Transportation Plan

Common Council

JANUARY 30, 2019

Chapter 3: Street Network and Classifications

3.1 Transportation Planning Approach

3.2 Street Typologies

3.3 Bicycle Facility Types

3.4 Bicycle Network

3.5 Pedestrian Network Assessment

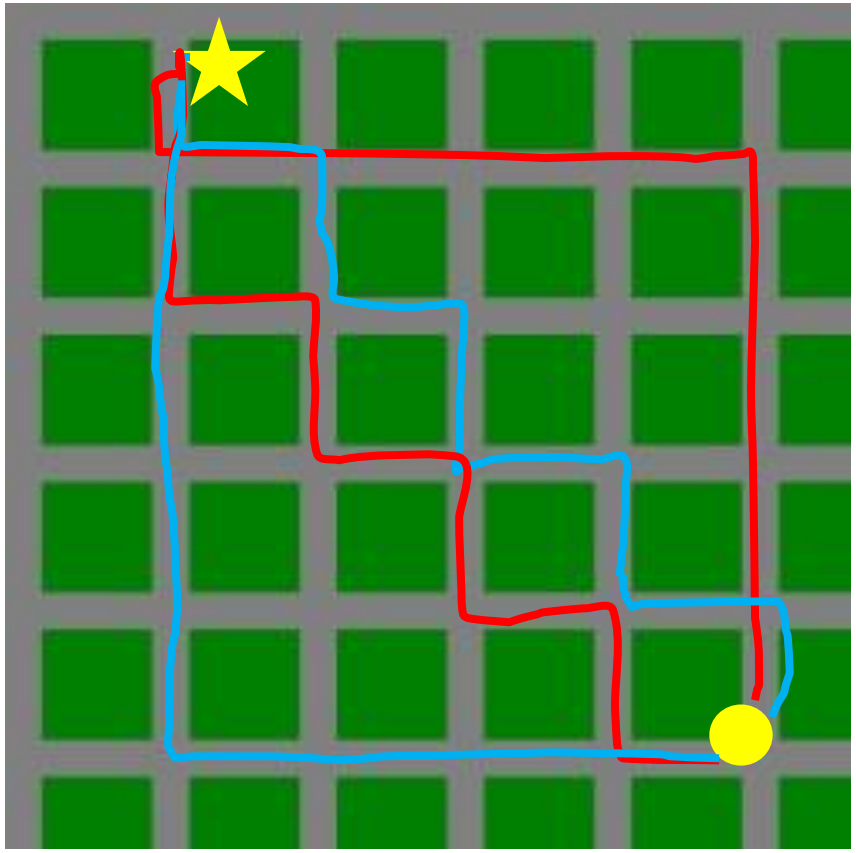
3.6 Key Treatments and Supporting Guidance

Clarification and Staff Amendments

3.1 Transportation Planning Approach

Urban Grid Network

How many options are there?



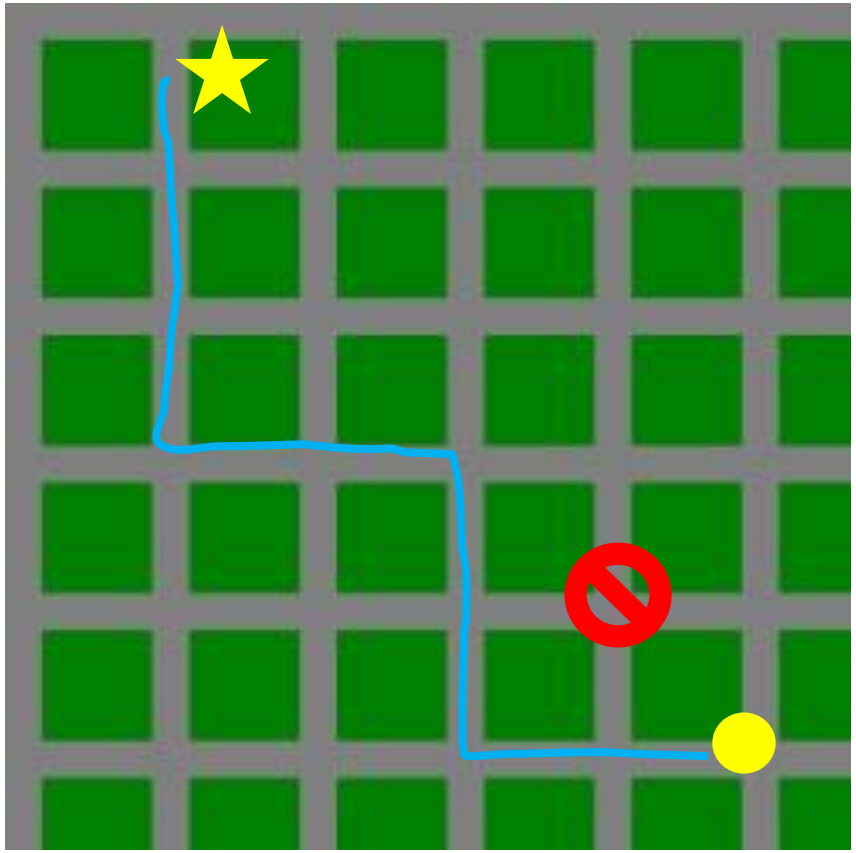
3.1 Transportation Planning Approach

Urban Grid Network

How many options are there?

Benefits:

- Distributes traffic of all modes
- More direct path options
- Resiliency: improved emergency response time
- Block faces = business opportunities
- A purposefully and strategically disconnected grid can improve walking and bicycling



3.1 Transportation Planning Approach

Urban Grid Network

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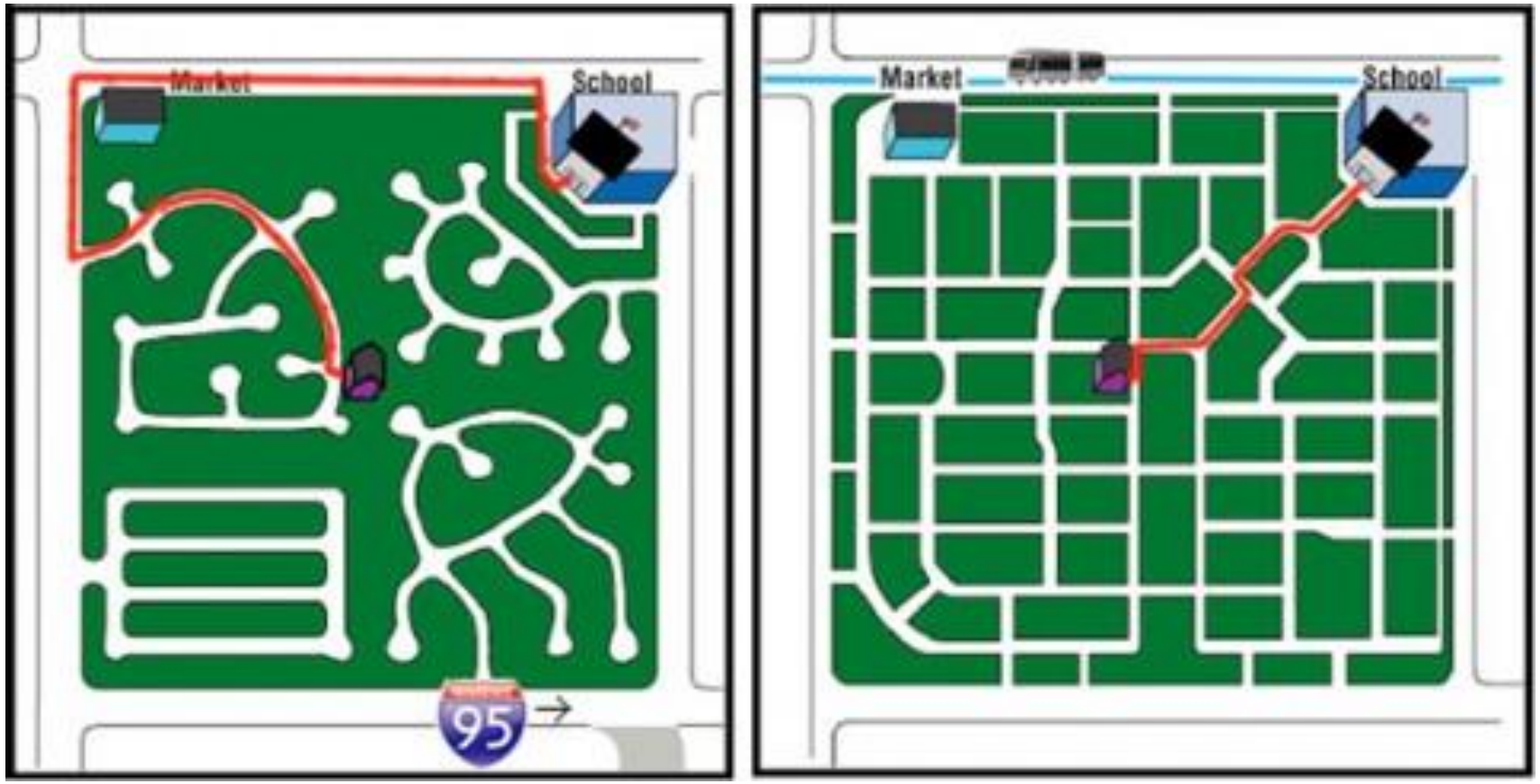
Urban Grid Network



3.1 Transportation Planning Approach

Coordinated Land Use and Transportation

Transportation and land use are interconnected

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Coordinated Land Use and Transportation

Transportation and land use are interconnected

Entrance: approximate 475 feet from S. Walnut sidewalk

Street: 63 feet wide, no on-street parking

3.1 Transportation Planning Approach

Coordinated Land Use and Transportation

Transportation and land use are interconnected

Entrance: 90 feet from street

Street: 37 feet wide (includes on-street parking)

3.1 Transportation Planning Approach

Complete Streets

Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.

Complete Streets make it easy to cross the street, walk to shops, and bicycle to work.

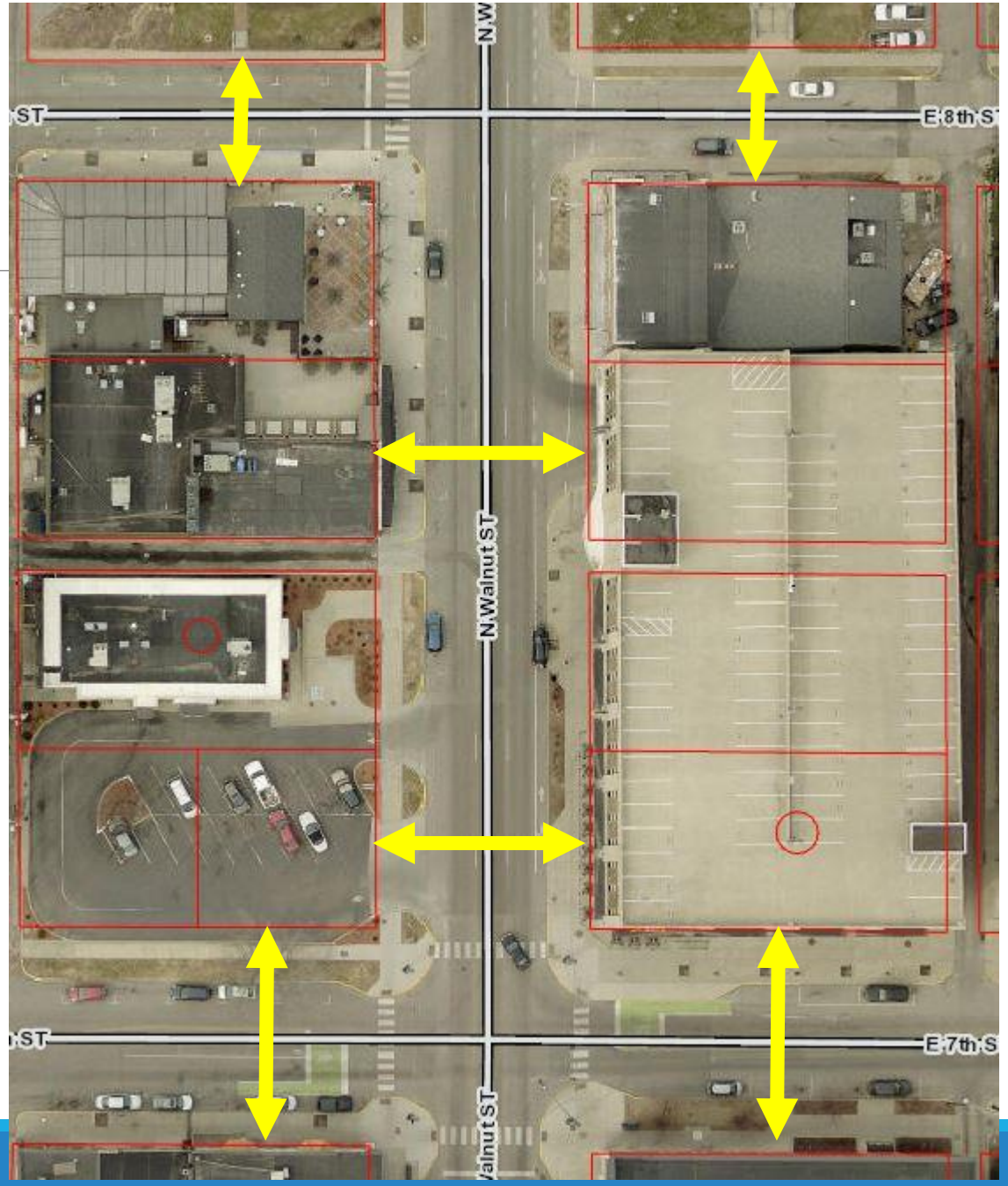
-Smart Growth America

3.2 Street Typologies

What is right-of-way?

A strip of land reserved for, occupied, or intended to be occupied by transportation facilities, public utilities, or other special public uses which may include sidewalks, bicycle or pedestrian pathways, streets, alleys, or other public thoroughfares, or buffers adjacent to same. Right-of- way may be held in the form of easement or fee.

-- Unified Development Ordinance



3.2 Street Typologies

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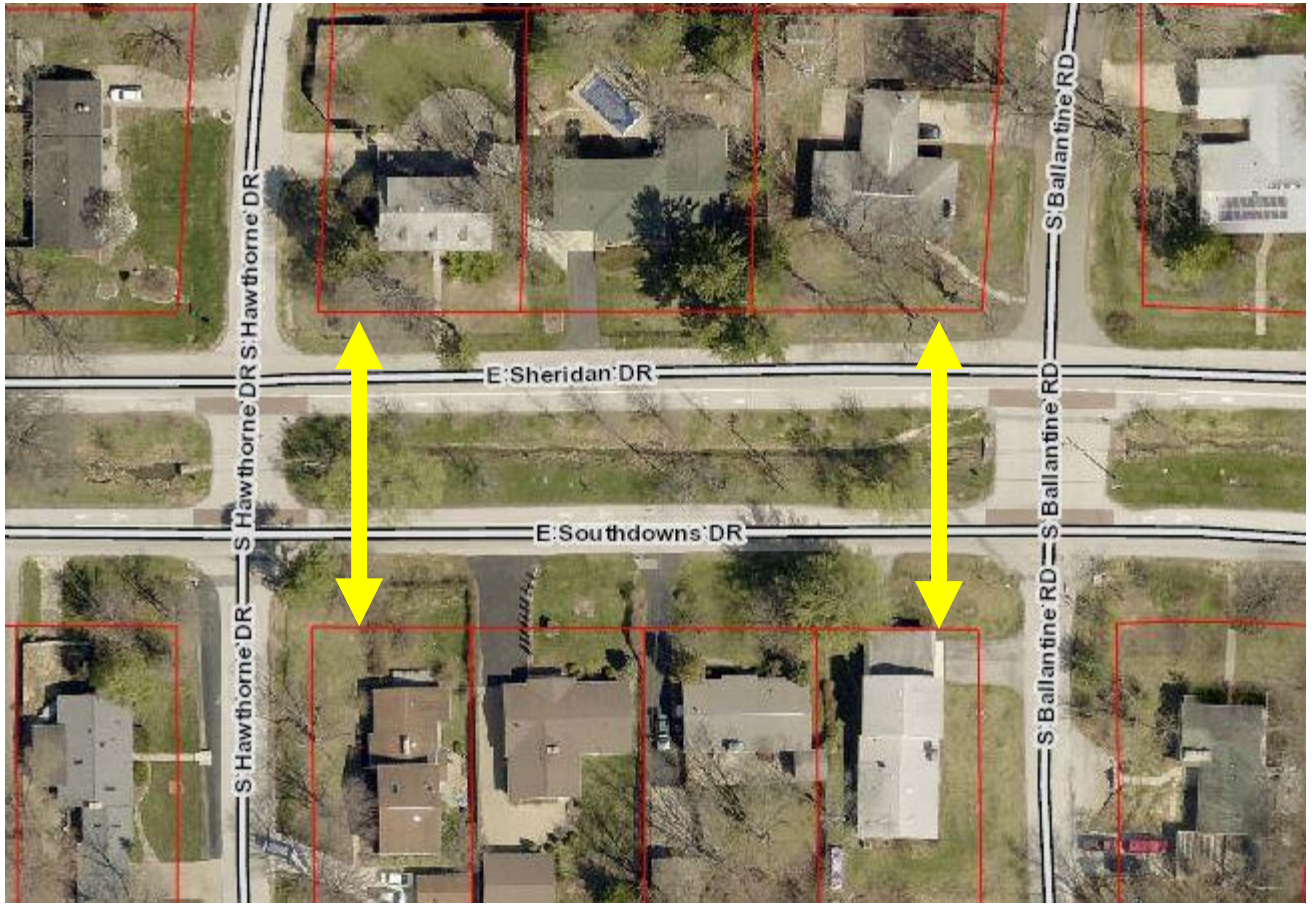

3.2 Street Typologies

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-- Unified Development Ordinance

3.2 Street Typologies

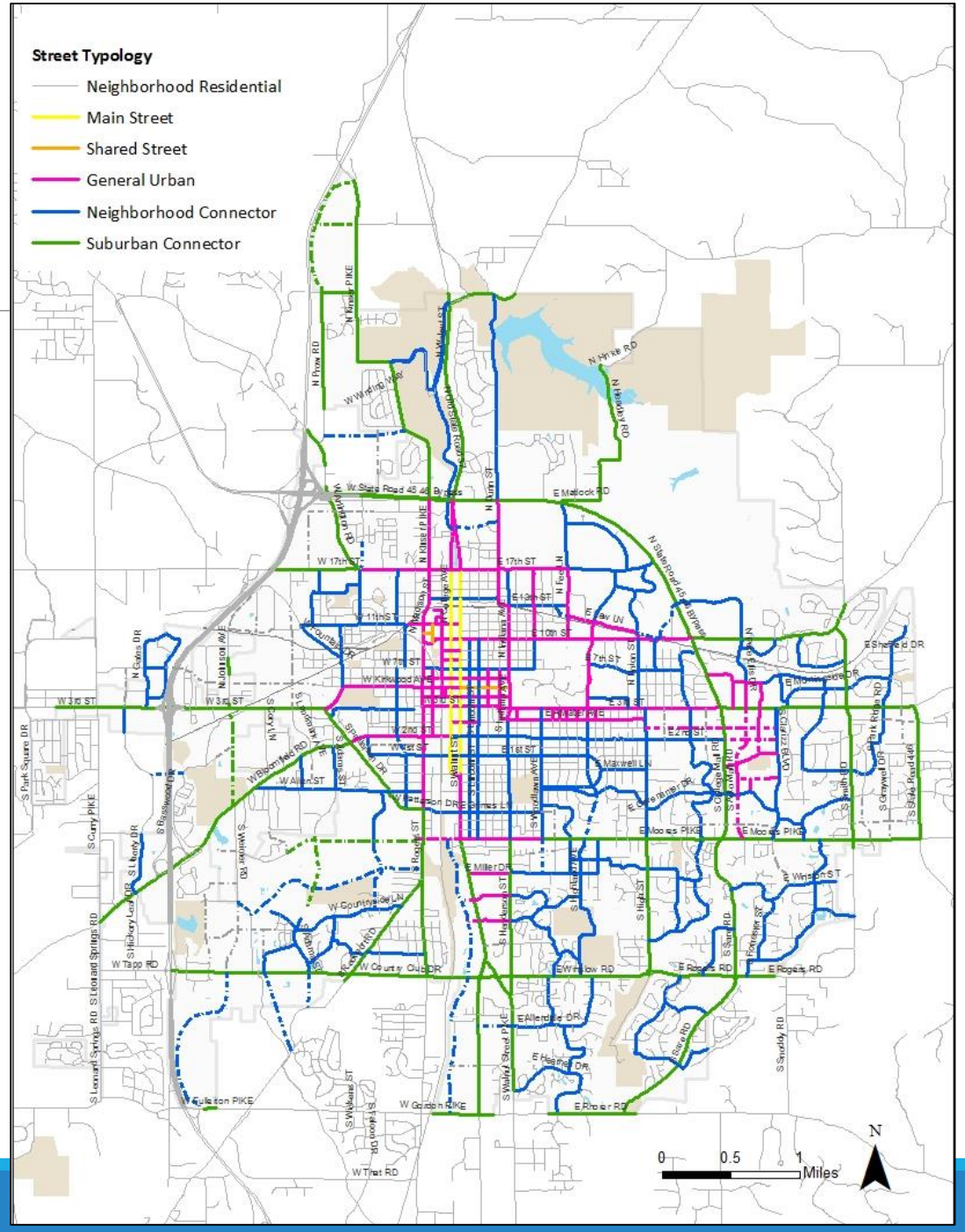
Typologies

- Categories for streets
- One street can have multiple typologies as it traverses the City
- Context
- Functional Classifications: remain for Federal purposes, but not for zoning or transportation planning purposes
- New streets must be designed to the typical standards, existing streets will not meet the typical standards.
- Appendix E covers the steps used to determine typology

3.2 Street Typologies

Typologies

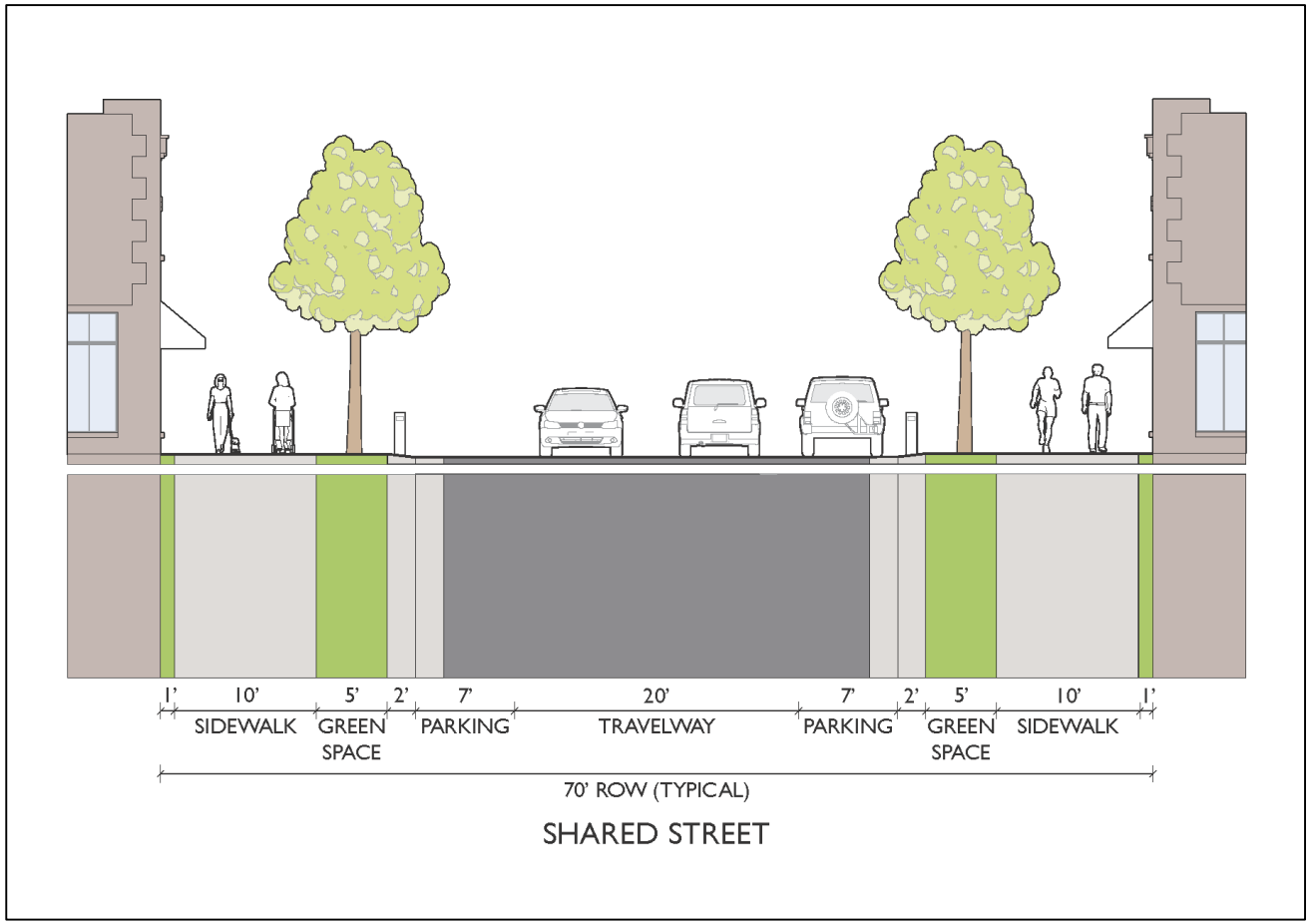
- Shared Street
- Neighborhood Residential Streets
- Main Streets
- General Urban Streets
- Neighborhood Connector Streets
- Suburban Connector Streets



3.2 Street Typologies

Shared Street

- Pedestrian priority
- Curbless = increased accessibility and more flexible public space
- Includes pedestrian only-area (sidewalk) as well as center of street has pedestrian priority
- Design would involve public outreach and stakeholder outreach



3.2 Street Typologies

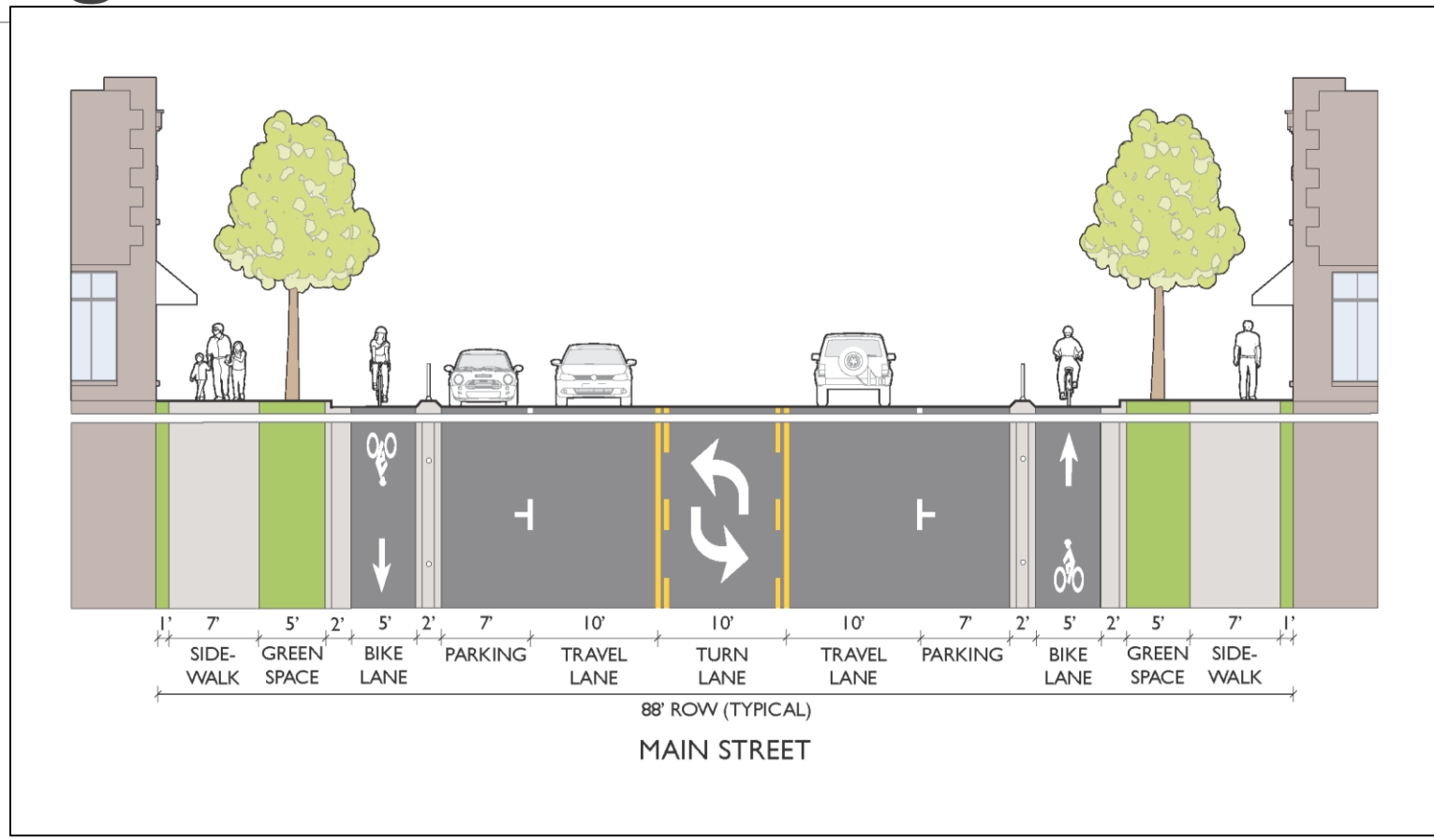
Neighborhood Residential Streets

- In neighborhoods and residential uses
- Include on-street parking on both sides
- Options without on-street parking, or parking on one side included in Appendix E
- GPP: most similar to Local Streets, minimum of 50’ and did not include on-street parking

3.2 Street Typologies

Main Streets

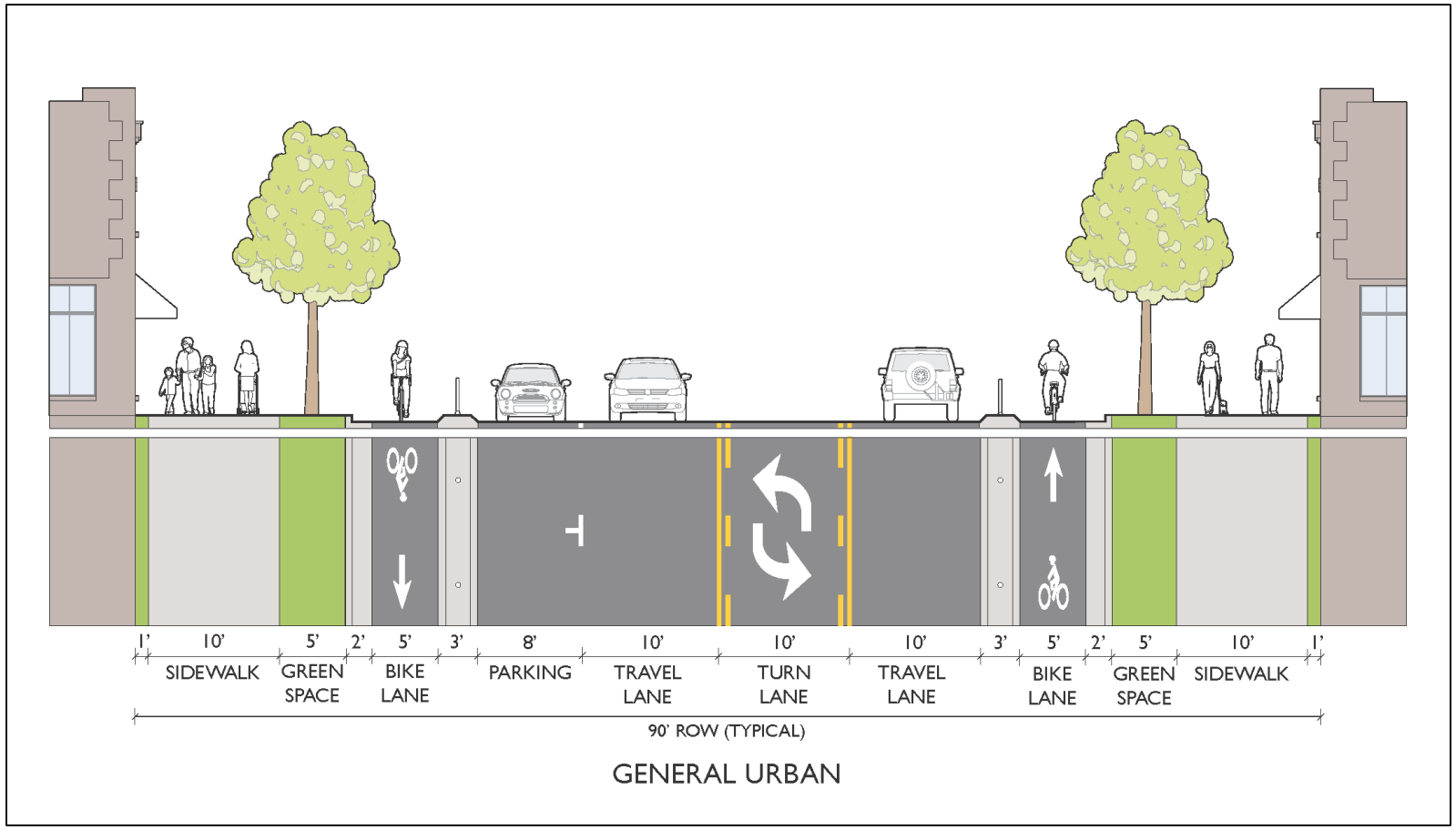
- Economic and communal heart of a city
- Future cross sections would be determined by Corridor Studies. The provided cross section is conceptual.
- GPP: most similar to Primary Arterial Streets, minimum of 100’ and did not include on-street parking



3.2 Street Typologies

General Urban Streets

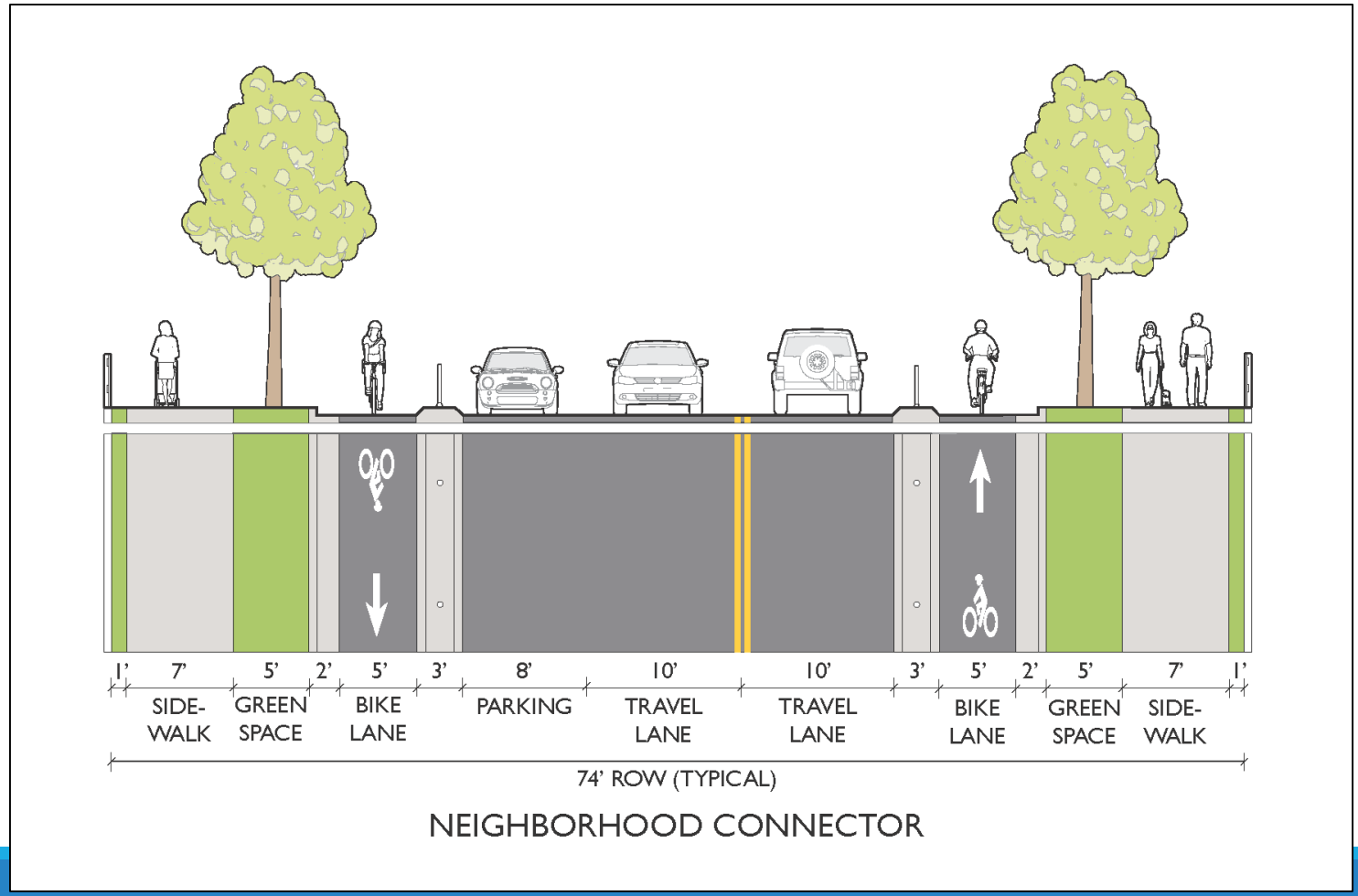
- Surrounding commercial and medium/high-density mixed use facilities.
- Proposed: default 90’ ROW
- GPP: most similar to Secondary Arterial Streets, minimum of 80’ and did not include on-street parking



3.2 Street Typologies

Neighborhood Connector Streets

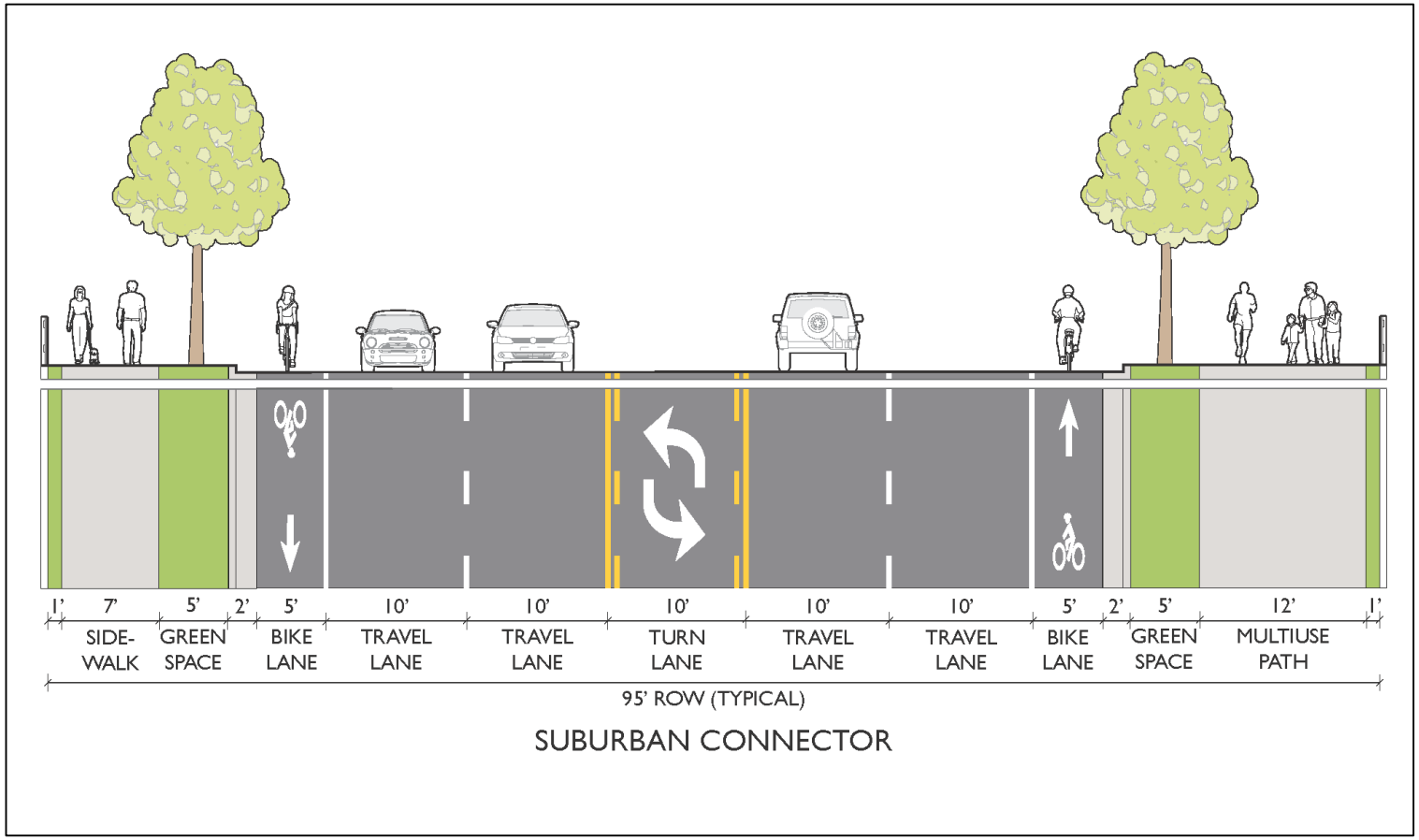
- Surrounding low to medium density residential with commercial nodes as it connects to the larger street network.
- Proposed: default 74’ ROW
- GPP: compares to several previous classifications:
  - Secondary Collector (55’),
  - Primary Collector (65’) and
  - Secondary Arterial Streets (80’)
  - GPP comparisons did not include on-street parking



3.2 Street Typologies

Suburban Connector Streets

- Highest volume of motor vehicle traffic
- Low to medium density
- Suburban commercial, residential, and institutional areas
- Proposed: default 95’ ROW
- GPP: most similar to Primary Arterial Streets, minimum of 100’



3.2 Street Typologies

Typologies

- Table 3: Street Typology Summary

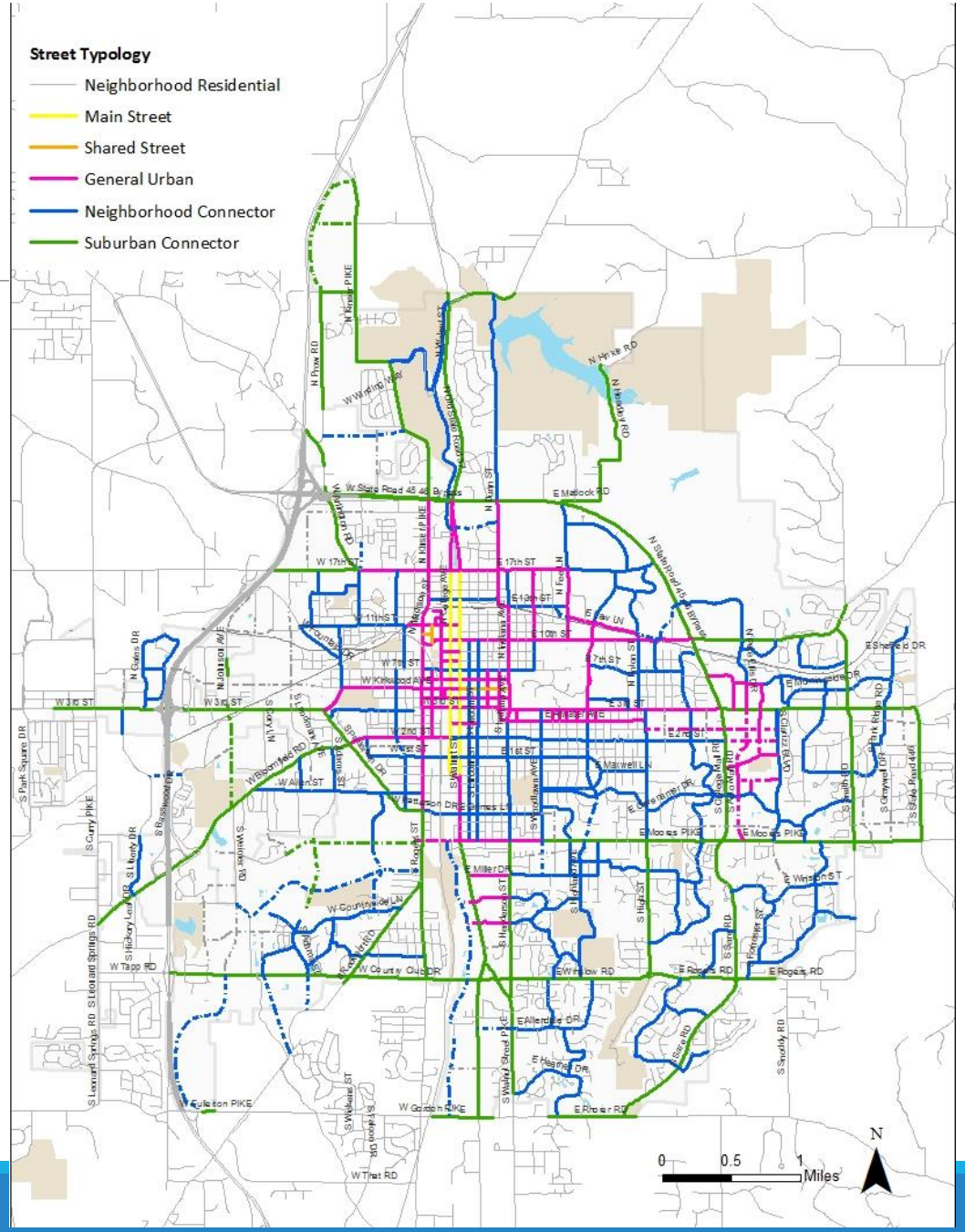
Table 3. Street Typology Summary

Street Typology	Land Use Context and Function	Transportation Context and Function	Typical Features
Shared Street Candidate Streets: Selective local streets in the downtown and other denser urban commercial areas; Kirkwood Default Width: 70 feet	• Medium to high density • Mixed-use, retail, downtown office, dense residential • Buildings close to street	• High volumes of pedestrian activity and bike traffic • Low volumes of autos • Little to no transit • Extremely low speeds • ADA-compliant slopes • Blends transportation and public space	• Narrow, undelineated space shared by all modes in addition to pedestrian-only space. • Designated parking stalls, street furniture, sidewalk cafes, small-scale lighting • Street trees and landscaping • Unique pavement
Neighborhood Residential Street Candidate Streets: Any local street in residential neighborhoods Default Width: 60 feet	• Low to medium density • Single-family and multi-family residential • Buildings with moderate setbacks from the street	• Slow speeds • Focus on pedestrian safety • Traffic calming • Typically allows on-street parking	• No centerline • Sidewalks • Neighborhood greenways • Unmarked on-street parking • Street trees and landscaping
Main Street Candidate Streets: College, Walnut, (from 17th St to 1st St) Default Width: 88 feet	• Medium to high density • Primarily commercial with small to medium businesses and mixed use • Buildings close to street • Outdoor events & dining • Often has historic character	• High volumes of pedestrian activity and bike traffic • Medium volumes of autos and transit • Low speeds • Facilitates access • Often includes metered on-street parking	• 2 travel lanes and optional center turn lane • Wide sidewalks • Bike lanes or other bicycle facility • On-street parking • Street furniture, sidewalk cafes, small-scale lighting • Street trees and landscaping

3.2 Street Typologies

Typologies

- Table 3: Street Typology Summary
- Figure 18: New Connections and Street Typologies



3.2 Street Typologies

Typologies

- Table 3: Street Typology Summary
- Figure 18: New Connections and Street Typologies
- Appendix E. Detailed Design Framework and Step by Step Guidance
- Appendix G: Detailed proposed right-of-way widths

Typology Selection Matrix

Typology selection should consider the existing and future transportation and land use contexts for the corridor.

Land Use / Zoning	Functional Classification		
	Local	Collector	Arterial
Commercial Downtown	General Urban	General Urban	General Urban
	Shared Street	Main Street	Main Street
Commercial Limited	Main Street	Main Street	Main Street
	General Urban	General Urban	General Urban
	Shared Street		
Commercial General, Commercial Arterial, Medical	Main Street	Main Street	General Urban
	General Urban	General Urban	
	Neighborhood Connector	Neighborhood Connector	Suburban Connector
	Shared Street		
Residential Core	Neighborhood Residential	Neighborhood Connector	General Urban
	Shared Street		
Residential Other, PUD	Neighborhood Residential	Neighborhood Connector	Suburban Connector
	Shared Street		
Parks, Institutional	Neighborhood Residential	Neighborhood Connector	General Urban
	Shared Street		Suburban Connector
Industrial, Quarry	General Urban	General Urban	General Urban
	Neighborhood Connector	Suburban Connector	Suburban Connector

3.2 Street Typologies

Typologies

- Table 4: Design Parameters
  - Travel Lanes
  - Travel Lane width
  - Center turn lane or median
  - On-street parking
  - Target Speed
  - Typical Auto Traffic Volume
  - Preferred Bicycle Facility

Table 4. Roadway Zone Design Parameters

Typology	Travel Lanes	Travel Lane Width	Center Turn Lane / Median	On-Street Parking	Target Speed (mph)	Typical Auto Traffic Volume (ADT)	Preferred Bicycle Facility[1]
Shared Street	No centerline	20-22' total	None	Optional	10	Less than 1,000	None
Neighborhood Residential Street	No centerline	20' total	None	Optional	15-20	Less than 3,000	Neighborhood greenway
Main Street	2	10'	Optional	Recommended; Delineated	20-25	5,000-20,000	Bike lanes[2]
General Urban Street	2	10'	Optional	Recommended; Delineated	25	10,000-20,000	Bike lanes[2]
Neighborhood Connector Street	2	10'	None	Optional	25	5,000-15,000	Bike lanes[2]
Suburban Connector Street	2-4	10'	10'	None	25-35	15,000-30,000	Protected bike lanes or Multiuse path

[1] Refer to Bicycle Facility Plan for recommended facilities. This category is a general recommendation by Street Typology.
[2] Refers to conventional, buffered, or protected bike lanes

3.2 Street Typologies

Typologies

- Table 5: Pedestrian Zone Design Parameters
  - Frontage Zone*
  - Pedestrian Zone (travel lane)
  - Greenscape + furnishings

Table 5. Pedestrian Zone Design Parameters

Typology	Frontage Zone[1] Door swings, awnings, café seating, retail signage displays, building projections, landscape areas	Pedestrian Zone Clear space for pedestrian travel, should be clear of any and all fixed obstacles	Greenscape / Furnishing Zone Street lights, utility poles, street trees, landscaping, bike racks, parking meters, transit stops, street furniture, signage	Total Width *(Lower value excludes Frontage Zone)*[2]
Shared Street	8'	10'	5'	15'-23'
Neighborhood Residential Street	N/A	6'	5'	11'
Main Street	8'	7'	5'	12'-19'
General Urban Street	8'	10'	8'	18'-26'
Neighborhood Connector Street	8'	7'	8'	15'-23'
Suburban Connector Street	N/A	12' (Multiuse path)	8'	20'

[1] Frontage zone may be accommodated within building setback requirement

[2] The Total Width is the Total Pedestrian Zone width for one side of the street.

3.2 Street Typologies

Clarifications Needed

Existing streets:

- The intent is not to expand or widen existing neighborhood streets.
- Neighborhoods with buildings close to the street: the intent is to do more (or improve safety) with the existing right-of-way; the intent is not to remove buildings.
- In rare cases, widening could occur in order to add other facilities (but not lanes per the Comp. Plan) such as sidewalks or street trees.

3.2 Street Typologies

Clarifications Needed

Existing streets:

- Staff will propose amendments to clarify the distinctions Neighborhood Residential Streets existing compared with new build/proposed.
- Neighborhood Connector Streets: Need to be reviewed. Many of these are very similar to Neighborhood Residential.
- This matters because the Plan should clarify intentions and setbacks in the UDO are connected to the Transportation Plan.
- The GPP resolved this with a category of existing Local Streets. Staff is considering options.
- Appendix G will need to be updated, references changed, or clarified.

3.3 Bicycle Facilities

Bicycle Facility Types

- Purpose
- Multiuse Paths and Trails
- Protected Bike Lanes
- Buffered Bike Lanes
- Conventional Bike Lanes
- Neighborhood Greenways
- Advisory Bike Lane / Shoulder

3.3 Bicycle Facilities

Multiuse Paths and Trails

- Multiuse Paths: parallel to a street; most appropriate when there are fewer driveways in order to be effective and comfortable
- Multiuse Trails: The B-Line completely separated from streets

3.3 Bicycle Facilities

Protected Bike Lanes

- Physically separated from motor vehicle traffic with a barrier
- High comfort facility

3.3 Bicycle Facilities

Buffered Bike Lanes

- On-street bike lane
- Painted buffer separating bicycle lane from traffic
- Buffer can also be between parked cars and bike lane

3.3 Bicycle Facilities

Conventional Bike Lanes

- On-street bike lane
- Painted on the street

3.3 Bicycle Facilities

Neighborhood Greenways

- Calm Streets
- Low motor vehicle volume streets
- Traffic calming measures: speed cushions, bumpouts, diverters, etc.

3.3 Bicycle Facilities

Neighborhood Greenways

- Calm Streets
- Low motor vehicle volume streets
- Traffic calming measures: speed cushions, bumpouts, diverters, etc.
- Increase comfort of street for people walking and bicycling
- Lower speeds for increased safety for all users

3.3 Bicycle Facilities

Advisory Bike Lane / Shoulder

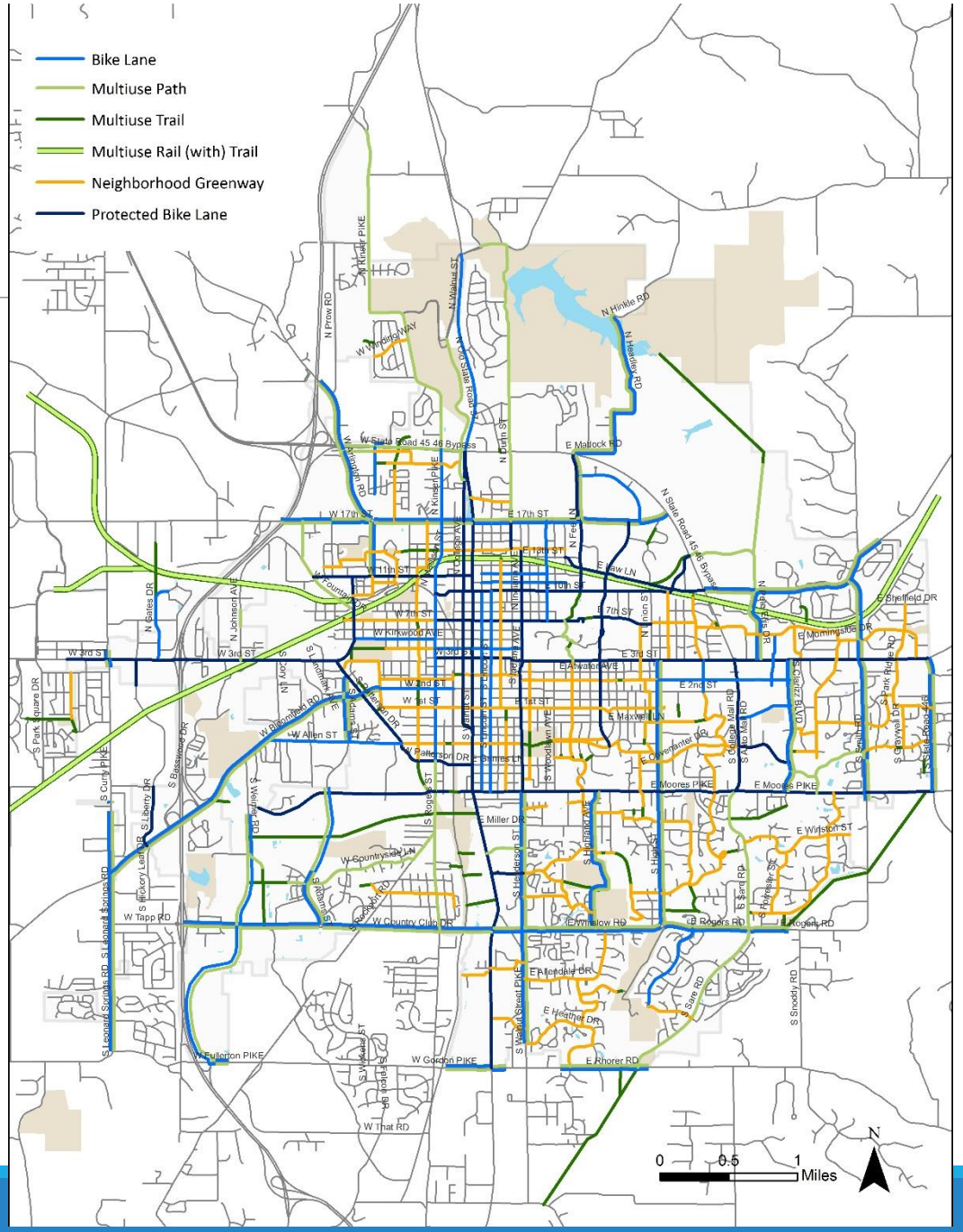
- Calm Streets
- Narrow streets
- Low motor vehicle volume streets
- Striped, dashed bike lanes create a queuing street for motor vehicles
- Increase comfort of street for people walking and bicycling
- Lower speeds for increased safety for all users

3.4 Bicycle Network

Figure 19 Bicycle Facilities Network

- Long-term
- Recent Report Card from the League of American Bicyclists:
  - Total Bicycle Network Mileage to Total Road Network Mileage: Bloomington has 24% and the average Platinum City has 80%
- Appendix D: Bicycle Facility Selection Criteria

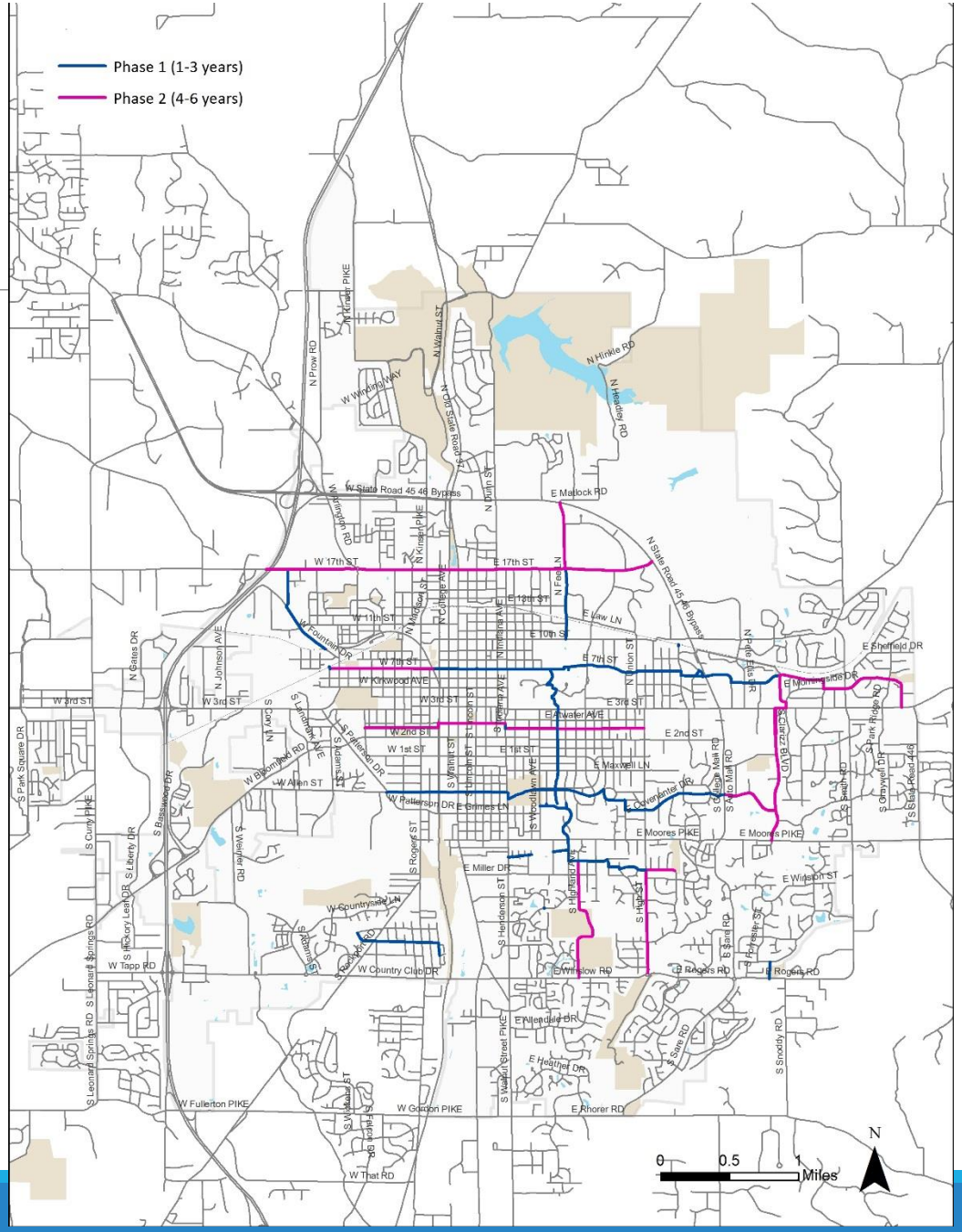
Total Bicycle Network Mileage to Total Road Network Mileage	80%	24%



3.4 Bicycle Network

Figure 20 Priority Bicycle Facilities Network

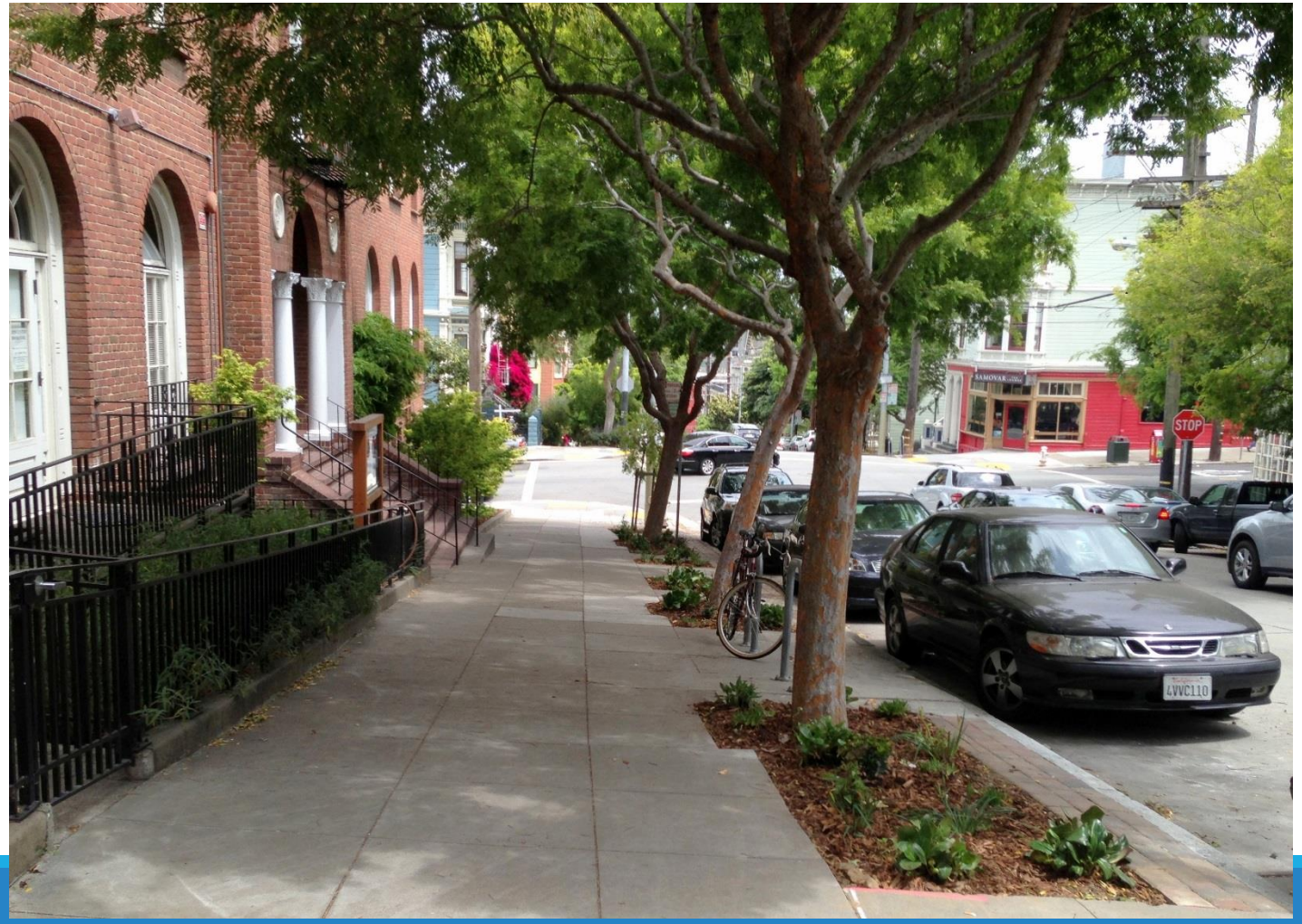
- Shorter-term
- Focus on overall network connectivity on a shorter time horizon
- Getting places requires connectivity and a network



3.5 Pedestrian Network Assessment

Pedestrian Facility Types

- Sidewalks



3.5 Pedestrian Network Assessment

Pedestrian Facility Types

- Sidewalks

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Pedestrian Facility Types

- Sidewalks
- Shared Streets
- Multiuse Paths
- Multiuse Trails
- Rails with Trails
- Neighborhood Greenways

3.5 Pedestrian Network Assessment

Pedestrian Facility Types

- Sidewalks
- Shared Streets
- Multiuse Paths
- Multiuse Trails
- Rails with Trails
- Neighborhood Greenways

3.5 Pedestrian Network Assessment

- Improving the Pedestrian Network: improved comfort and connectivity
- New Streets: All new streets must include sidewalks

3.5 Pedestrian Network Assessment

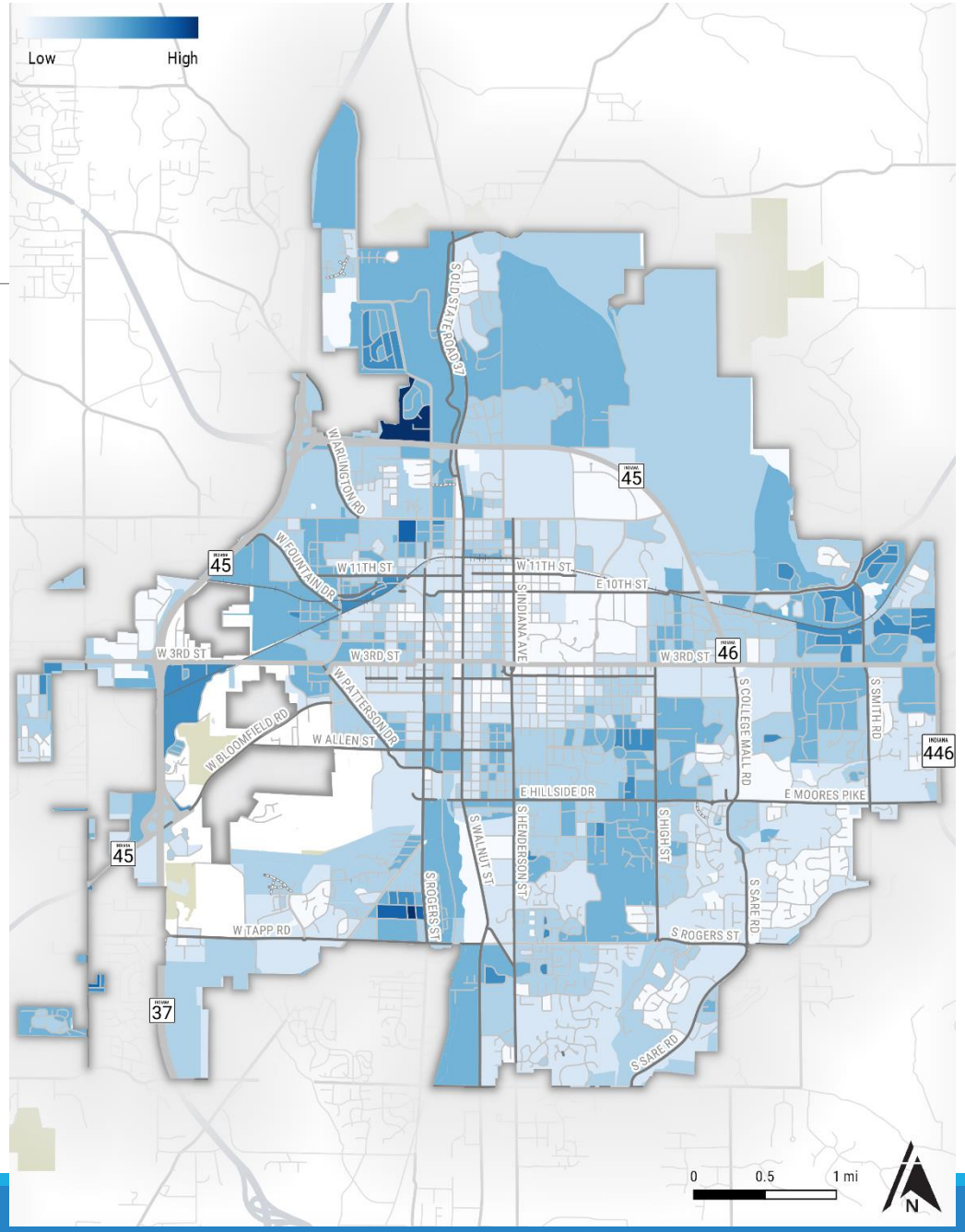
Retrofitting and Filling in the Network Gaps on Existing Streets

- Suburban Connector, Neighborhood Connector, General Urban, Main Streets, and Shared Street: sidewalks on both sides of the street
- Neighborhood Residential: depends on expected average daily traffic volume, speed, and destinations. Sidewalks can be recommended on both sides, one side, or no sidewalks.

3.5 Pedestrian Network Assessment

Pedestrian Priority Areas:

- Figure 21 areas that could be prioritized for sidewalk installation.
- Based on areas that do not have sidewalks
- Methodology outlined in Appendix F



3.5 Pedestrian Network Assessment

Pedestrian Access to Transit

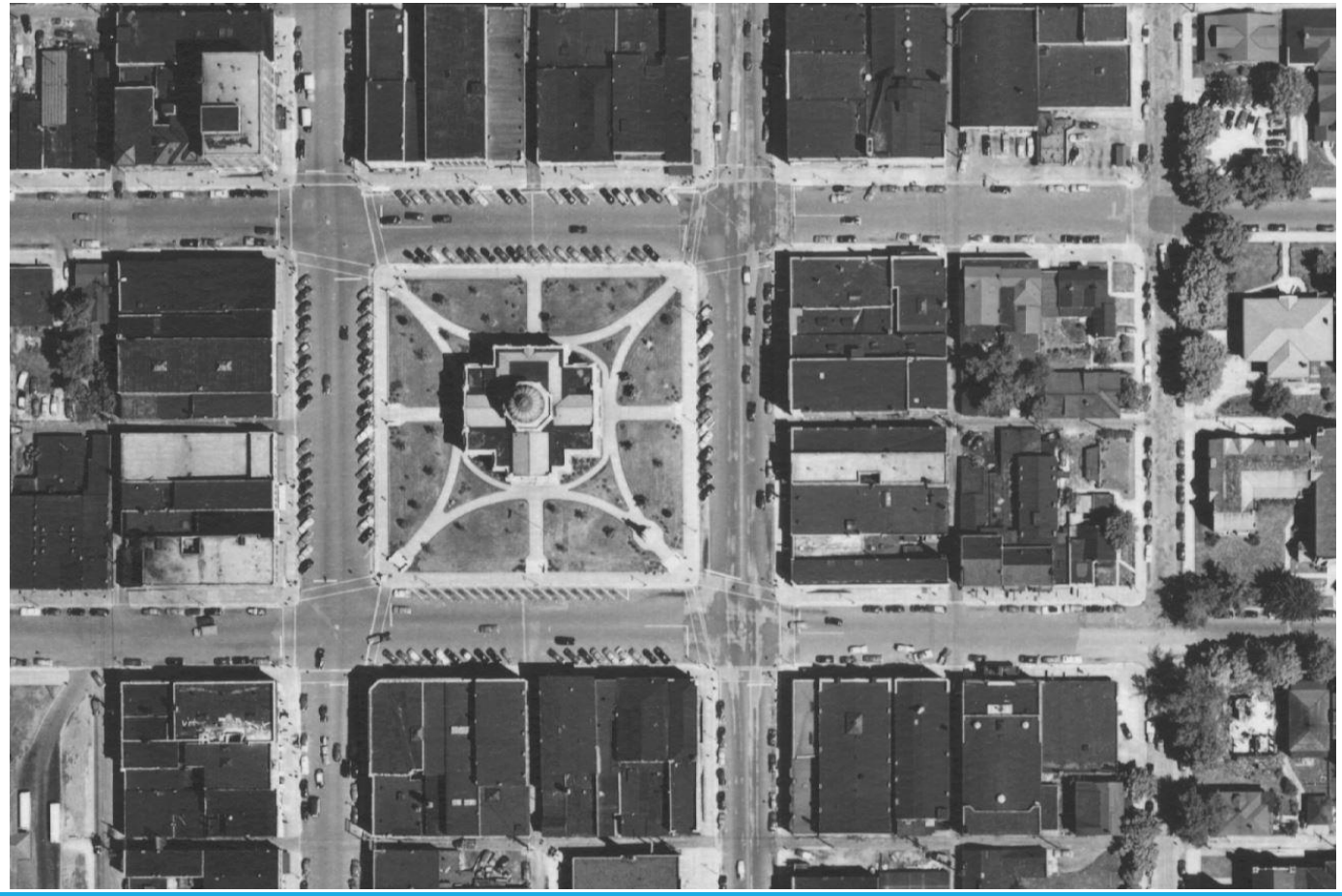
- Most people access transit via walking
- Consider transit stops and access to transit stops when improving the pedestrian network
- Also recommends improving seating at bus stops

3.5 Pedestrian Network Assessment

- Uncontrolled Crossings
  - Follow recently updated FHWA guidance
- Trees and vegetation
  - Important for many city goals
  - Improves experience walking by providing shade and creating a buffer between moving vehicles and pedestrians

3.6 Key Treatments and Supporting Guidance

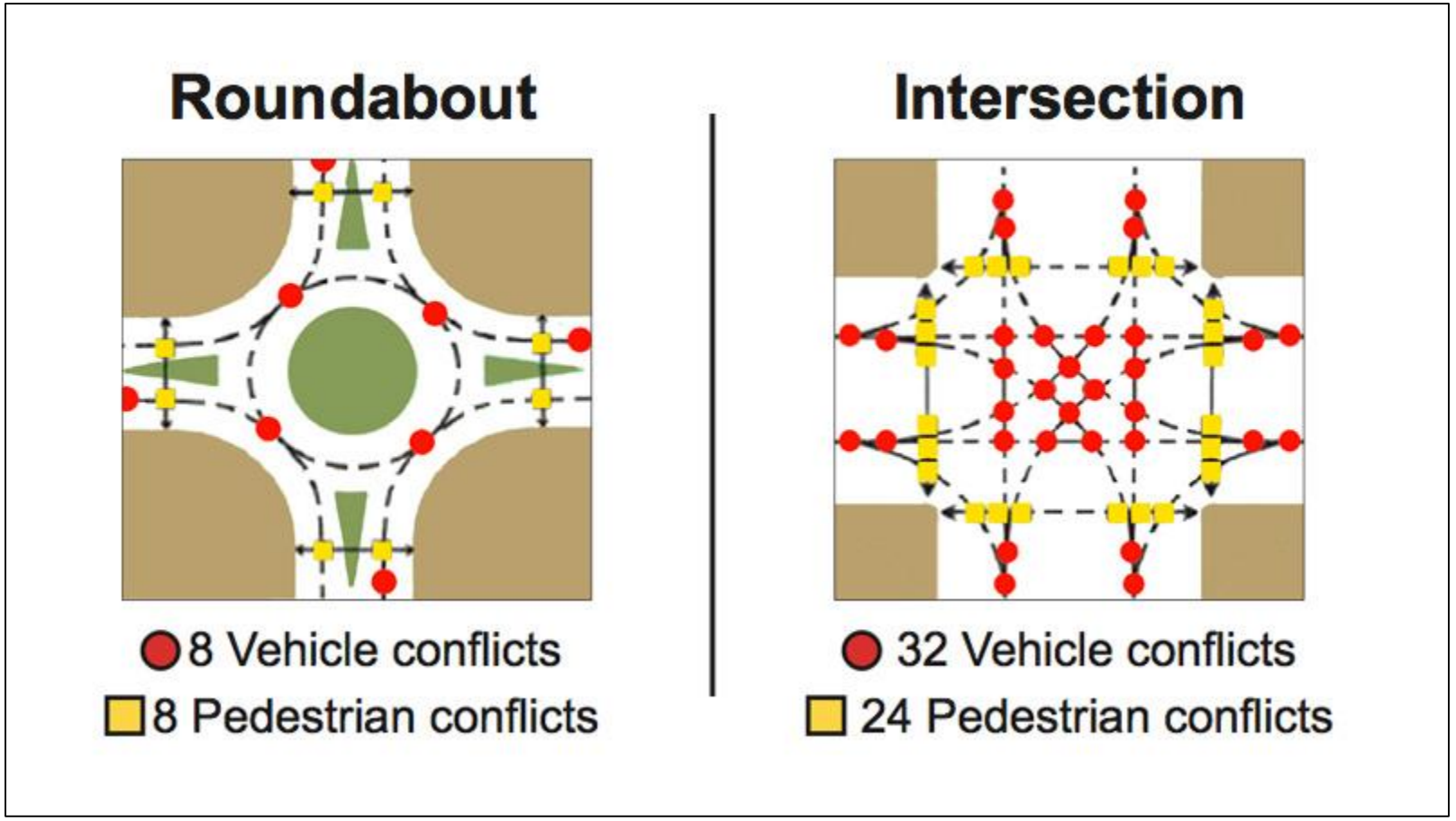
- Circulation
- The Plan recommends Corridor Studies for major N-S and E-W streets in the city: College and Walnut; 3rd and Atwater
- Two-way restoration is one tool to decrease motor vehicle speeds, reduce out-of-direction travel, and draw attention to more businesses.
- There are many items to consider with our key corridors. The Plan recommends further study to consider multiple options



3.6 Key Treatments and Supporting Guidance

Roundabouts

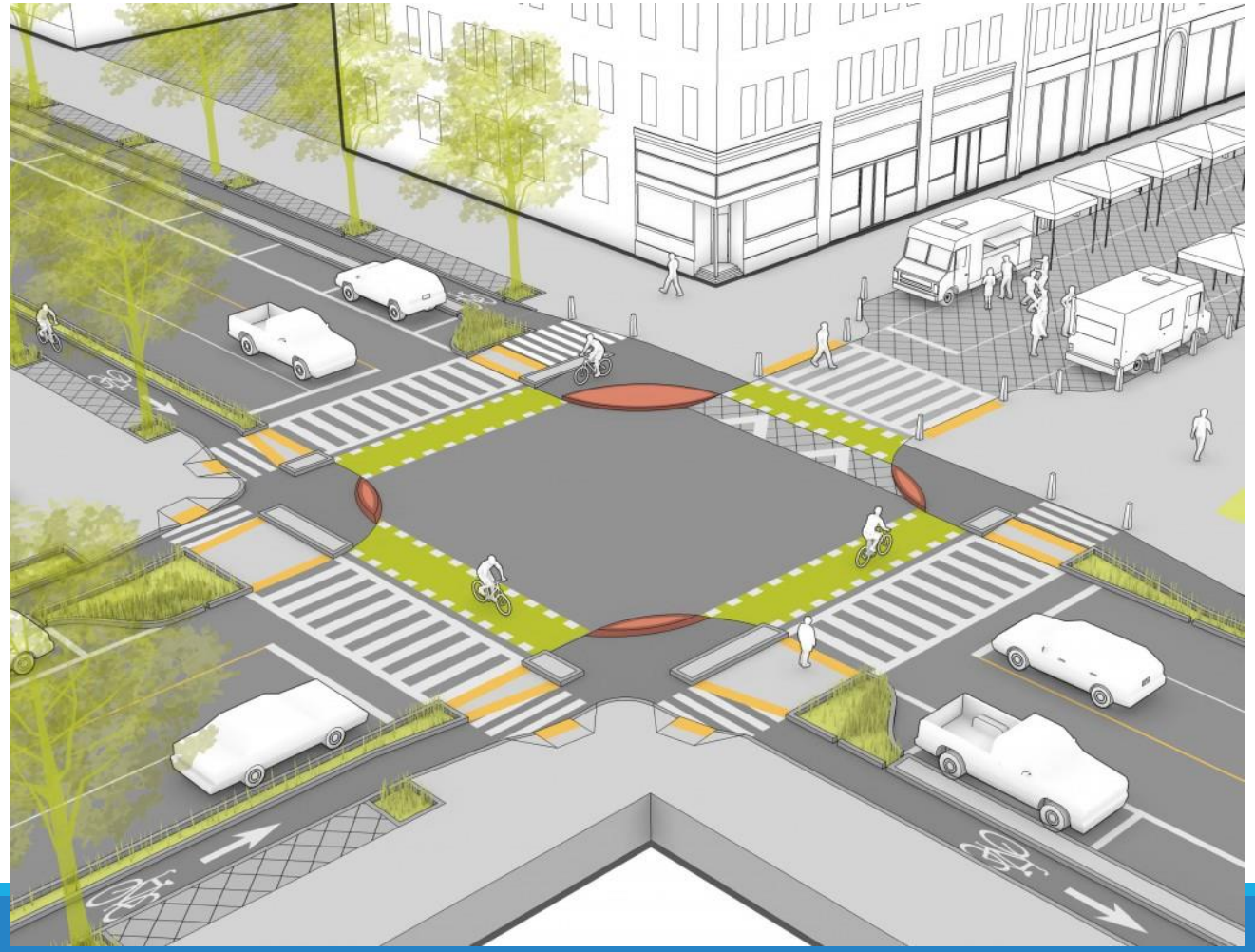
- An intersection treatment that can be considered an option to improve safety, but it needs to match land use context



3.6 Key Treatments and Supporting Guidance

Protected Intersections

- An intersection treatment that can be considered an option to improve safety and improve the bicycle network, but it needs to match land use context



3.6 Key Treatments and Supporting Guidance

Grade separated intersections

3.6 Key Treatments and Supporting Guidance

Loading Zones

- Loading zones should be addressed with Corridor Studies
- There are several options
- Work with business owners, police, and parking to develop new policies and zones

3.6 Key Treatments and Supporting Guidance

Alleyways

- Serve several functions
- Some are possible for deliveries (not all)
- Alleys reduce and remove curbcuts
- Alleys can contribute to placemaking

3.6 Key Treatments and Supporting Guidance

Traffic Calming

- Horizontal Elements
  - Chicanes
  - Traffic Circles
- Vertical Elements
  - Speed humps
  - Raised Crosswalks
- There are more

Chapter 3: Street Network and Classifications

3.1 Transportation Planning Approach

3.2 Street Typologies

- Clarification and Staff Amendments

3.3 Bicycle Facility Types

3.4 Bicycle Network

3.5 Pedestrian Network Assessment

3.6 Key Treatments and Supporting Guidance