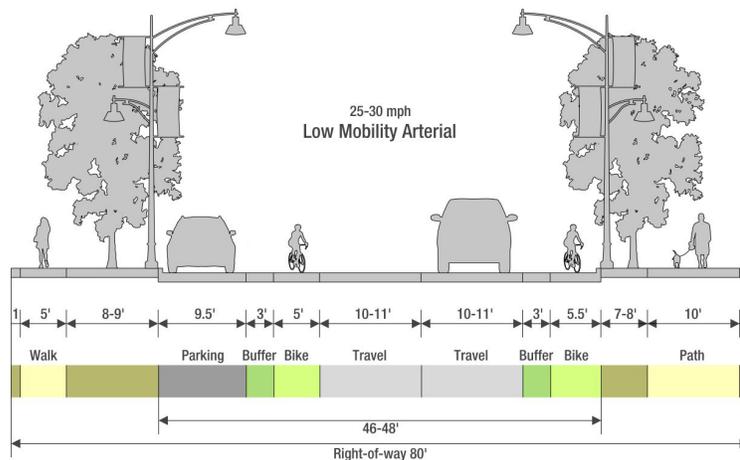
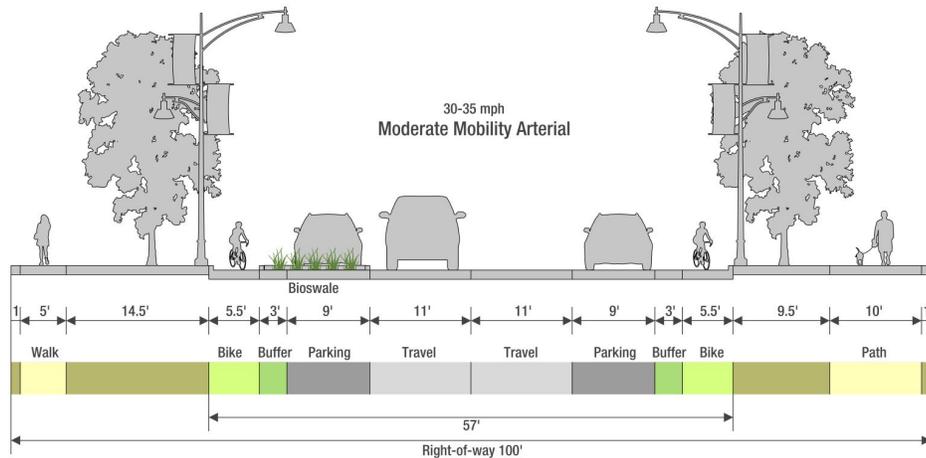
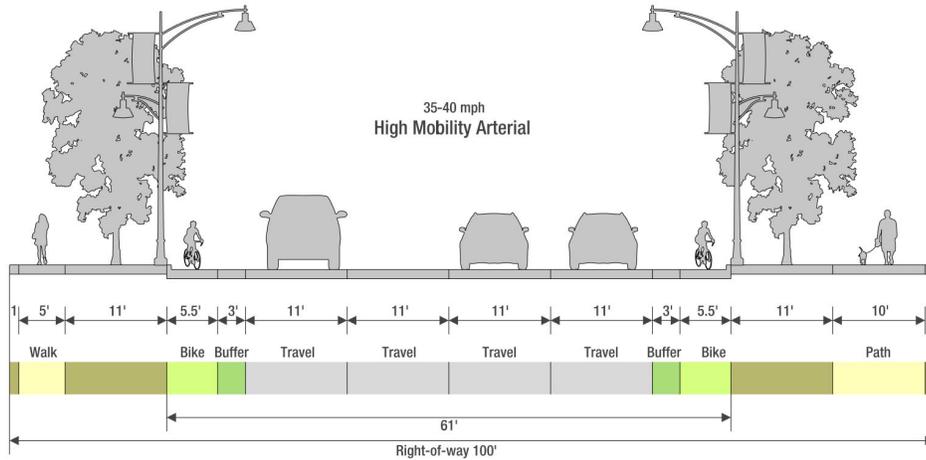
02

Define principal walking and biking connections

On the corridors and nodes map, define the principal walking and biking connections. This should create a system of connected pathways that allows residents to access all important destinations on foot and by bike. These corridors should have the most robust active transportation infrastructure.

04 Choose design elements for each corridor

See appendix for a complete set of street design drawings and tables



03

Identify existing and desired locations for green infrastructure and other intersections with nature

Using your corridors and nodes map as a base, identify where green infrastructure, streetscaping and intersections with natural corridors/greenways occur, or are desired. Green infrastructure includes stormwater planters or bioswales, and streetscaping includes trees and landscaping. These "green" features provide a variety of benefits: stormwater management, aesthetics, and calming of traffic to improve safety. Attractive, well-maintained, green corridors attract walkers and bikers.

04

Choose what elements will be included in the design of each corridor and node

Using your corridors and nodes map, identify the active transportation, vehicular transportation, and "green" elements that need to be present for each corridor and node. Elements include travel lanes, turning lanes, parking, bike lanes, protected bike lanes, multi-use paths, sidewalks, medians, stormwater planters, street trees, bioswales, and streetscaping. Bring these elements together to create the corridor cross-section and intersection designs.

05

Integrate the "corridors and nodes map" with the land use plan

Integrate the map with a land use/transportation plan that promotes mixed use walkable neighborhoods and districts and encourages multi-modal transportation.

06

Identify priority areas where you want to encourage walkable development and redevelopment patterns

Consider where you most want to encourage walkable development – this might include neighborhoods around schools, a downtown or uptown, a historic or tourism district, or a shopping area. These are areas where you may decide to apply standards for site and building design, to guide aspects of the development such as use, use locations, setback, frontage, entrances, parking location, signage, building envelope standards and building height. These standards would ultimately expand into zoning classifications and standards.

how to plan for it

07 Inventory sidewalk conditions



09 Coordinate with neighboring jurisdictions



07

Inventory and identify conditions, gaps, and safety issues for sidewalks and streets

The inventory should identify (1) existing sidewalks in good condition; (2) existing sidewalks that need repair; (3) missing sidewalks, (4) intersections that do not conform to ADA standards, 5) Intersections or routes that have biggest safety concerns for bicyclists and pedestrians, and any other items of local importance. Data should be compiled into GIS to track conditions and improvements.

08

Identify priorities for active transportation and green infrastructure improvements

Work within a Capital Improvement Plan to prioritize projects for implementation. Priority areas will include:

- highly active corridors,
- areas of high biking or walking stress or safety concerns for users
- gaps in the system
- “signature” corridors (signature corridors are the city’s most commonly traveled corridors that link neighborhoods to important community destinations. The experience of these streets reinforces the public’s perception of the values shared in the city.)

09

Coordinate transportation improvements with neighboring jurisdictions

Create a regional transportation plan that promotes multi-modal transportation and emphasizes human powered movement.

10

Coordinate pedestrian and bicycle improvements with other planned infrastructure improvements

Coordinate with water and sewer lines projects, new development or redevelopment, etc. Any improvement to the street or nearby infrastructure (sewer or water), should consider pedestrian and bicycle facilities, particularly for bridges or intersections.

how to plan for it



Exposure to nature . . . will likely help strengthen commitments to sustainability and living a more sustainable life.

– Timothy Beatley, *Biophilic Cities*

01

Adopt an active transportation or complete streets policy

The policy officially states the community's desire to offer options for active living choices and be more bike friendly and walkable. It incorporates the biophilic design goals of fostering people's interaction with nature.

02

Implement an active streets ordinance

The ordinance revises regulations such as subdivision codes, zoning codes, building codes and design standards to establish criteria for developing active corridors and nodes.

03

Incorporate a context review step in project development

Development project designs must consider the context of a neighborhood to ensure that the project is a good fit, serving to connect, not divide, the people and places who will activate the corridor or node. Require context review as an initial step in project design to provide property owners, designers and reviewers with an early understanding of expectations. This step should identify how the project will contribute toward active transportation in the neighborhood, community and region. The transportation/land use plan serves as a base document for this discussion.

04

Establish right-of-way and designate design elements of active corridors and trails in advance of detailed project development

For redevelopment projects - identify right-of-way opportunities or limitations and review options for corridor or node development beginning with pedestrians, then bicyclists and finally vehicles. Prioritize based upon the overarching goal of providing active living options for the neighborhood while balancing the vehicle mobility needs of the roadway.

For new developments - require developers to reserve adequate street networks and right-of-ways; including space for future street connections to ensure that the street network/grid is walkable and neighborhood and community

how to implement it

Idea #3



05

connections are created. Require trails and pedestrian pathways to ensure that every front door is connected for walking and biking. Emerging growth areas must be connected to existing neighborhoods.

Revise street standards to serve all users and protect the most vulnerable

Require street design and construction that serves and protects all users, with priority from most vulnerable (pedestrians) to least vulnerable (motorists). Important points to include in your standards include:

- **Sidewalks on both sides of the street.** Subdivision regulations should require a minimum of 5' sidewalks on both sides of every residential street.
- **Buffer pedestrians from vehicles.** Subdivision regulations should provide separation of the vehicle realm from the pedestrian realm by an adequate area that might include landscaping, bioswales, or trees. This space can function as a splash area and snow storage area, and will improve pedestrian comfort.
- **Bicycle share-the-road signage.** Where travel lanes are shared by vehicles and bicyclists, proper signage and/or sharrows should be implemented, to assist bicyclists at all levels of skill.
- **Safer street design.** Streets and intersections in commercial or industrial districts will need to provide special facilities, traffic control, traffic calming, and signage for pedestrian, bicyclists and transit users to ensure safety, usability and visibility. Examples include:
 - Medians, which calm traffic
 - Landscaping
 - Shortening crossing distances with curb bump-outs or pedestrian islands

how to implement it



...health was directly related to the level of greenness: "10% more greenspace in the living environment leads to a decrease in the number of symptoms that is comparable with a decrease in age by 5 years."

– Timothy Beatley, *Biophilic Cities*

06

Incorporate active living concepts in corridor and node designs

All new streets should dedicate space for multiple modes of transportation, including transit, bicyclists and pedestrians. Street designs should enhance pedestrian interaction with adjacent uses and allow spaces for gathering and socializing. Street design should help implement public art plans, street tree plans, wayfinding plans, major street plans and other policies of the community by including them in the land use/ transportation plan and in the design documents for corridor construction.

07

Design corridors and nodes to intentionally connect people with nature

Make corridors and nodes “green” as a matter of standard design practice and take advantage of the positive environmental and human health impacts that this inclusion creates. Design street trees, green infrastructure, site open space, screening and streetscape landscaping with intent to create connection to those using the corridor; whether operating a vehicle, biking or walking.

08

Construct a model “green” corridor

Initiate a demonstration “green” corridor that includes active transportation, natural stormwater features, trees and other natural elements. Intercepting rain water with street trees and bioswales before reaching the storm sewer provides some relief to the infrastructure.

09

Establish a dedicated fund for the construction and maintenance of corridors

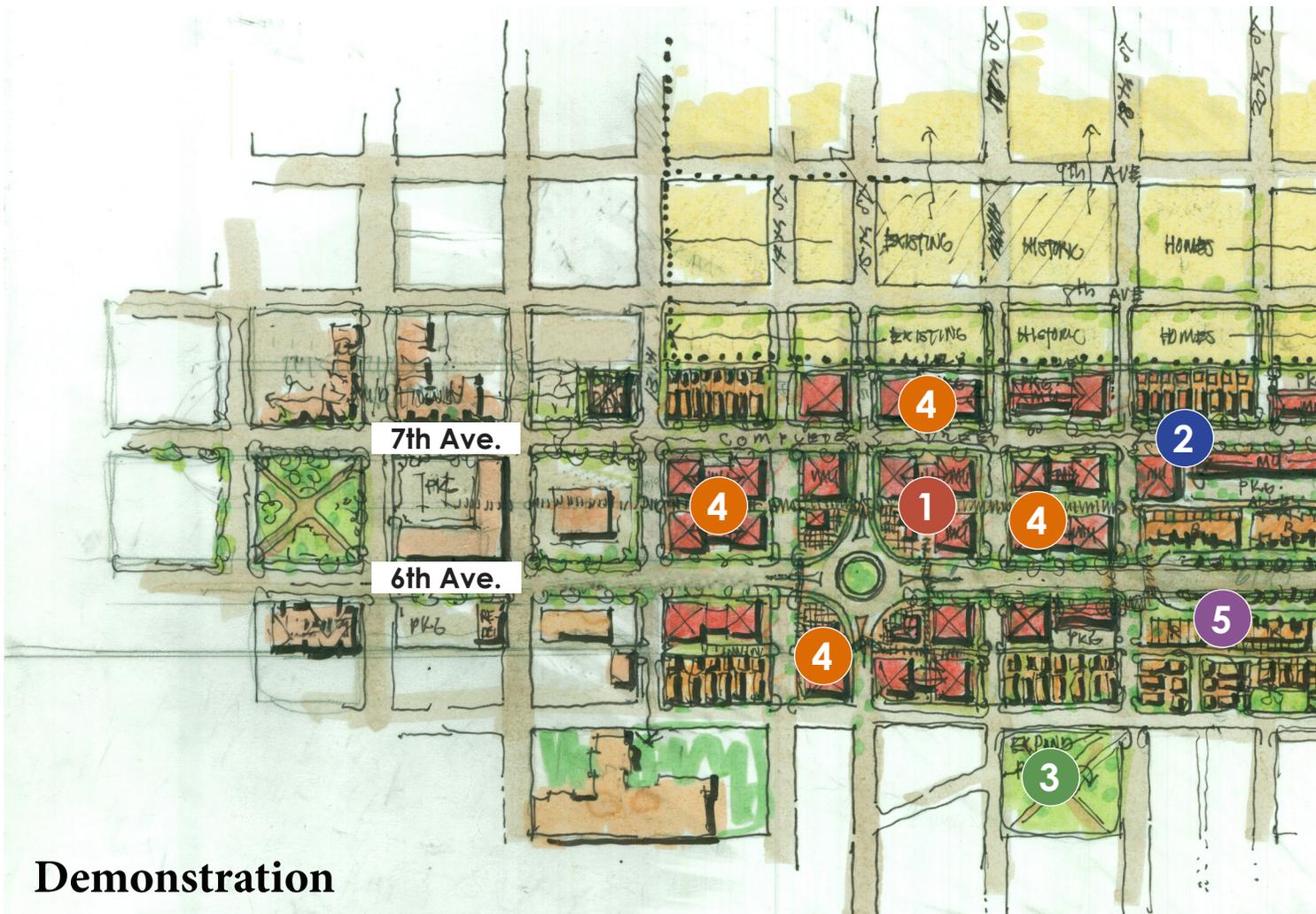
As a part of annual budgeting and capital improvement development establish a dedicated fund that creates new and recreates existing streets as complete and active corridors, using bicycle and pedestrian facilities, landscaping and green infrastructure.

how to implement it

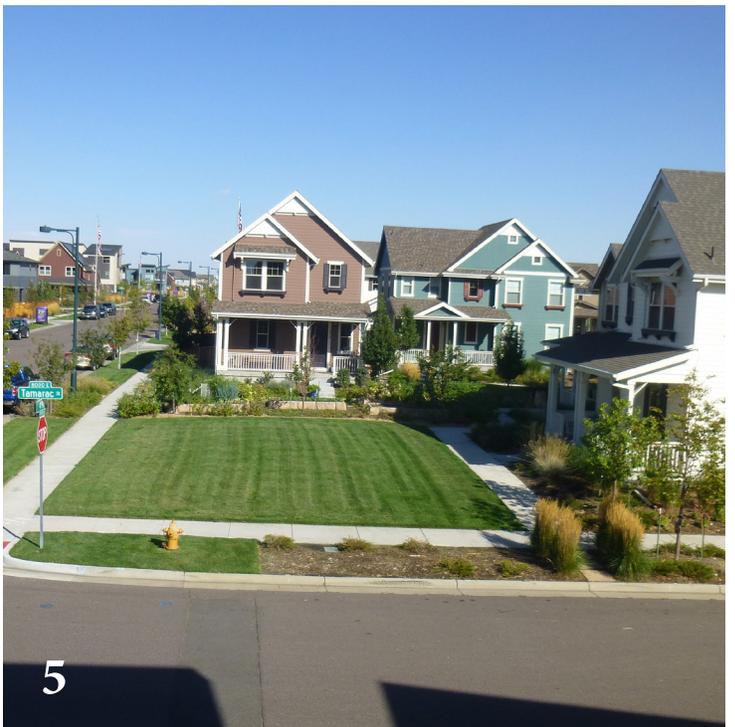
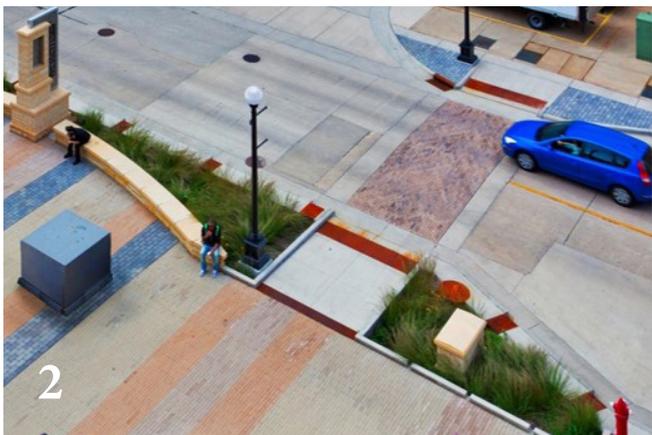
AN ACTIVE, GREEN CORRIDOR

As a corridor poised for walkability, how we step into nature seems easy – but this is Midtown Marion. Where’s the nature? Anchored by parks, but featuring living walls at building faces, sidewalk

planters, alleys of art-from-nature and streets flanked by stormwater planters (see below), we achieve a corridor of nearly continuous habitat throughout.



Demonstration



Marion In Focus: Features of the Corridor

1

Alley art – Uptown Marion's ImaginArt in the Alleys is the model here, but with a variation – green-themed art, especially art projects emphasizing found-in-nature or plantings as their source material.

2

Stormwater planters – Think a long, thin garden planted with native grasses and flowers that love water. The garden's cross-section is nearly triangular or gently bowl-shaped to help street run-off flow into it. Next to the streets, they absorb, cleanse and slowly drain stormwater. As added benefits, well-maintained stormwater planters beautify streetscapes and nature.

3

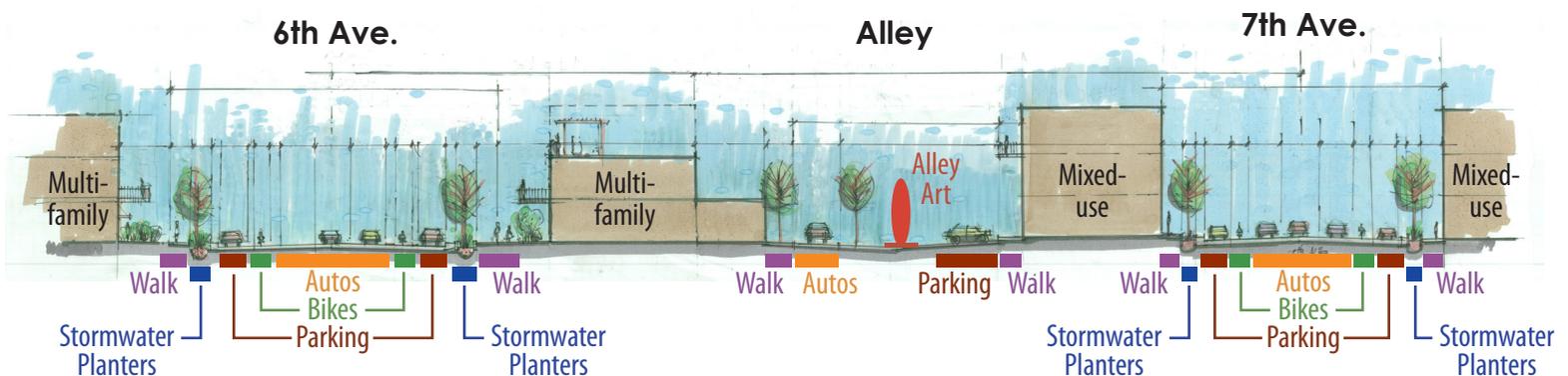
The block park series – These parks fit the urban corridor in size and design, but place greater emphasis on nature play and native plantings than in traditional urban parks. And while each park can stand alone, their repetition creates a rhythm to this Midtown corridor that keeps this area pulsing with a natural beat.

4

Mixing uses throughout – When we think “walkable,” we often consider only the distance between two points, not the functions of and interest in those spaces. When we mix uses – clothier next to salon by apartment near deli – we add value. The space becomes both more useful and more intriguing. The distance between the clothes shop and the deli might be the same here as elsewhere, but now we add interest and easy access. We readily walk from this point A to B. Mixed uses and walkability join at the hip.

5

Courtyard – Courtyards peppered throughout the residential features of this corridor add social spaces for intimate gatherings. When intentionally developed to promote greenspace (and not designed as brick or concrete plazas), they cleanse air, cool temperatures, and provide much-needed respite in urban settings.





URBAN AGRICULTURE FACES A VARIETY OF SIMILAR REGULATORY AND LEGAL CONSTRAINTS, WITH POULTRY AND LIVESTOCK OFTEN FORBIDDEN UNDER URBAN ZONING REGULATIONS.

– Timothy Beatley, *Biophilic Cities*

DEVELOP A COMMUNITY CULTURE OF ACTIVE LIVING, WITH NATURE.

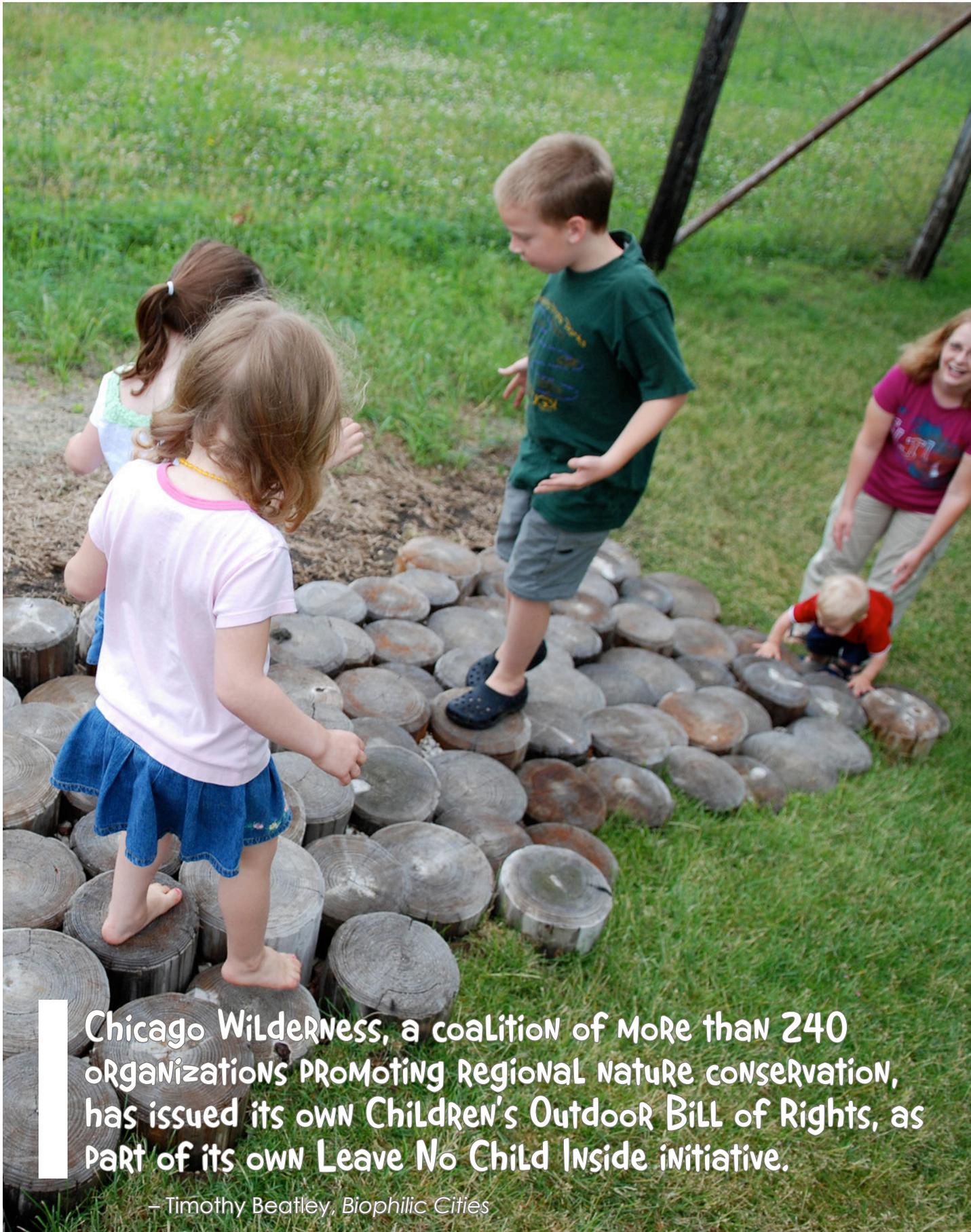
Creating a community where we can “Step into Nature” is not just about the physical design of the city. We need a culture of people who enthusiastically embrace these principles, paired with programs and organizations who can help us take advantage of all the community has to offer. We need to make active living and connecting to nature into a community-wide habit.

In an ideal world, active living and nature are not special initiatives that require guidebooks like this one, but are an ingrained part of our culture and our everyday lives. Consider how many things you do every day that you don't have to think about: brushing your teeth, eating 3 meals a day, greeting your co-workers with a cheerful “good morning.” These actions aren't instincts, they are learned habits, formed over many years, and fed by cultural knowledge and resources that have been part of our lives since childhood. They don't require special reminders or encouragement, because everyone does them, and the resources and knowledge to do them are readily available.

What if active living and getting back to nature were just like that? What if they were a deeply embedded part of our culture that no one would think twice about? What if taking a morning walk through the park or teaching your children about nature came to us just as easily and automatically as saying “good morning?” That is our goal.

One way we create this culture - this “habit” of active living with nature – is by supporting community programs and organizations that encourage us, teach us, and provide the resources we need. For example:

- an after-school club that gives kids close-encounters with nature,
- a 5k run that benefits a local non-profit, or a Saturday morning stream clean-up by a neighborhood association,
- a local bike shop that gives away bicycles to those who can't afford them,



Chicago Wilderness, a coalition of more than 240 organizations promoting regional nature conservation, has issued its own Children's Outdoor Bill of Rights, as part of its own Leave No Child Inside initiative.

– Timothy Beatley, *Biophilic Cities*

- classes at the community center about building a rain garden or growing vegetables in your yard,
- signs that explain the value of native grasses in a public park,
- a bike-to-work week campaign, encouraging more people to bike safely on our streets, and reminding motorists to share the road,
- schools that provide “outdoor classrooms” to take their instruction into nature.

These programs not only enable us, but they increase visibility of active, outdoor lifestyles, and make them into the norm, rather than the exception. This is how we create the “Step into Nature” culture.





F

A

A community fun run is a great way to build the culture of active living.

B

We want our children to be more comfortable playing in nature than playing on an iPad.

C

Interpretive signage in front of native plantings helps people appreciate their unique aesthetic.

D

In a community that values active transportation, motorists are more aware of and respectful to walkers and bikers, thereby improving safety.

E

A stream clean-up helps bring neighbors together in nature.

F

"Citizen scientists" can assess the health of our natural environment and be advocates for change in our community.

G

Changing our culture starts with children - classroom instruction that centers around nature and active living can help pave the way for the next generation.



G

what it looks like

We envision a place that is...

Supportive

Residents feel supported and encouraged on a daily basis to be active and connect to nature.

Celebrated

Our city celebrates the accomplishments of individuals who choose active lifestyles, and those who are champions for the natural environment.

Clued-In to Active Transportation

Motorists naturally share the road with bicyclists and pedestrians, with minimal conflict.

Full of Nature Experts

Our residents feel comfortable in nature, recognize its unique plant and animal life, and know how to spend quality time outside.

Active by Habit

Everyone knows how to be active and does so every day.

A few ways we'll know we're moving forward...

1. After-work “happy hour” usually means a bike ride or a walk with friends.
2. Pedestrian and bicycle accidents are down because motorists are always on the look-out.
3. All of our neighbors grow their own produce, and get together each week for a “veggie-swap” to share the fruits of our labors.
4. Our kids can change a bike tire, plant a flower, or make a path through the woods, just as sure as they can tie their shoes.
5. The city’s recreation department no longer gets complaints about native plantings looking like “weeds,” because residents understand and appreciate their value and beauty.
6. Community events and programs are co-sponsored by multiple organizations, because there is more collaboration and communication between organizations.
7. We have more bike shops and yoga studios than fast food restaurants and bars.
8. Our children can identify insects more easily than corporate logos.



A walking meeting transforms a sedentary activity

01

Identify clubs, non-profit organizations and special interest groups that already support “Step Into Nature” principles

Map out your existing assets to creating a culture that embraces active living and nature. Many organizations and programs are already promoting these values, even if they don't self-identify according to the same terminology we use here.

02

Consider options for those of varying physical abilities or financial circumstances

Being active does not look the same for everyone. Traditional notions of an active lifestyle - such as running or biking - are not possible or desirable for all community members. When programming for active living and nature, we need to make sure that we keep everyone in mind - regardless of age, physical ability, ability to pay for expensive equipment, etc.

03

Identify daily activities that are typically sedentary and indoors, but could be active and outdoors

A great example of changing our sedentary culture is the growing popularity of "walking meetings," where we walk instead of sit during a meeting of the minds. On a similar note for our children, classroom instruction can be done outside or on the move. A social get-together with friends could be a walk or a run outside, instead of sitting for coffee indoors.

02 Provide signs to explain value of native plantings



03 Educate the public on how to share the road safely



01

Inter-organizational coordination

Marion currently hosts roundtable discussions to share missions and initiatives from various health-related organizations (County Public Health, Healthy Community Initiatives, Bicycle groups/ coalitions, Food System Organizations, etc.). Continue this and look for other possible topics that might bring together many organizations under one common cause. As communication and relationships are established, initiatives of various organizations should be aligned to maximize engagement and efficiency.

02

Provide demonstration areas and signs to explain value of native plantings (potential location could be a highly visible square or park)

Native plantings have a great value in managing stormwater, reducing erosion, and bringing nature back into the city. But many residents still see them as "weeds." Much of this can be overcome by increasing exposure and understanding. A demonstration area in a public park or outside a public building, with accompanying signage that explains its value, can help people appreciate the beauty and value of Iowa's native plant-life.

03

Educate public on how bicycles, cars and pedestrians can all share the road safely

There are a lot of misconceptions out there about how bikes and cars should share the road. Although in many places it's illegal for bikes to ride on the sidewalk, many motorists wrongly believe that is the best place for them, leading to frustration when they have to pass bicyclists on the street. By a similar token, cyclists may not be aware that they are strictly held to the rules of the road, such as signaling and stopping for traffic lights, just as much as a motorist. A public education campaign can go a long way toward reducing safety conflicts.

how to implement it



04 Start a "no child left inside" program



06 Promote outdoor activity year-round

04

Create and promote community-based programs that promote active living and interaction with nature

Many places across the country have started annual "no child left inside" programs - which include a series of events over a short period of time (say, a month) that aim to expose children and their parents to nature. Other programs include neighborhood clean-ups, stream restoration, or fun runs. Many communities are already doing some of these, and can supplement with more over time.

"Citizen Science" programs help get residents deeply and meaningfully engaged with the natural world. IOWATER is one such program that has volunteers across the state take water samples. The public can also be enlisted to restore woodlands or prairie remnants, plant trees, collect seeds, participate in wildlife counts and more.

05

Provide "active living" equipment to those that can't afford it

In theory, active living doesn't require anything more than our own two feet. But there is a lot of equipment that can encourage active lifestyles. A bicycle is a great example. By establishing a non-profit, or working with charitable bike shops, we could provide bikes to those who can not afford them.

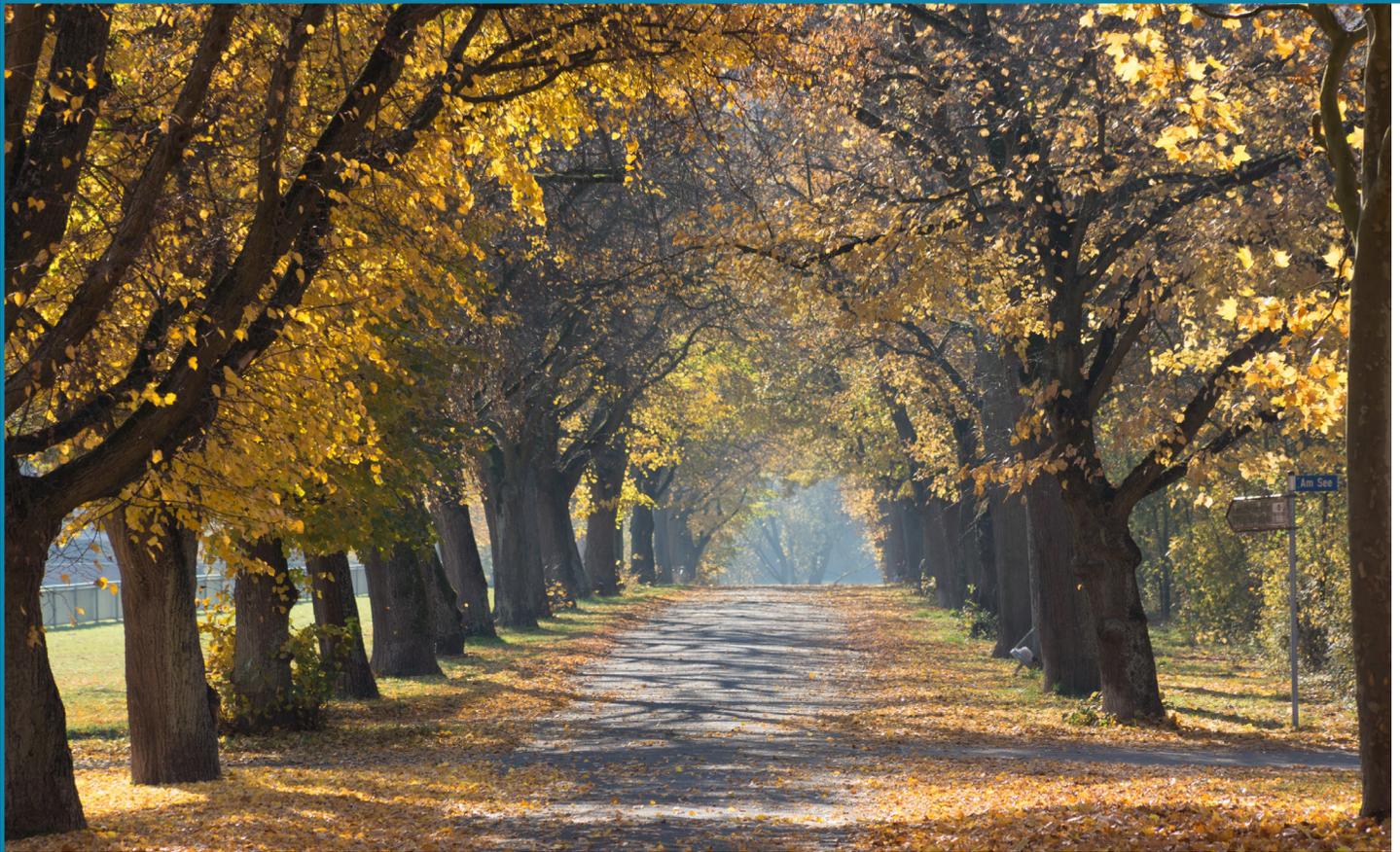
06

Promote cold weather outdoor activities such as snowshoeing, cross country skiing, sledding, to allow daily interaction with nature year-round

07

Launch a community campaign to "activate" everyday activities

Classroom instruction, staff meetings, afternoon coffee - these are all traditionally everyday activities that take place inside, but could be done outdoors, and on the move. A community-wide campaign through the schools or another organization could encourage people to inject activity and nature into their everyday life.



Biophilic cities work hard to entice residents to spend time outside and to connect with the nature around. Perhaps this means supporting a network of nature coaches.

– Timothy Beatley, *Biophilic Cities*

Marion In Focus

how to implement it

SUMMARY

08

Continue Blue Zones or similar initiatives

A number of other cities have already completed a "Blue Zones" program that established a set of initiatives to improve the health of the community. These align well with "Step Into Nature" principles, as do any number of local "get healthy" programs.

09

Continue TreeKeepers or similar programs

The City of Marion is particularly fortunate as the home of Trees Forever – an organization with an ever-growing reputation for tree protection, planting and education. This makes an obvious partner for Step into Nature. Throughout Iowa, Trees Forever (through its TreeKeepers initiative) or comparable organizations and programs can and should be an ongoing partner in public education, stewardship training and protection/preservation of nature spaces for public connections.



Started in 1990, ... Habitat Brisbane [Australia] Now consists of 124 different community groups doing [Nature] restoration work around the city, involving an estimated 2500 volunteers.

— Timothy Beatley, *Biophilic Cities*

**COLLABORATE
WITH THE PRIVATE
AND NON-PROFIT
SECTORS, AND
NEIGHBORING
COMMUNITIES, TO
BE MORE “GREEN”
AND ACTIVE**

If we want to accomplish any of the preceding goals, we need to work together. There are already many organizations and groups in our community that are working to achieve many of these same goals. And many of our neighboring communities are also working on green and active initiatives.

The business community is a particularly powerful force that we can harness to promote active living and interaction with nature. Businesses can promote “Step Into Nature” by the type of service they provide, the way they do business, where they choose to locate, or with philanthropic support. We can support private businesses in these efforts.

Let’s support each other’s work and collaborate together.

step together

We envision a place that is...

Collaborative

Collaborative communities routinely convene with an ongoing goal of “raising all boats” as any initiative moves forward. This does not mean partners shy away from facing the challenges of collaboration – quite the opposite. They roll up shirt sleeves, write challenges across the top of the giant flip-chart page – and start listing. But they do the same with opportunities, ideas, and “next steps.” And they keep coming back through development, implementation and assessment of the work. It might not all go smoothly, but they maintain their energy around the effort to get-it-right. A culture of learning about and from each other is fundamental to the collaborative process. The business community needs to be invited to participate at the outset for true collaborations to develop.

Boundary-Crossing

Collaborations, by their very nature, should have boundary-crossing as part of the mix. After all, if we’re working with like-minded players in the same jurisdiction, it might be collaborative – but probably not as fully energizing or innovative as crossing boundaries to collaborate. Sometimes those boundaries are simply geographic, but typically the best results come from less-tangible boundaries: divergent ideas, experiences, education, cultures, employment, expectations or roles. Whenever boundaries of substance are crossed, the exchanges may be spirited, but it’s the exchange that creates something new and valuable. Bringing public and private together for true partnership and shared vision is one of the most compelling boundary-crossing stories a community can tell.

A few ways we'll know we're moving forward...

1. Advisory panels/boards and committees are purposely recruited to reflect cross-pollinating of people, businesses and systems.
2. A critical mass of ideas and recommendations emerge that have not been tried before in this region.
3. Private and public sector partners launch and sustain projects that reflect the emergence of “Step into Nature” concepts - meaning the projects advance the health of people, nature, and business.
4. Volunteerism is up – for any number of initiatives with corporate volunteerism widely encouraged and supported by business leaders.
5. Leadership on community projects reflects demographic, educational and work-based diversity.
6. Regionalism is on the rise – a growth in projects (and associated multi-jurisdictional 28E agreements) can be documented.
7. Projects grow in partners, scope and impact – rarely or never retracting.

how to plan for it

01

Identify organizations and private businesses that already promote “green” and active principles by what they do or how they operate

Look to agencies, non-profits, and businesses recognized for "going green" and/or promoting public health, natural resources, community events or socially-sensitive entrepreneurial engagements.

02

Meet with local “champions” of “Step into Nature” – businesses & individuals

Once these potential partners are identified, it's time to make connections through early face-to-face meetings and the development of appropriate communications tools and social media. These early conversations can focus on establishing these communication methods, understanding partner histories, resources, and what a given partner needs to participate in a “Step into Nature” initiative.

03

Meet across jurisdictions to discuss shared goals

With at least tentative partners at the table, convene across jurisdictional/geographic and public/private boundaries to enrich mutual understanding and address vision, mission, goals, strategies/approaches, explore available resources and potential priority projects.

04

Identify a corporate candidate for a pilot project to show active living and biophilic design in their building and/or on their campus

While perhaps it's not essential the first demonstration project involve a corporate partner, it is likely ideal for a public-private partnership of substance to kick off this new direction for a community – even as the planning continues. This smooths the path for implementation in two ways: 1) “Seeing is believing” – helping the public more fully understand “Step into Nature” goals and directions and 2) working the bugs out for effective, efficiently delivered on-the-ground projects. In other words, what is likely an early win in implementation is also highly informative in the development of any “Step into Nature” plan. Ongoing education will also have a role, but the abstract nature of “biophilia” for many, requires an early test case for ultimate success in planning and implementation.

Marion In Focus

At the time of this study, the City of Marion (in partnership with others) had already started down a “Step into Nature” path, largely due to the community’s collaborative, energized work in Blue Zones and a coalition’s preparation for the grant that supports this study. But even though Marion’s work with partners is underway, the implementation steps identified below remain a valid guide for many communities across Iowa once they, too, have worked through some initial, partnered planning.

01

Continue meetings of the Linn County Coalition for Active Living and Biophilic Design with Planning Healthy Linn County as convener

Consider changing the name to something that rolls off the tongue a little easier - the “Step Into Nature” brand is one option. A number of partners have already engaged. Blue Zones Marion and Blue Zones Cedar Rapids, Linn County Public Health, the City of Marion and the Hawkeye Community Action Program were original coalition members that applied for the grant. Key players from these groups continue to convene and partners continue to expand – the Corridor MPO, City of Cedar Rapids, Linn County Food Systems and Linn County Planning and Development have joined the coalition and additional partners (including Indian Creek Nature Center, Linn County Conservation Board, Marion Public Schools, Linn Mar Public Schools) have connected through this planning process. Continue advancing the work through the expansion of the coalition. Chambers of Commerce, Uptown Marion Business Association, individual businesses, Corridor Conservation Coalition, Linn County Trees Forever, Master Gardeners and the Indian Creek Watershed Management Authority – all make sense as partners. Many others are also likely candidates.

how to implement it



... the climate should become
a key design element in city
planning and city building.

– Timothy Beatley, *Biophilic Cities*

02

Continue partnerships, events and initiatives emerging from Blue Zones or similar local health promotion programs

With the good work already started, no need to step backward into nature – maintain the success stories that have surfaced so far and prepare for their expansion as the work evolves to include ever greater emphasis on healthy work environments, active living through design and an increasing number of projects linking the public back to nature in urbanized and work environments.

03

Recognize and celebrate businesses or organizations that are pursuing “Step into Nature” principles

Create a designation for businesses/organizations that support healthy or “green” practices. “Step into nature” designated businesses could get recognition with window decals, celebratory events, features in traditional media and city communications, etc.

04

Designate an eco-district in Marion’s growth area to encourage the formation and expansion of green businesses

This report identifies a likely candidate in an area Northwest of town (West of Oak Ridge Middle School and North of East Robbins Road). See “Marion in Focus” pp 24-28. Business vitality and partnership is key to its success.

A How-To Manual: Designing Active Transportation Corridors

Overview of this Manual

Active Transportation Corridors are a set of complete routes that provide seamless trip experiences regardless of means - walking, biking, bus, automobile or truck. They are safe, connected and comfortable for all users. They respect each purpose, and each realm of the corridor - vehicle realm, pedestrian realm, and others - is designed to enhance the experience. These corridors efficiently and effectively use this public space to its fullest potential to encourage and enhance active movement and connections.

This manual offers suggestions for how to design corridors, based on their role in the community, rather than simply how much traffic they carry. It assumes that an active community desires all streets to be complete for all users. It recognizes that active transportation enlivens the public realm of our corridors.

Connection to SUDAS

While we hope this manual will provide an innovative approach, we also want to be practical in ensuring that it can be implemented under current frameworks in the municipal environment. Therefore, this manual relates to the Statewide Urban Design and Standards (www.iowasudas.org) documents used by many consulting, county and city engineers across Iowa; especially Sections 5C-1 Geometric Design Tables and 5M-1 Complete Streets.

SUDAS is a set of recommendations that in some cases have been adopted by cities and counties to be the enforceable standards of the jurisdiction. SUDAS gives the engineer (designer) the ultimate latitude of using the document or moving outside of the documents standards/specifications if they have evidence, conditions or local knowledge that makes a revised standard more applicable.

The tables in this document indicate using notes, asterisks and footnotes where the recommendations for Active Transportation Corridors differ from the those described in the preferred/alternate/complete streets sections of SUDAS. These differences tend to be minimized by providing additional categories of street beyond those used in SUDAS. These differences generally appear in travel lane width, turning radii and in some cases parking width and curb offsets.

Designing Active Transportation Corridors

The tables are organized according to the approach used in SUDAS - that is, by roadway classification. However, the elements that are recommended reflect an alternative approach. This plan suggests the neighborhood context (the area surrounding the roadway) should influence roadway cross-sections.

How to use the manual: use tables and sample cross sections to help you design your corridor

This manual offers a series of tables, each with a menu of elements that can be used to “build” the corridor cross-section (that is, design) that works best within the context of the private/public realm of the corridor.

To begin, the user first determines which table is appropriate to guide design of whatever roadway they are considering. Refer to the descriptions below to help make that choice:

- Low Mobility Corridors may function by connecting people in neighborhoods and connecting neighborhoods to neighborhood destinations like convenience or neighborhood nodes of activity regardless of mode used.
- Medium Mobility Corridors might begin to have a broader community purpose that begins connecting neighborhoods or connecting neighborhoods to workplaces and larger activity centers like community nodes.

- High Mobility Corridors would likely carry high levels of through and/or commuting traffic and begin to introduce a higher mix of trucks to the traffic flow.

Once the user has selected the proper table, use the guidance here to assemble the elements of the cross-section. Selecting these elements will be based upon expected levels of pedestrian, bicycle and vehicle traffic, the character of the street, and the community's goals. Refer back to the "active transportation" chapter of this guidebook for more guidance on this step.

To help the user visualize their options for street design, each table has a corresponding sample cross-section drawing. This drawing is just one example of how a street of this type could be designed. Your street design may vary, by adding or taking away some of the elements included in the sample drawing.

Limitations of the manual

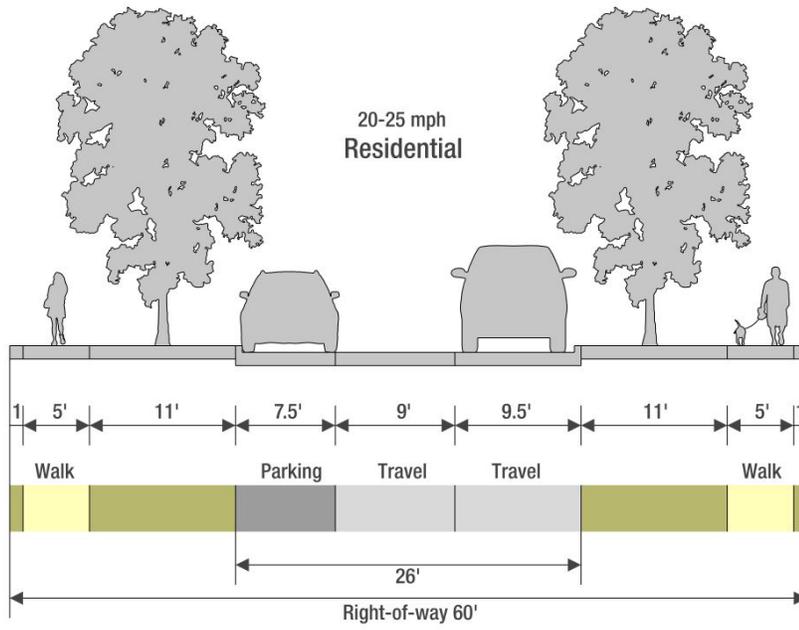
This manual doesn't address controlled access corridors (i.e. interstates), private realm design, or intersection design, as it is felt that those go beyond the broad nature of this manual. However, it is encouraged that intersections be designed to favor pedestrians and bicycles as they are the most vulnerable users in the traffic mix at those locations.

Street Typology: Low Mobility Residential (Residential) 60' ROW

Design Element	Design Notes	Recommended Criteria
Posted Speed		20 - 25 MPH
Object setback		1.5'
Clear Zone (from edge of travel lane)	includes offset	5.5' (4' from back of curb)
Travel Lane Width	low volume residential requires vehicles meeting to stagger around parked cars	8*
Number of Travel Lanes		2
Median Width		N/A
Turn Lane Width		N/A
Two Way Left Turn Lane Width		N/A
Curb Offset		1.5'
Parallel Parking Width (no buffer, includes offset)	parking on one side of street, functional dimension 8'	8.5' from back of curb
Verge (back of curb to prop. Line)		11'
Curb Radii		15'
Bike Lane Width	shared travel lane*	N/A
Protected Bike Lane Width		N/A
Sidewalk/Multi-Use Path		5'/8'-10' if activity route (1' from prop. line)
Transit		N/A
Roadway Width (with parking)	back of curb to back of curb.	26'
Roadway Width (without parking)	If on-street parking has limited usage or is not present it is recommended that traffic calming techniques be implemented**	N/A

* This standard assumes a low volume residential street with bikes and vehicles sharing the same lanes. Vehicles would stagger around a parked vehicle. SUDAS recognizes this cross-section for low volume streets where two free flowing lanes are not required and parking is allowed on one side. AASHTO minimum lane width is 9' so the parking dimension is shown at a narrower width than typical and the curb offset is included.

** Traffic Calming techniques can include opportunities for connection to nature by using landscaped islands and bio-swale intake structures in addition to calming with short medians, bulb outs at intersections or mid block, chicanes, traffic circles, etc.

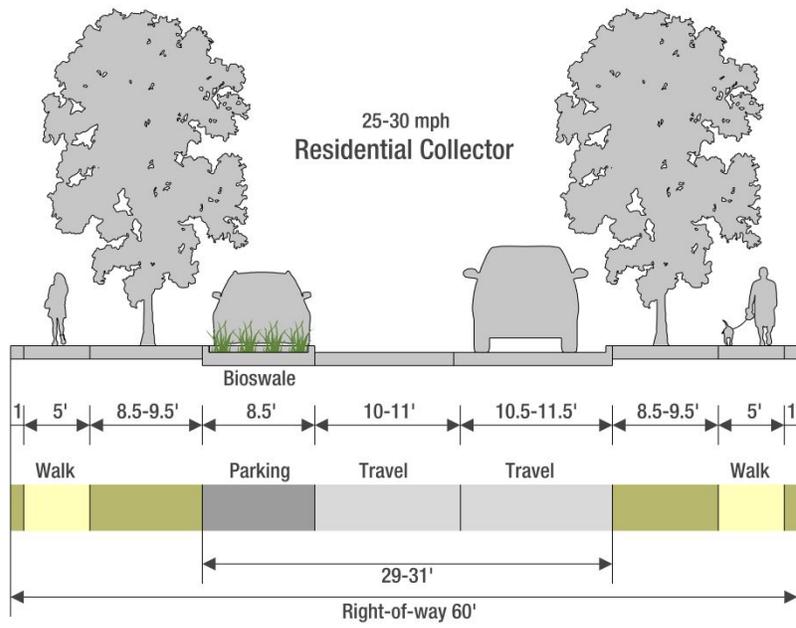


Street Typology: Moderate Mobility Residential (Residential Collector) 60' ROW

Design Element	Design Notes	Recommended Criteria
Posted Speed		25 - 30 MPH
Traffic Volume		
Object setback		1.5'
Clear Zone (from edge of travel lane)	includes offset	5.5' (4' from back of curb)
Travel Lane Width	10'/10.5' to back of curb wide lanes for calming*	11' to face of curb)/(10' to face of curb recommended*)
Number of Travel Lanes		2
Median Width		N/A
Turn Lane Width		N/A
Two Way Left Turn Lane Width		N/A
Curb Offset		1.5'
Parallel Parking Width (no buffer, includes offset)	parking on one or both sides of street, functional dimension 8'	8.5' from back of curb
Verge (back of curb to prop. Line)		8.5' (9.5'*)
Curb Radii		15'
Bike Lane Width	shared travel lane*	N/A
Protected Bike Lane Width		N/A
Sidewalk/Multi-Use Path	1' off property line	5'/8'-10' if activity route
Transit		
Roadway Width (with parking)	back of curb to back of curb	31' (29'*)
Roadway Width (without parking)	if on-street parking has limited usage or is not present it is recommended that traffic calming techniques be implemented**	N/A

* This standard assumes a moderate volume residential street with bikes and vehicles sharing the same lanes. SUDAS recommends 31' back to back when parking is located on both sides of the street requiring oncoming vehicles to stagger at parked cars. The recommended 10' lane width (curbside lane includes 1' of offset) is for locations where parking is allowed on one side creating a 29' back of curb to back of curb dimension.

** Traffic Calming techniques can include opportunities for connection to nature by using landscaped islands and bio-swale intake structures in addition to calming with short medians, bulb outs at intersections or mid block, chicanes, traffic circles, etc.



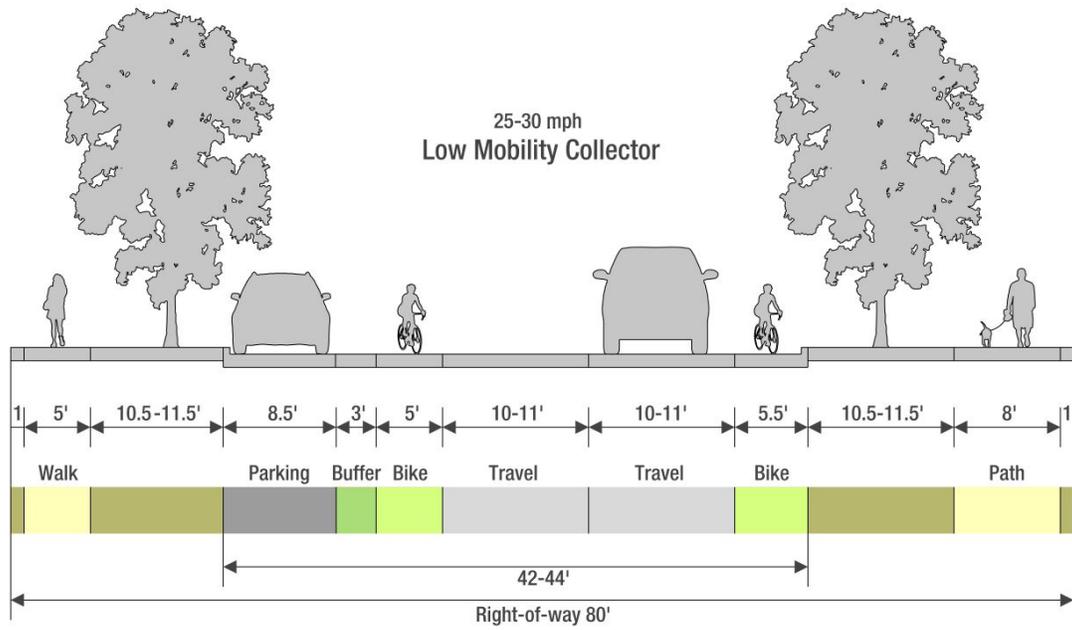
Street Typology: Low Mobility Collector (Residential/Mixed Use/Commercial) 80' ROW

Design Element	Design Notes	Recommended Criteria
Posted Speed		25-30 MPH
Traffic Volumes		
Object setback		1.5'
Clear Zone (from edge of travel lane)	includes offset	5.5' (4' from back of curb)
Travel Lane Width		11' (10' for calming*)
Number of Travel Lanes		2
Median Width		N/A
Turn Lane Width		11'
Two Way Left Turn Lane Width		12'
Curb Offset		1.5'
Parallel Parking Width (no buffer, includes offset)	parking on one or both sides of street, functional dimension 8'	8.5' from back of curb**
Verge (back of curb to prop. Line)	varies based upon lane width and multi-use path	10.5'-11.5'
Curb Radii		15'
Bike Lane Width	both sides	5'
Protected Bike Lane Width	3' buffer along parking	8' inc. 3' painted buffer
Sidewalk/Multi-Use Path	If high pedestrian activity is expected in the corridor, sidewalk one side, multi-use path on the other side.	5'/8'-10'
Transit	If transit stop is present	bus pad size 8.5' x 5' and connected to sidewalk/multi-use path
Roadway Width (with parking)	parking one or both sides with markings, back of curb to back of curb	44' (42')
Roadway Width (without parking)		33' (31')

*11' lane width is SUDAS Complete Street preferred width. A 10' lane width is proposed in this document if the neighborhood context is residential or mixed use and truck volumes are below 10% of the traffic mix. The Engineer would have final determination on the lane width.

Traffic Calming is recommended with 11' lane widths; techniques can include opportunities for connection to nature by using landscaped islands and bio-swale intake structures in addition to calming with short medians, bulb outs at intersections or mid block, etc.

** 8' parallel parking does not conform to SUDAS for Commercial areas

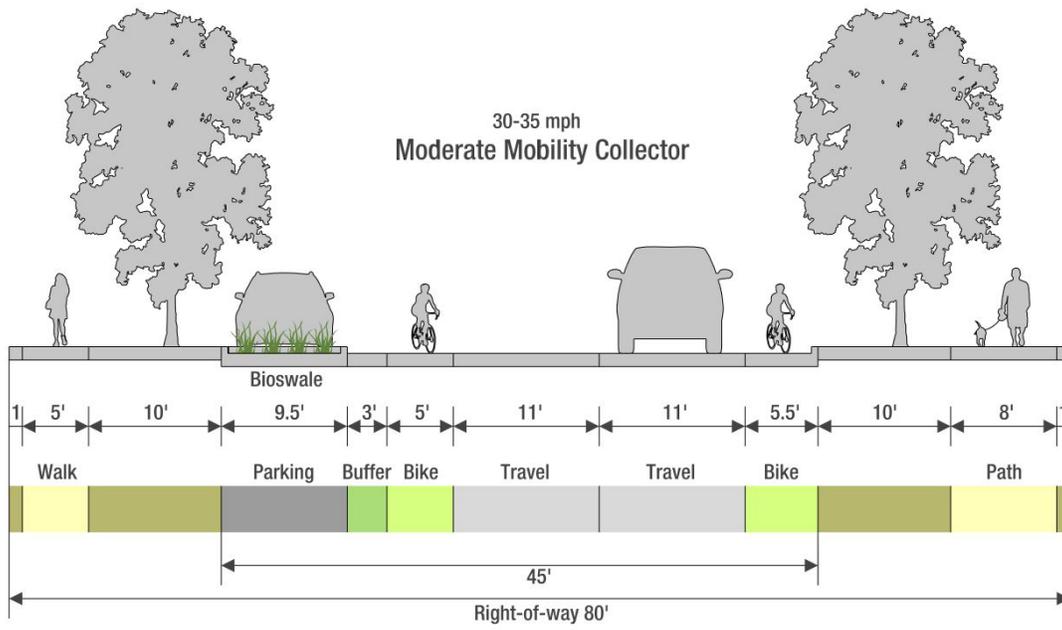


Street Typology: Moderate Mobility Residential (Residential Collector) 60' ROW

Design Element	Design Notes	Recommended Criteria
Posted Speed		30 - 35 MPH
Traffic Volumes		
Object setback		1.5'
Clear Zone (from edge of travel lane)	includes offset	7.5' (6' from back of curb)
Travel Lane Width	traffic calming recommended*	11'
Number of Travel Lanes		2
Median Width		N/A
Turn Lane Width		11'
Two Way Left Turn Lane Width		12'
Curb Offset		1.5'
Parallel Parking Width (no buffer, includes offset)	parking on one side of street, functional dimension 9'	9.5' from back of curb
Verge (back of curb to prop. Line)		10'
Curb Radii		25' (15' preferred**)
Bike Lane Width	both sides	5' functional dimension
Protected Bike Lane Width	3' buffer along parking	8.5' including buffer and curb offset
Sidewalk/Multi-Use Path	If high pedestrian activity is expected in the corridor, sidewalk one side, multi-use path on the other side.	5'/8'-10' if active route
Transit	If transit stop is present	bus pad size 8.5' x 5' and connected to sidewalk/multi-use path
Roadway Width (with parking)	parking one or both sides with markings, back of curb to back of curb	45'
Roadway Width (without parking)		33'

* Traffic Calming techniques can include opportunities for connection to nature by using landscaped islands and bio-swale intake structures in addition to calming with short medians, bulb outs at intersections or mid block, roundabouts, etc.

** Larger corner radii are intended to accommodate larger vehicle turning movements without encroachment into opposing lanes; SUDAS 5M preferred standard is 25'. This larger radius may allow passenger vehicles to make higher speed turning movements presenting more risks for pedestrians and bicycles. SUDAS 5m suggests that if bike lanes or parking spaces are present this radius can be reduced to a minimum of 15' which is proposed in this document.



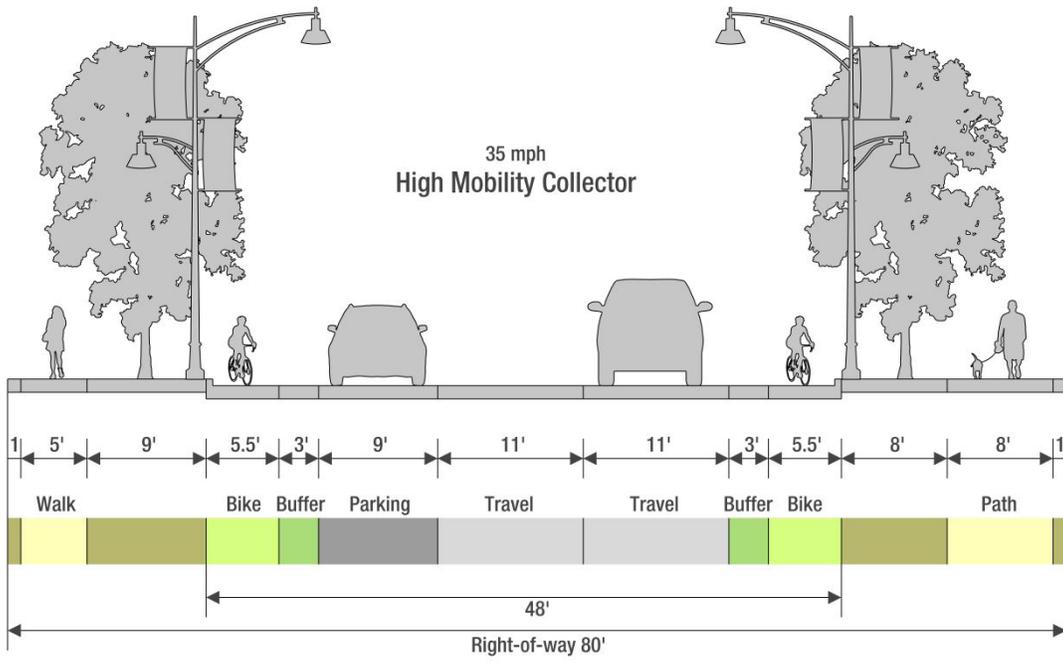
Street Typology: High Mobility Collector (Mixed Use/Commercial)

Design Element	Design Notes	Recommended Criteria
Posted Speed		35 MPH
Traffic Volumes		
Object setback		1.5'
Clear Zone (from edge of travel lane)	includes offset	7.5' (6' from back of curb)
Travel Lane Width	traffic calming recommended*	12' (11' for calming)**
Number of Travel Lanes		2
Median Width	if provided	18'
Turn Lane Width		12' (11' for calming)**
Two Way Left Turn Lane Width		12'
Curb Offset		1.5'
Parallel Parking Width (no buffer, includes offset)	parking on one or both sides of street, functional dimension 9'	9.5' from back of curb
Verge (back of curb to prop. Line)	varies	8'/9'
Curb Radii		30' (15' for calming)***
Bike Lane Width	both sides	5'
Protected Bike Lane Width	3' buffer to travel and parking lanes; locate protected bike lane on curb side of parking	N/A
Sidewalk/Multi-Use Path	If high pedestrian activity is expected in the corridor, sidewalk one side, multi-use path on the other side.	5'/8'-10' if activity route
Transit	If transit stop is present	bus pad size 8.5' x 5' and connected to sidewalk/multi-use path
Roadway Width (with parking , no median)	parking one or both sides with markings, back of curb to back of curb.	50' (48')
Roadway Width (without parking, no median)		41' (39')

* Traffic Calming techniques can include opportunities for connection to nature by using landscaped islands and bio-swale intake structures in addition to calming with short medians, bulb outs at intersections or mid block, roundabouts, etc.

** 12' lane width is SUDAS Complete Street preferred width for a commercial arterial and left turn lane. An 11' lane width is proposed in this document if the neighborhood context is mixed use, commercial with a high number of pedestrians and bikes, and/or truck volumes are below 10% of the traffic mix. The Engineer would have final determination on the lane width.

*** Larger corner radii are intended to accommodate larger vehicle turning movements without encroachment into opposing lanes; SUDAS 5M preferred standard is 25'-30'. This larger radius may allow passenger vehicles to make higher speed turning movements presenting more risks for pedestrians and bicycles. SUDAS 5m suggests that if bike lanes or parking spaces are present this radius can be reduced to a minimum of 15' which is proposed in this document.



Street Typology: Low Mobility Arterial (Residential/Mixed Use/Commercial) 80' ROW

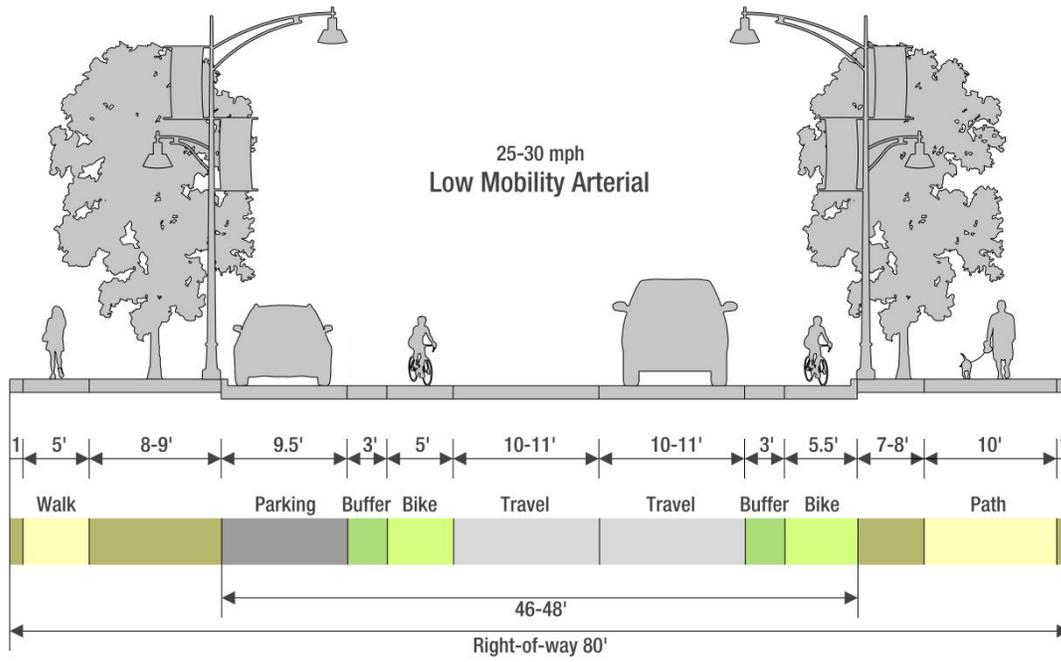
Design Element	Design Notes	Recommended Criteria
Posted Speed		25-30 MPH
Traffic Volumes		
Object setback		1.5'
Clear Zone (from edge of travel lane)	includes offset	7.5' (6' from back of curb)
Travel Lane Width	traffic calming recommended*	11'/12' (10' for calming)**
Number of Travel Lanes		2-4
Median Width	if provided	18.5'
Turn Lane Width		11'/12' (11' for calming)**
Two Way Left Turn Lane Width		12'
Curb Offset		1.5***
Parallel Parking Width (no buffer, includes offset)	parking on one or both sides of street in mixed use and commercial areas, 10' if not buffered; 9' recommended functional dimension 9'	10' if not buffered (9' recommended-9.5' from back of curb)
Verge (back of curb to prop. Line)	varies- verge should be larger and ROW expanded if a high degree of business and pedestrian corridor activity is expected	7' to 9'
Curb Radii		25' (15' for calming) ****
Bike Lane Width	both sides	5' if protected, 6'-7' if not protected
Protected Bike Lane Width	3' buffer to travel and parking lanes; locate protected bike lane on curb side of parking if present	8.5' to back of curb including buffer
Sidewalk/Multi-Use Path	If high pedestrian activity is expected in the corridor, sidewalk one side, multi-use path on the other side.	5'/10'-12'
Transit	If transit stop is present	bus pad size 8.5' x 5' and connected to sidewalk/multi-use path
2 Lane Roadway Width (with parking or median)	If on-street parking is limited or not present it is recommended that traffic calming techniques be implemented*	48' if 11' lanes (46' if 10' lanes)
2 Lane Roadway Width (without parking or median)		39' (37')

* Traffic Calming techniques can include opportunities for connection to nature by using landscaped islands and bio-swale intake structures in addition to calming with short medians, bulb outs at intersections or mid block, roundabouts, etc.

** 11' and 12' lane widths are SUDAS Complete Street preferred width. A 10' travel lane width and 11' turning lane width are proposed in this document if the neighborhood context is mixed use, commercial with a high number of pedestrians and bikes, and/or truck volumes are below 10% of the traffic mix. The Engineer would have final determination on the lane width.

*** A 2' offset is the preferred SUDAS Complete Street width. A 1.5' offset is proposed in this document.

**** Larger corner radii are intended to accommodate larger vehicle turning movements without encroachment into opposing lanes; SUDAS 5M preferred standard is 25'-30'. This larger radius may allow passenger vehicles to make higher speed turning movements presenting more risks for pedestrians and bicycles. SUDAS 5m suggests that if bike lanes or parking spaces are present this radius can be reduced to a minimum of 15' which is proposed in this document.



Street Typology: Moderate Mobility Arterials(Mixed Use/Commercial) 100' ROW

Design Element	Design Notes	Recommended Criteria
Posted Speed		30-35 MPH
Traffic Volumes		
Object setback		3'
Clear Zone (from edge of travel lane)	includes offset	8' (6' from back of curb)
Travel Lane Width	traffic calming recommended*	11'/12' (11' for calming**)
Number of Travel Lanes		2-4
Median Width	if provided	18.5'
Turn Lane Width		12'
Two Way Left Turn Lane Width		12'
Curb Offset		2'
Parallel Parking Width (no buffer, includes offset)	parking on one or both sides of street in mixed use and commercial areas, 10' if not buffered; 9' recommended functional dimension 9'	10' if not buffered (9' recommended-9.5' from back of curb)
Verge (back of curb to prop. Line)	varies	9.5'/14.5'
Curb Radii		25' (15')****
Bike Lane Width	both sides	5' if buffered 6'-7' if no buffer
Protected Bike Lane Width	if warranted	5' lane/3' buffer
Sidewalk/Multi-Use Path	If high pedestrian activity is expected in the corridor, sidewalk one side, multi-use path on the other side.	5'/10'-12'
Transit	If transit stop is present	bus pad size 8.5' x 5' and connected to sidewalk/multi-use path
Roadway Width (with parking)	If on-street parking is limited or not present it is recommended that traffic calming techniques be implemented*	59' (57' recommended)
Roadway Width (without parking)		41' (39')

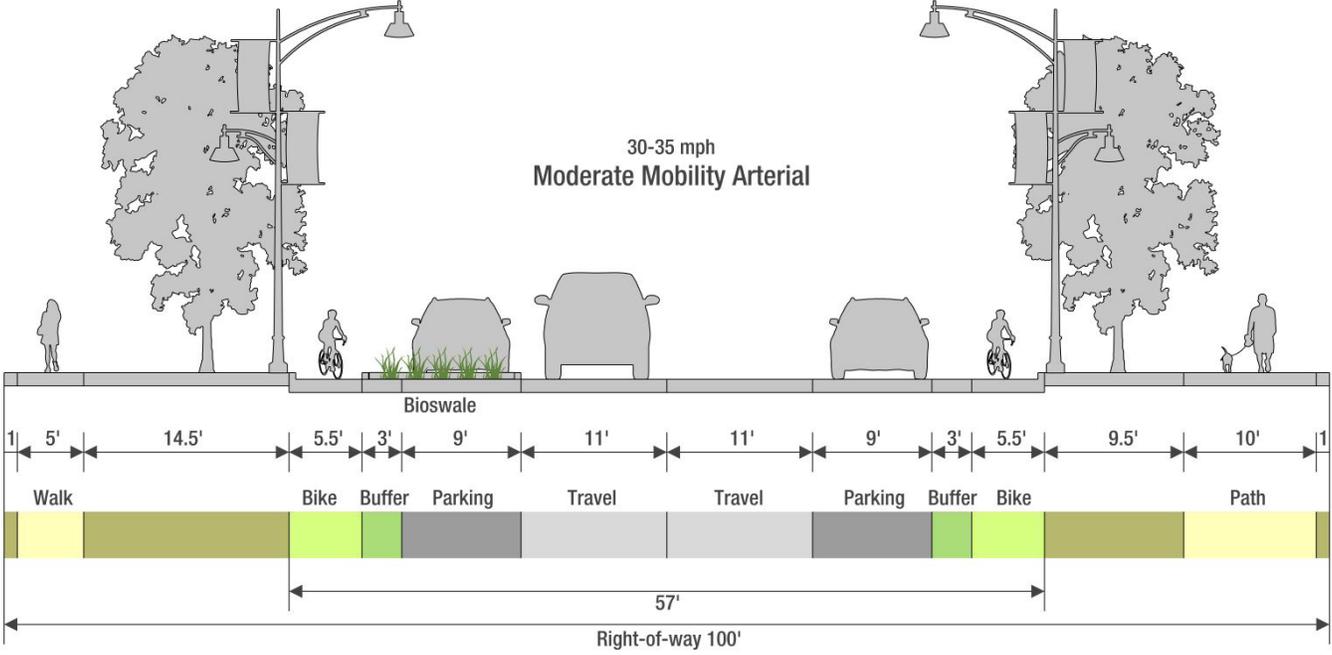
* Traffic Calming techniques can include opportunities for connection to nature by using landscaped islands and bio-swale intake structures in addition to calming with short medians, bulb outs at intersections or mid block, roundabouts, etc.

** 11' and 12' lane widths are SUDAS Complete Street preferred width. A 11' travel lane width is proposed in this document if the neighborhood context is mixed use, commercial with a high number of pedestrians and bikes, and/or truck volumes are below 10% of the traffic mix. The Engineer would have final determination on the lane width.

*** Parking lane width of 10' is preferred width in SUDAS Complete Streets where no buffer exists. This document proposes using a 9' parking lane.

**** Larger corner radii are intended to accommodate larger vehicle turning movements without encroachment into opposing lanes; SUDAS 5M preferred standard is 25'-30'. This larger radius may allow passenger vehicles to make higher speed turning movements presenting more risks for pedestrians and bicycles. SUDAS 5m suggests that if bike lanes or parking spaces are present this radius can be reduced to a minimum of 15' which is proposed in this document.

30-35 mph
Moderate Mobility Arterial



Street Typology: High Mobility Arterials (Mixed Use/Commercial/Industrial) 100' ROW

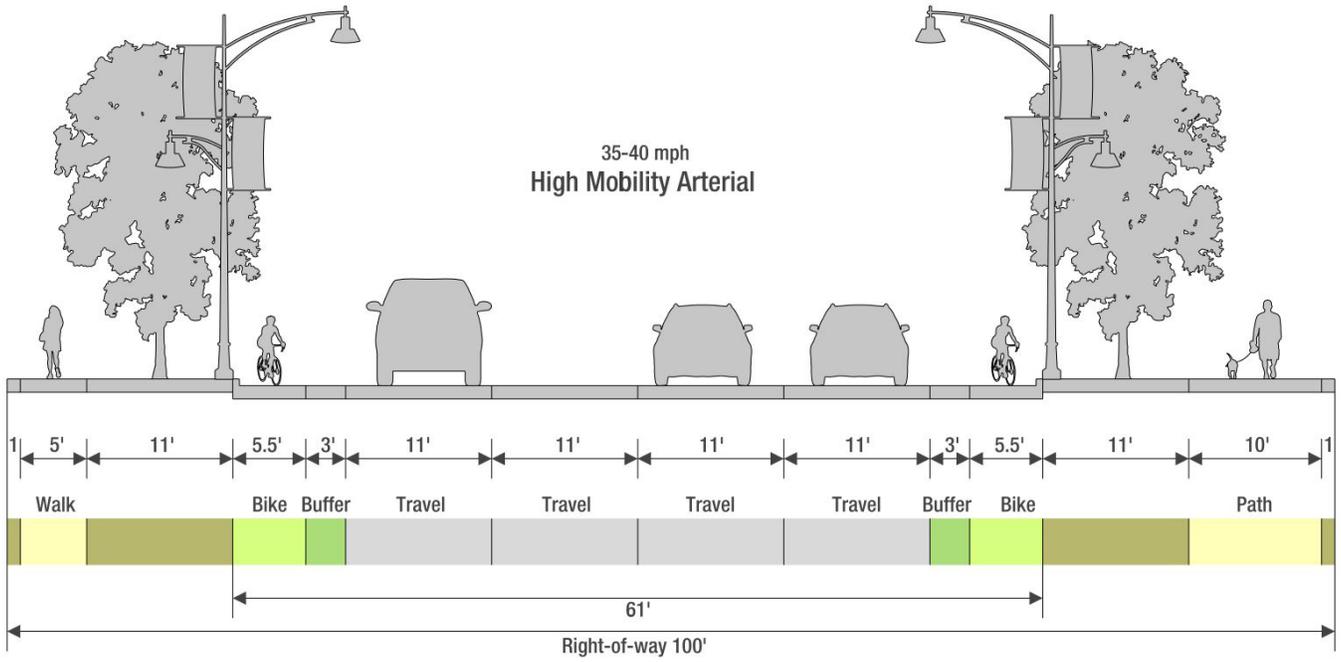
Design Element	Design Notes	Recommended Criteria
Posted Speed		35 - 40 MPH
Traffic Volumes		
Object setback		3'
Clear Zone (from edge of travel lane)	includes offset	7' (6' from back of curb)
Travel Lane Width	traffic calming recommended*	12' (11'**)
Number of Travel Lanes		2 - 4
Median Width	if provided	18.5'
Turn Lane Width		12'
Two Way Left Turn Lane Width		12'
Curb Offset		2' (1.5' recommended)
Parallel Parking Width (no buffer, includes offset)	parking should only be added if neighborhood context warrants on street parking; 10' if not buffered; 9' recommended if buffered.	10' if not buffered (9' with buffering recommended-9.5' from back of curb)
Verge (back of curb to prop. Line)		10'
Curb Radii		30' (25' recommended ***)
Bike Lane Width	both sides, protected lanes recommended	5' with 3' buffer
Protected Bike Lane Width	two-way one side or one-way both sides if warranted by speed and traffic mix	8' including buffer; 8.5' from back of curb
Sidewalk/Multi-Use Path	If high pedestrian activity is expected in the corridor, sidewalk one side, multi-use path on the other side.	5'/10'-12' if activity route
Transit	If transit stop is present	bus pad size 8.5' x 5' and connected to sidewalk/multi-use path
Roadway Width (four lane, protected bike lanes both sides)		61'

* Traffic Calming techniques can include opportunities for connection to nature by using landscaped islands and bio-swale intake structures in addition to calming with short medians, bulb outs at intersections or mid block, chicanes, traffic circles, etc.

** 12' lane widths are SUDAS Complete Street preferred width. A 11' travel lane width is proposed in this document if the neighborhood context is mixed use, commercial with a high number of pedestrians and bikes, and/or truck volumes are below 10% of the traffic mix. The Engineer would have final determination on the lane width.

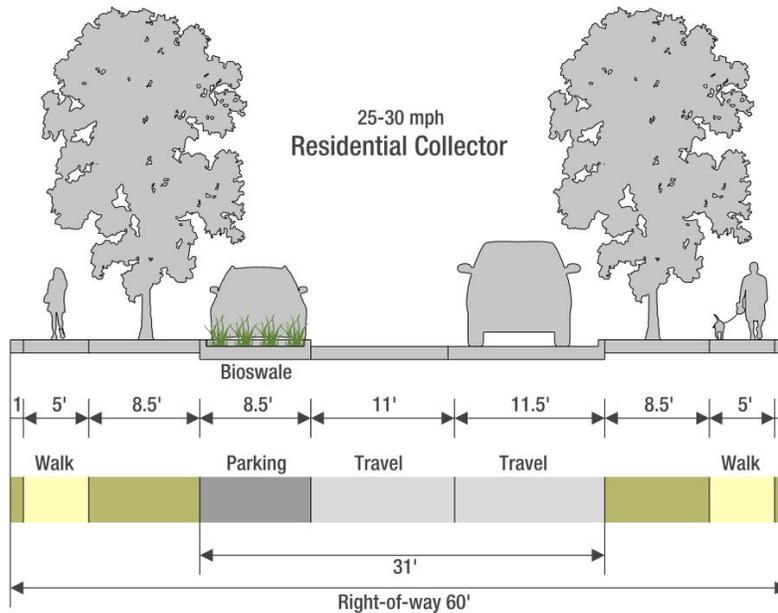
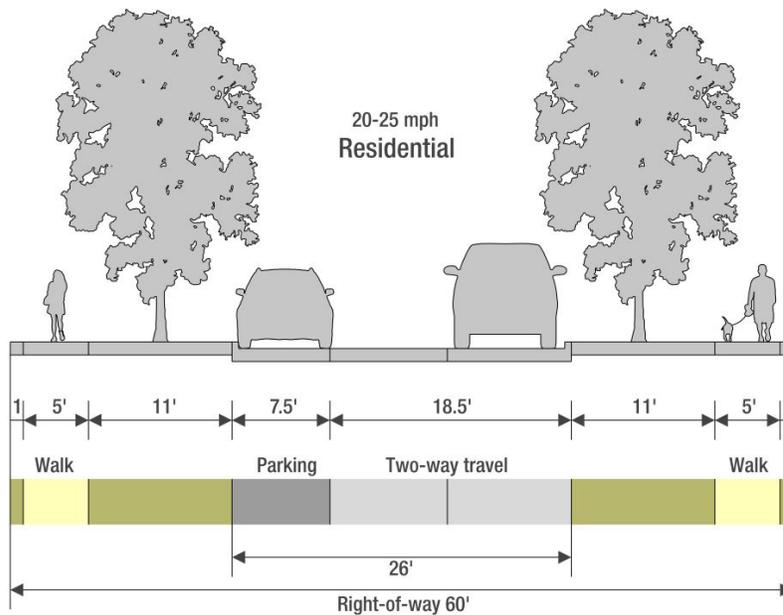
*** Larger corner radii are intended to accommodate larger vehicle turning movements without encroachment into opposing lanes; SUDAS 5M preferred standard is 25'-30'. This larger radius may allow passenger vehicles to make higher speed turning movements presenting more risks for pedestrians and bicycles. SUDAS 5m suggests that if bike lanes or parking spaces are present this radius can be reduced to a minimum of 15' which is proposed in this document.

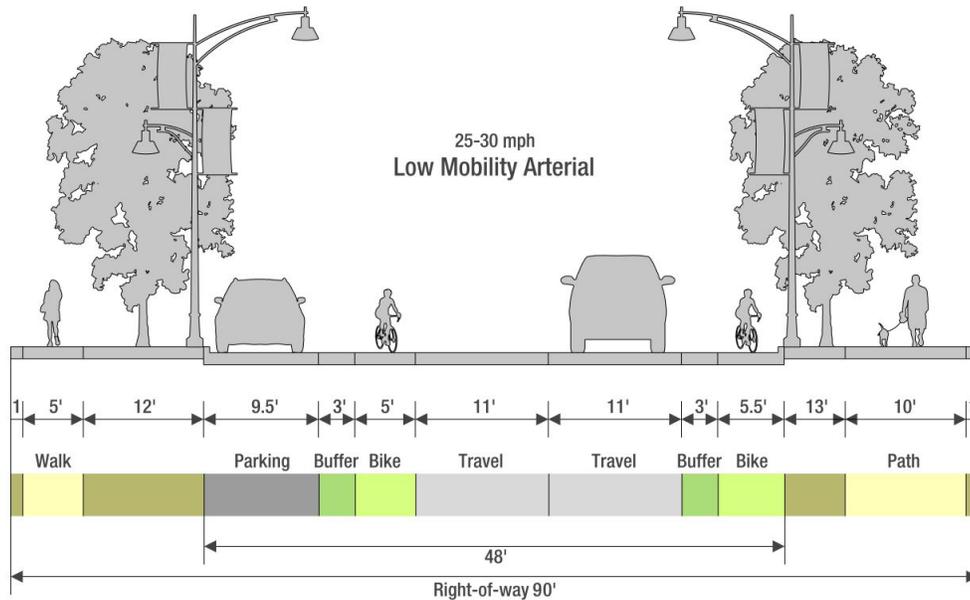
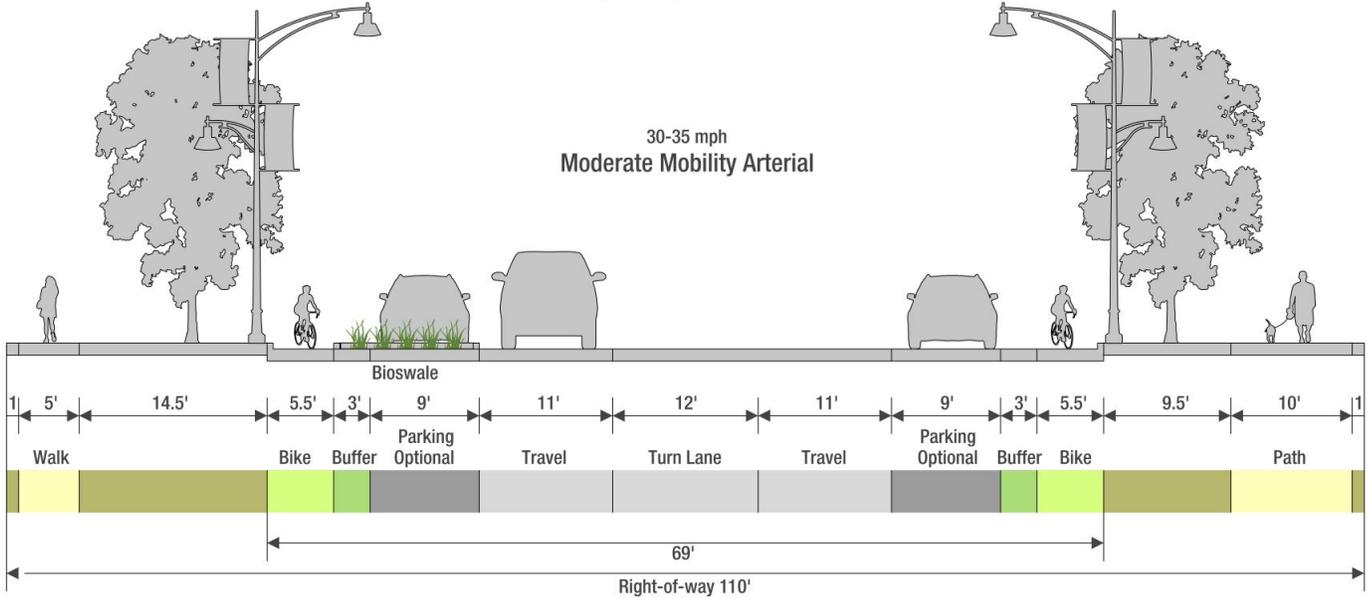
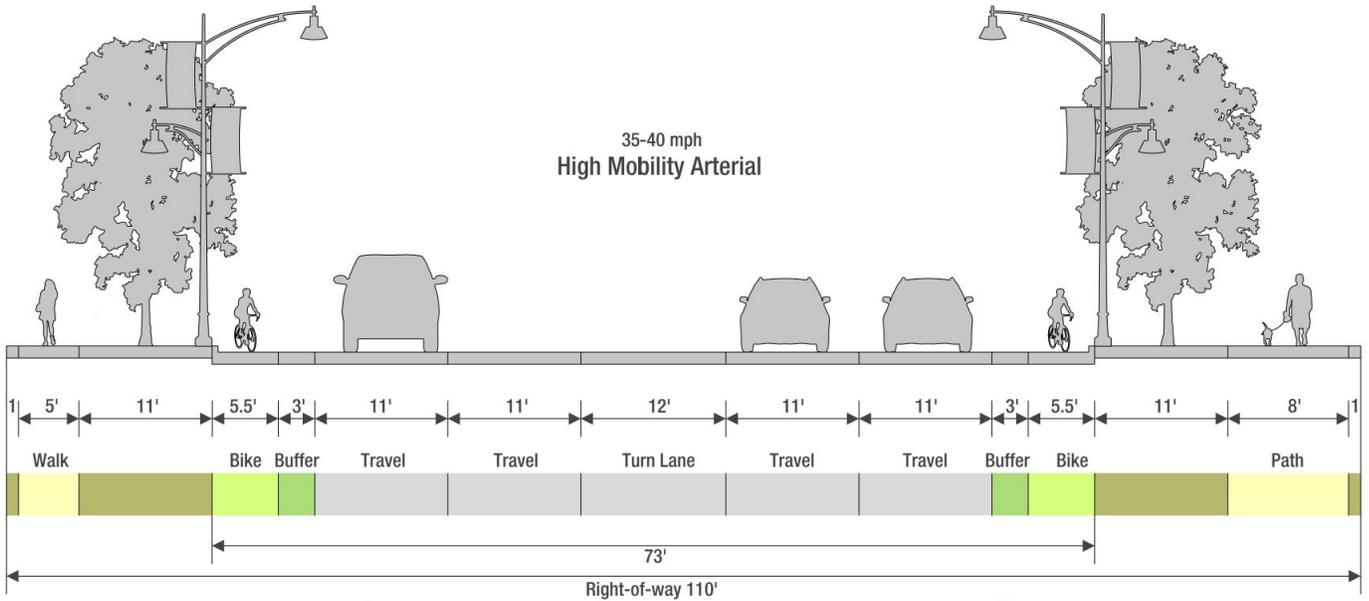
35-40 mph
High Mobility Arterial

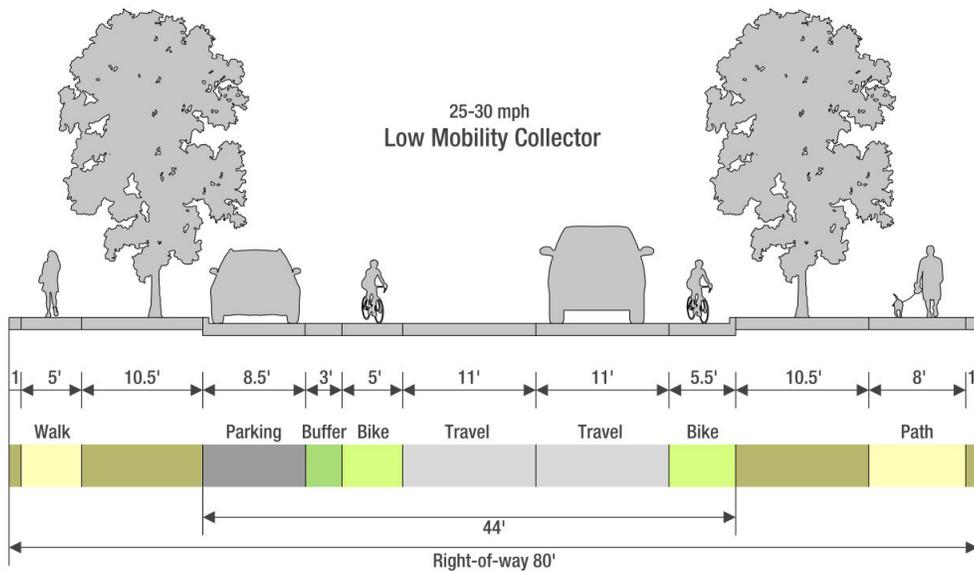
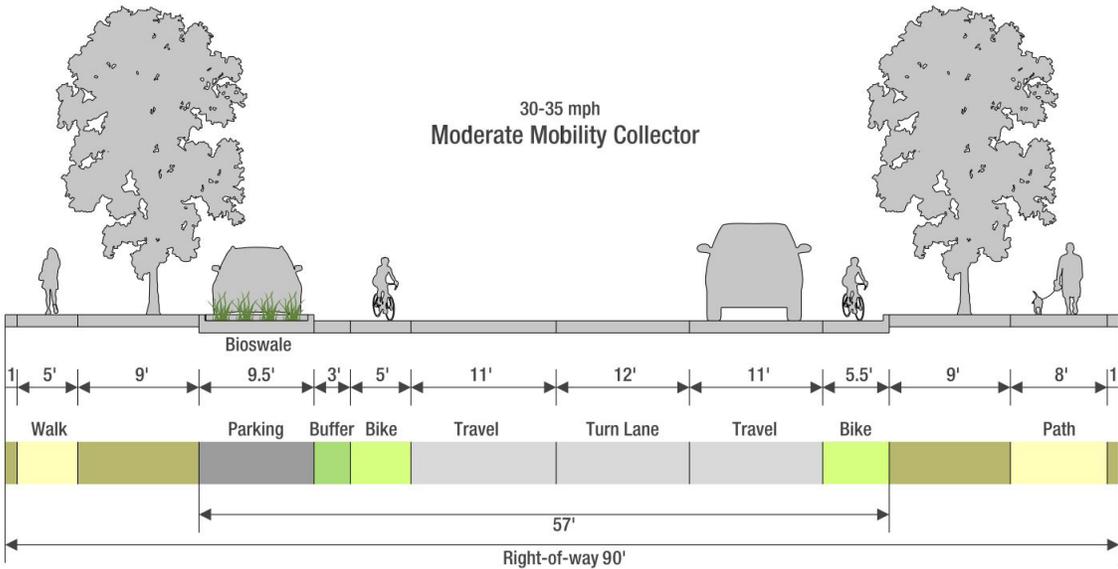
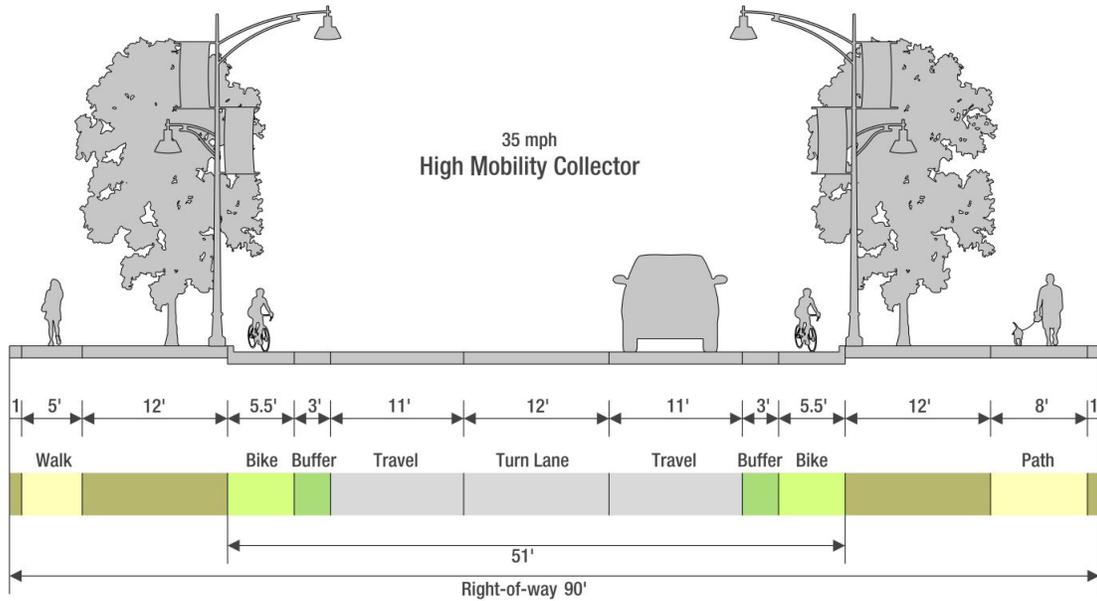


Marion In Focus

Note: The Marion in Focus cross-sections are based upon the City of Marion's engineering review and revision of the "Active Transportation" tables and cross-section templates that appear in the earlier section.









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