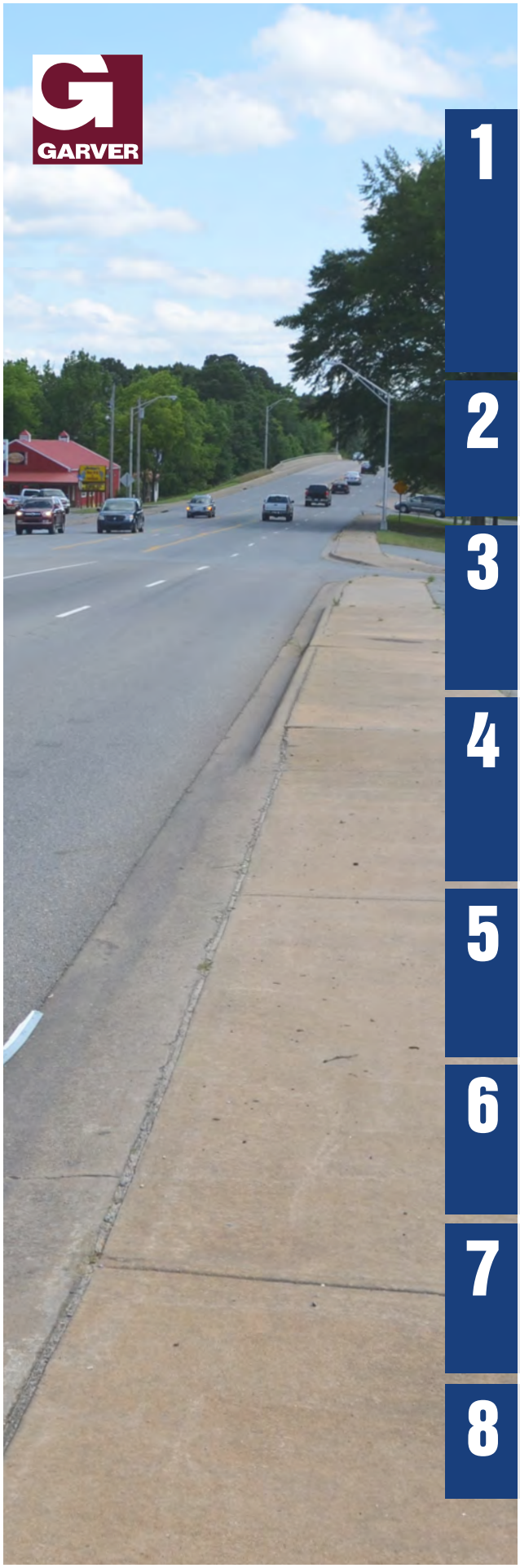
WALK BIKE DRIVE

MASTER TRANSPORTATION PLAN

City of Bryant

ORDINANCE 2017-03
ADOPTED: MARCH 28, 2017



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Section One: **Introduction**

1.1 Introduction

This plan aims to address a common problem with many Master Street and Master Bike/Pedestrian Plans, a lack of integrated planning as a holistic, active transportation system. As such, this plan bridges the gap incorporating the traditional elements of both street plans and bicycle/pedestrian plans in one plan document. This is intended to move Bryant toward a healthy, active transportation system. The following include some benefits this type of transportation system.

Economic

It's a well-accepted maxim that good roads are important to the economic vibrancy of a community. This happens through facilitating personal mobility, commerce, and access to employment. However, active transportation systems have additional economic benefits. Integrating bike and pedestrian facilities can spur tourism as is being seen within Northwest Arkansas on the Razorback Greenway. Trails often improve the natural beauty of any area and can help increase property values as well. As such, bike and pedestrian improvements can have a tangible economic impact on the community. Additionally, trails are becoming an expected community amenity in communities with a competitive workforce.

Health and Fitness

According to the Robert Woods Johnson Foundation, Arkansas has the highest adult obesity rate in the country at 35.9%. The state is additionally ranked in the top 10 in obesity rates for teens and pre-teens. These conditions lead to numerous adverse health conditions that are forming a serious public-health crisis. Trails and bike lanes provide recreational opportunities that can lead to a healthier lifestyle. Without these facilities, there are few safe, inexpensive options for walking, biking, and running.

Conservation

Trails are often constructed within floodplain areas within greenways. Local examples within this plan include Owen

Creek and Crooked Creek. These kinds of trails preserve these greenways, helping provide important linkages for wildlife. These greenways can also help with soil erosion that degrades water quality.

Transportation

Most Bryant residents travel by car and will continue to travel by car. However, not all residents do and some segments of the population, including kids, don't have the option to drive. It is important to provide safe, accessible transportation options for that portion of the Bryant community. Additionally, surveys suggest that the more bicycle and pedestrian facilities that are available, the more people are willing to use them.

1.2 The Plan

Walk Bike Drive Bryant is the officially adopted Master Transportation Plan for Bryant, Arkansas. This plan contains a Master Street Plan and Bicycle and Pedestrian Plan.

The plan sets forth official policy regarding the overall transportation system within the City's Planning Area Boundary. This plans constitutes an element of the City's overall Comprehensive Plan. As such, it is not a piece of municipal

law but rather a statement of policy. It should provide much of the basis for land use and transportation recommendations and decisions made by the Planning Commission and City Council. At a minimum, the plan serves the following purposes:

1. It establishes a functional classification system for existing and proposed streets and bicycle/pedestrian transportation elements within the City and its planning area boundary.

2. It establishes and classifies both existing and proposed bike and pedestrian transportation facilities.

3. It sets forth, in graphic form, the location of existing and proposed transportation elements within the City's planning area boundary.

4. It establishes cross sections for the various types of transportation elements that may be constructed within the planning area boundary.

5. It states policies that govern both the creation and implementation of various elements of the plan.

6. It provides guidance for the development and implementation of a comprehensive, balanced transportation system for the City of Bryant.

7. It relates the Plan to implementing regulations contained in the City's Subdivision Code.

This document contains the provisions of the plan. Supporting documentation includes a number of sources. A partial list of information sources follows:

1. 2011 Bryant Walkability Study

2. 2012 Bryant Comprehensive Plan

3. 2015 Heart of Bryant Sub-Area Plan

4. 2014 Bryant Parks and Recreation Master Plan

5. Imagine Central Arkansas 2040 Plan

6. Arkansas State Highway and Transportation Department traffic volumes figures and other statistical information

7. Records of the Bryant Public Works Department

1.3 Authority

The purpose of this Plan is consistent with the provisions of Arkansas Codes, Annotated (A.C.A.), §14-56-414. This section requires that the Master Street Plan of a municipality be created to "… designate the general location, characteristics, and functions of streets and highways."

1.4 The Planning Area

A city in Arkansas desiring to prepare and implement plans is required to designate the area (planning area boundary) within its territorial jurisdiction in which it will prepare plans, ordinances, and regulations. The City of Bryant maintains a planning area boundary of lands expected to become part of the City within the planning period of 30 years. This Planning Area Boundary Map was prepared in accordance with statutes found in the Arkansas Codes, Annotated § 14-56-413.The City of Bryant will, in accordance with A.C.A. § 14-56-422, file the plans, ordinances, and regulations as they pertain to the territory beyond the corporate limits with the county recorder of Saline County.

1.5 Relationship to the Land Use Regulations

The Arkansas planning statutes provide in A.C.A. § 14-56-417 (a)(1):

> *Following adoption and filing of a master street plan, the Planning Commission may prepare and shall administer, after approval of the legislative body, regulations controlling the development of land.*

These provisions, along with the modern history of planning since the landmark case of Village of Euclid, Ohio v. Ambler Realty Co., 272 U.S. 365 (1926), signify a strong relationship between the plan and its supporting regulations. In simple terms, a municipality first plans and then regulates. The primary supporting regulations consist of the zoning code and

development (subdivision) regulations. As stated in A.C.A. § 14-56-412 (e):

> *In order to promote, regulate, and control development and to protect the various elements of the plans, the commission, after adoption of appropriate plans as provided, may prepare and transmit to the legislative body such ordinances and regulations as are deemed necessary to carry out the intent of the plans, or of parts thereof.*

Planners take these provisions literally and encourage municipalities to base decisions in land use and development upon adopted plans to the greatest extent possible. At the same time, it has been noted in court decisions in Arkansas that plans are not legal documents but rather broad statements of municipal policy. The legal force arises from the adopted regulations developed to support the plan.

1.6 National Standards

The following national standards are encouraged for use in the design of future street and bicycle/pedestrian facilities. These guides provide in depth design guidance for use on state and local facilities.

AASHTO *Guide for the Development of Bicycle Facilities*, 4th Edition – 2012

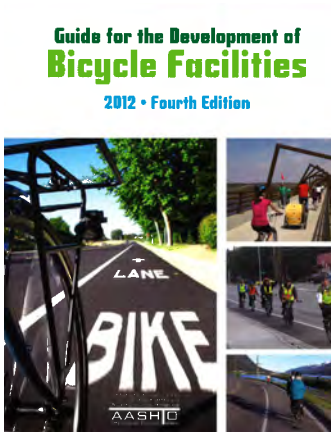
AASHTO *Guide for the Planning, Design, and Operation of Pedestrian Facilities*, 1st Edition – 2004

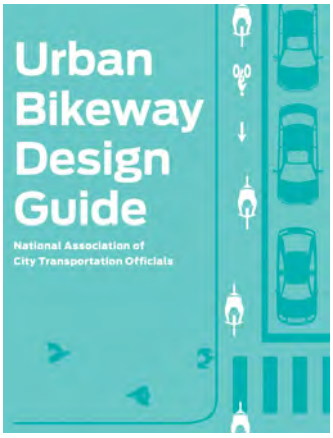
NACTO *Urban Street Design Guide*, 1st Edition – 2013

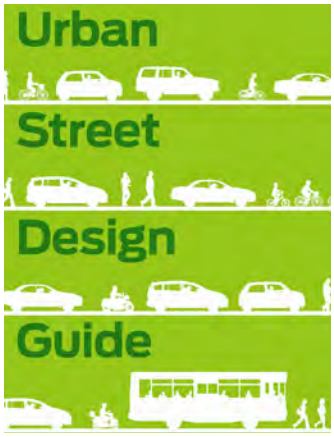
NACTO *Urban Bikeway Design Guide,* 2nd Edition – 2014

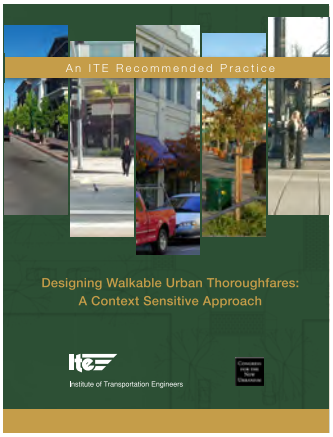
FHWA *Manual on Uniform Traffic Control Devices*, 2009 Edition with Revisions 1 and 2 – 2012

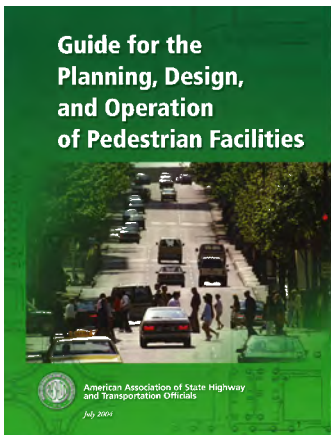
ITE/CNU *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*, 1st Edition – 2010

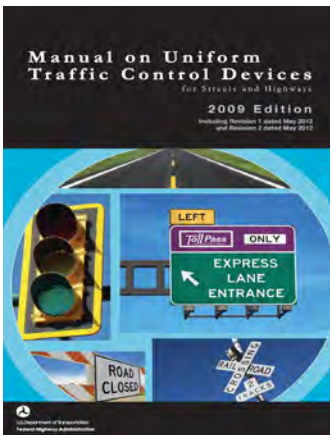












Section Two: **Goals and Policies**

2.1 Goals

This plan seeks to achieve the following goals:

1. To strategically establish and maintain a safe, functional multi-modal transportation network for the planning area built upon Complete Streets Policy and Context Sensitive Design.
2. To ensure transportation facilities safely accommodate all potential users, including vehicles, pedestrians, and bicyclists.
3. To provide and maintain bike and pedestrian facilities that meet the needs of a variety of different users.
4. To promote efficient use of resources committed to the construction of bike, pedestrian, and vehicle facilities in both the private and public sectors.
5. To allow equitable methods of financing transportation facilities.
6. To improve traffic flow, improve safety, and improve bike, pedestrian, and vehicle mobility within the planning area.
7. To ensure an adequate transportation system for future generations.
8. To encourage innovative approaches to development.
9. To reduce traffic conflicts on major traffic arteries.
10. To ensure transportation and land use decisions are fully integrated and that the transportation network is consistent with the principles of efficiency, economy, and equity.

> The direct intent of the goals and policies of this plan is to create and maintain a transportation system based on the principles of Complete Streets and Context Sensitive Design to meet the needs of all users in the Bryant Planning Area.

11. To ensure an inter-connected and grid-based street pattern, which acts to distribute traffic more evenly across the transportation system and minimizes bottlenecks and overloading of facilities.
12. To ensure a safe transportation system that minimizes crashes between all users.
13. To ensure context sensitive roadway designs are achieved that do not adversely affect neighborhoods or the environment.
14. To ensure that planned facilities are consistent with regional and state transportation plans.
15. To develop infrastructure that will encourage active, healthy lifestyles.

2.2 Policies

Policies establish the stated intent of the City of Bryant with regard to the establishment of a functional, multi-modal transportation system for the City's planning area. Policies, like the plan, are not intended to be municipal law but serve as the foundation upon which the City's land use codes and legal documents are built.

The following policies are adopted and made part of this Plan:

1. Bike and pedestrian users will be given consideration in the planning and design of all transportation facilities in the planning area.

2. Bike and pedestrian facilities will be constructed as part of all new development and transportation facilities according to the provisions of this Plan.

3. The City will carefully monitor mobility and access options for citizens with disabilities when reviewing development proposals.

4. The City will develop a bike and pedestrian transportation system that will take into account the mobility and safety needs of a variety of uses, including children, seniors, active adults, and the physically challenged.

5. New developments must provide for the interconnection of existing and proposed streets in order to permit the orderly flow of traffic and the provision of public services, particularly fire and police protection.

6. Proposed subdivisions, large-scale developments, site plans, or concept plans must comply with this Plan. The Planning Commission may consider, on a case by case basis, innovative designs that promote desirable developments without sacrificing the overall goals of this Plan, other City plans, or the Arkansas State Fire Prevention Code.

7. New developments adjacent to or encompassing existing streets shall be responsible for construction of half-street improvements to those streets. Those improvements will be consistent with the functional classification reflected in this Plan, the City's construction standards, and all other applicable standards.

8. Where new developments are adjacent to or encompass arterial streets controlled by the Arkansas State Highway and Transportation Department (AHTD), half-street and bike/pedestrian improvements shall meet the functional classification shown on the Master Transportation Plan or as determined by agreement between the developer, AHTD, and the City.

9. Access points for individual properties front collector and minor arterial, which streets shall be kept to a minimum to facilitate traffic movement, reduce crashes and fatalities, and to increase market areas for local businesses. Keeping access points to a minimum may be achieved through driveway consolidation, joint access agreements, or specific corridor access management plans.

10. The staff and Planning Commission shall include considerations of access management principles in the review of all development plans or requests.

11. No City utilities will be furnished to properties in developments that have not complied with the provisions of the Bryant Subdivision Regulations.

12. Strip commercial developments are discouraged and may be subject to access limitations. The City encourages commercial developments to provide their own internal streets and drives for direct access to individual out parcels.

13. The City shall adopt and enforce land use regulations to carry out the provisions of this Plan.

Section Three: **Existing Conditions**

3.1 Demographic Trends

Table 3.1.1
Population History Bryant and Benton, Arkansas

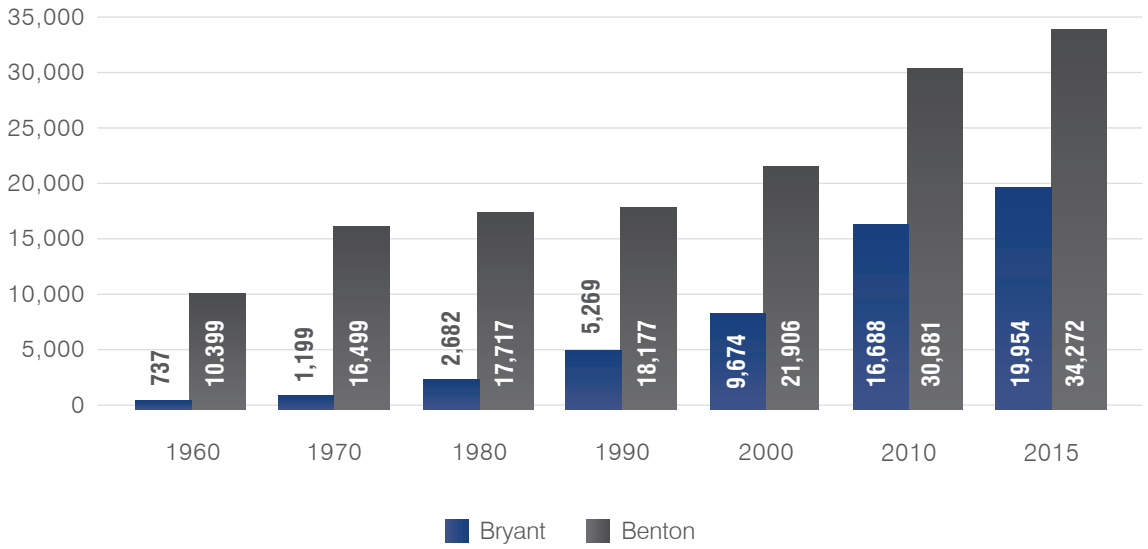


Table 3.1.2
Age Characteristics, 2010 – Bryant, Arkansas

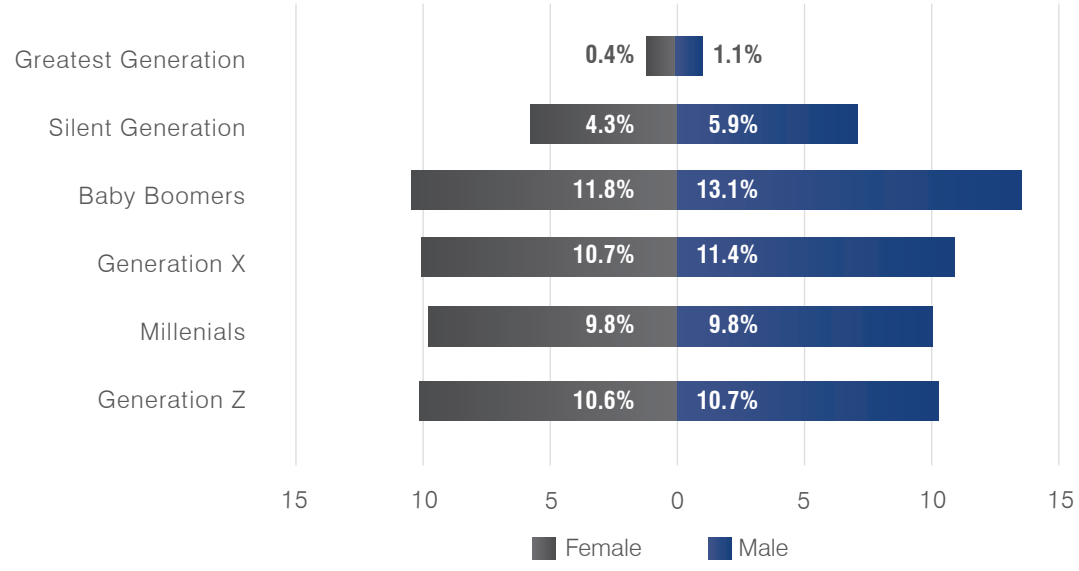


Table 3.1.2

Age Characteristics, 2010 – Arkansas

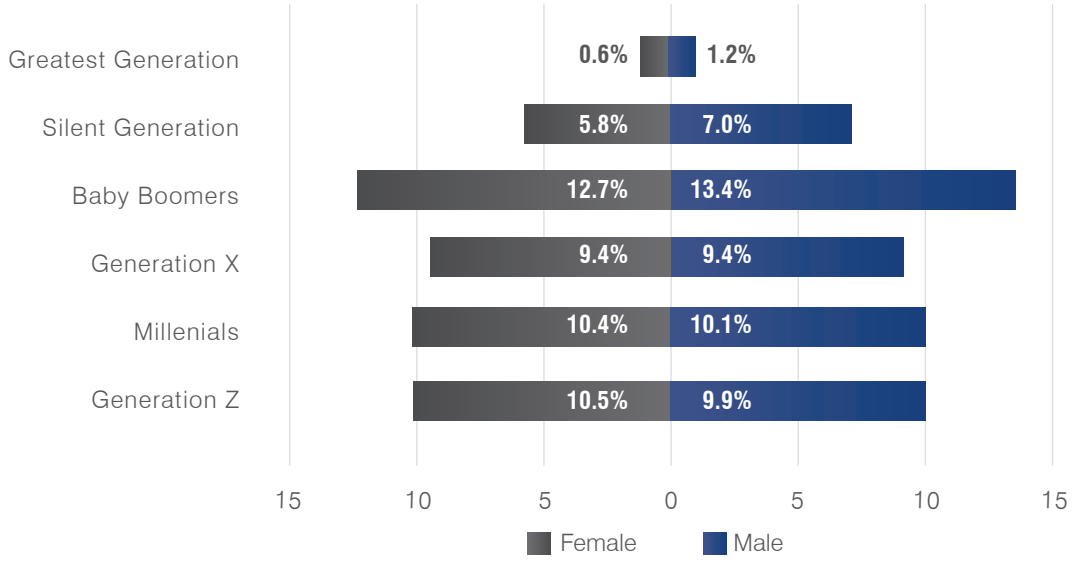


Table 3.1.3

Population Projections

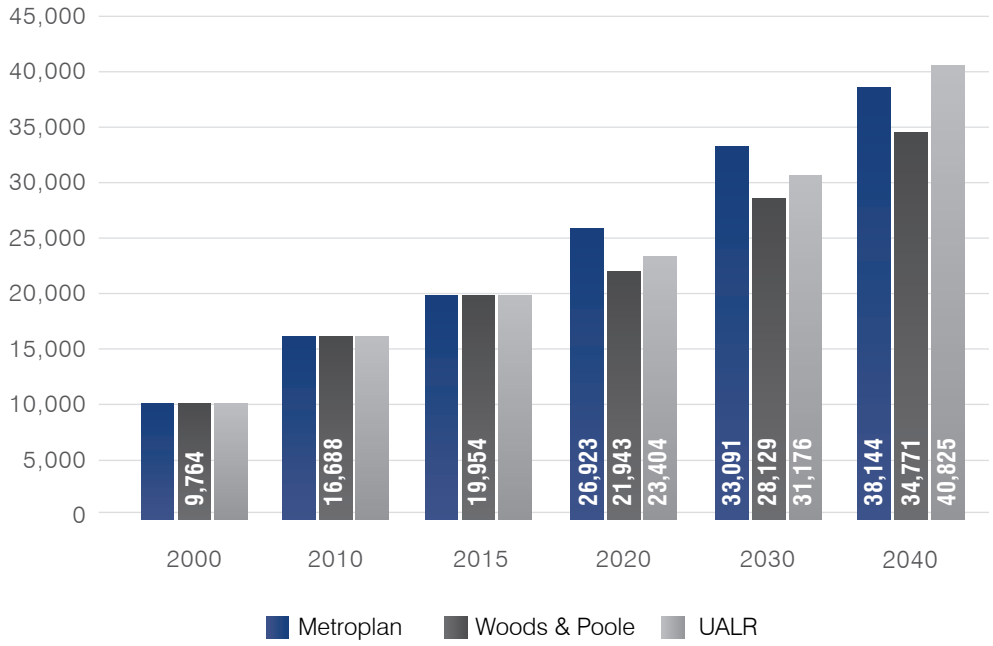
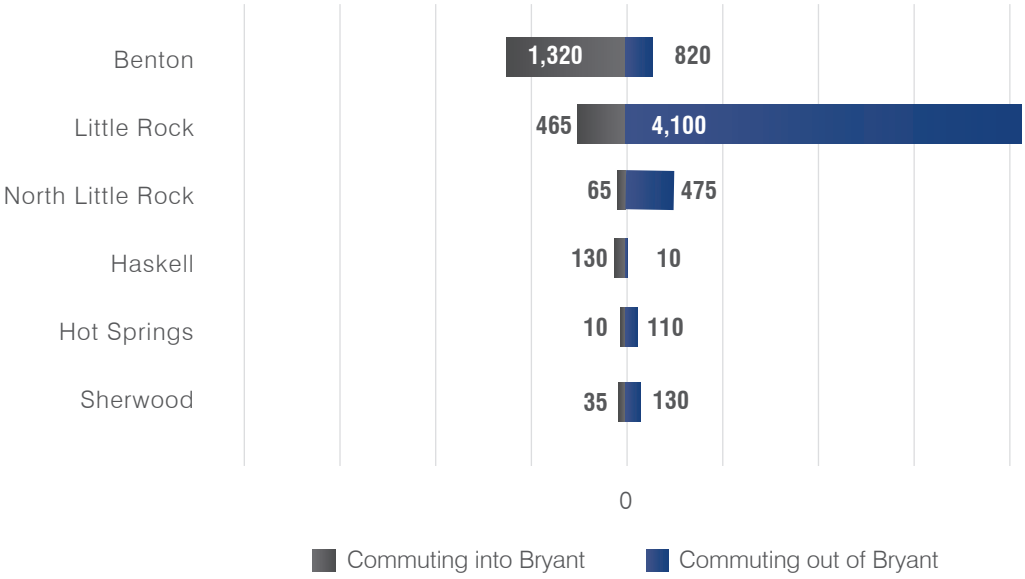


Table 3.1.4
Commuting Patterns

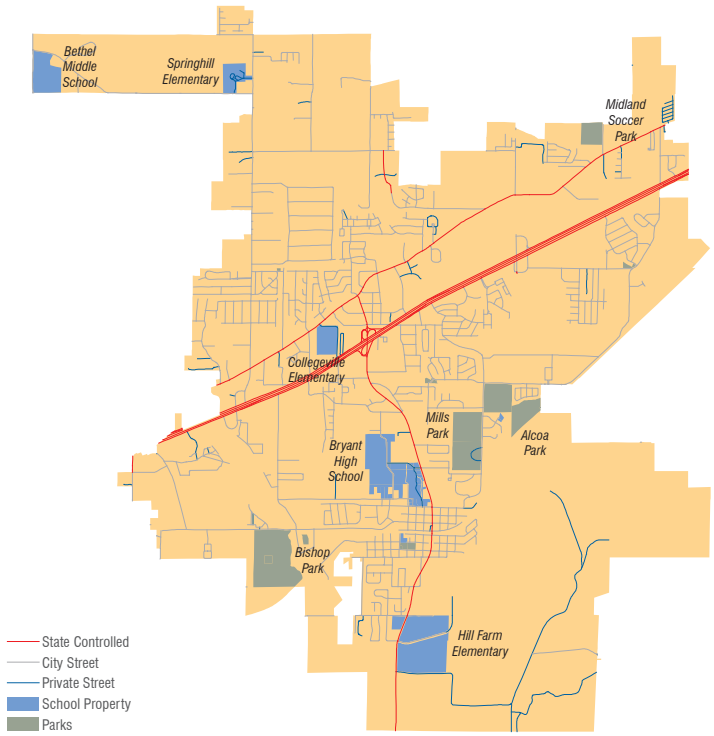


3.2 Existing Street Facilities

At the time this Plan was drafted, the City's existing street network consisted of **158 linear miles of roadway**. The following figures shows the distribution of the City's street facilities.

ROAD TYPE	LENGTH
All Roadway	158 miles
State Highway/I-30	30.2 miles
City Street	113.7 miles
Private Drive	14.1 miles

The City has a regular annual overlay maintenance program funded from the City's street fund. The City also pursues street construction projects for new roadways and widening as funding is available through grants and funding from the street fund.

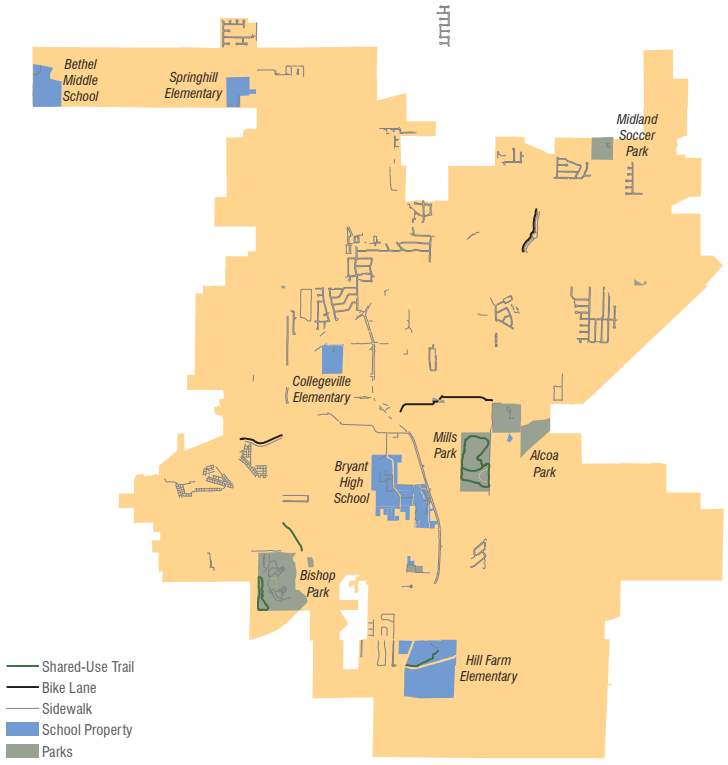


3.3 Existing Bike/Pedestrian Facilities

At the time this Plan was drafted, the pedestrian and bicycle facilities in the City of Bryant were limited.

FACILITY TYPE	LENGTH
Shared-Use Trail	2.7 mi.
Sidewalk	61.3 mi.
Bike Lane	1.8 mi.

The City does not currently have a designated capital improvement program for building bicycle and pedestrian facilities. Facilities are constructed as demanded when funding is available. Primary construction of sidewalk facilities is handled through new development with sidewalk facilities being constructed by developers.



Funding options for new bicycle and pedestrian facilities is varied. Options include:

1. City Property Taxes
2. Sales Tax General Revenue
3. Street Fund Revenue
4. State and Federal Grants (ex. TAP)
5. Regional Grants (Metroplan)
6. Private Grants

Section Four: **Plan Elements**

4.1 Vehicle Facilities

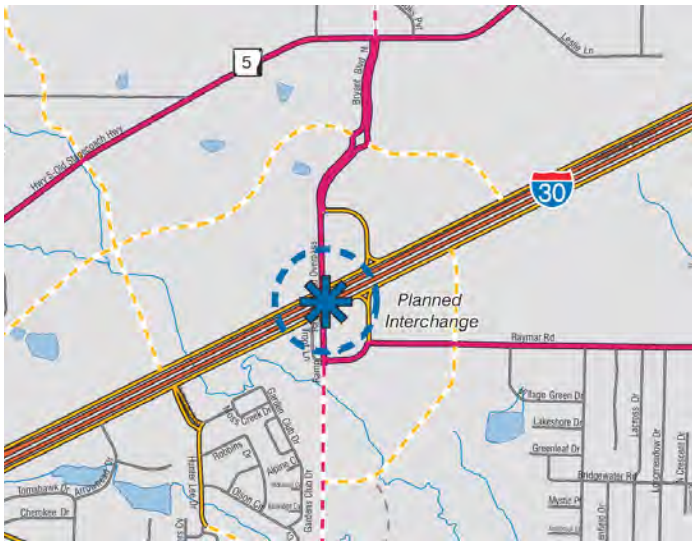
Following are highlights of the major physical elements indicated on the Plan Map.

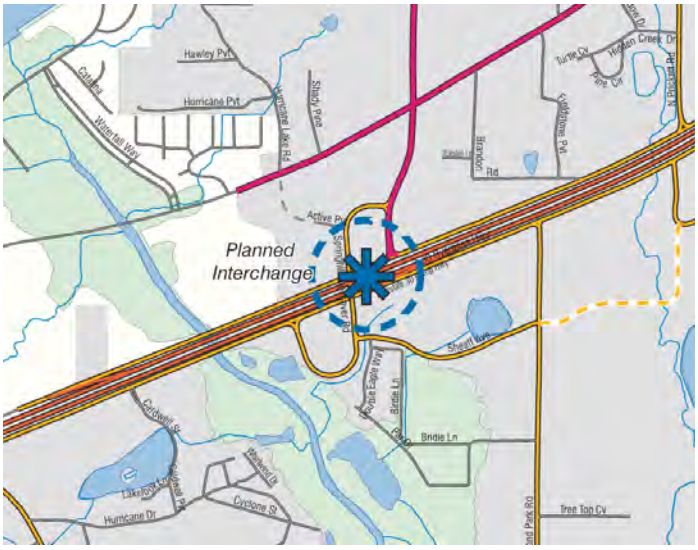
Interstate Interchanges

Currently, the City is served by two interchanges along I-30 at intersections with Arkansas Highway 183/Reynolds Road (Exit 123) and Alcoa Road (Exit 121). Two additional interchanges are depicted on the Master Transportation Plan Map, which is a part of this plan. The included figures depict the planned improvements.

The first additional interchange is planned to be located at the current crossover for Bryant Parkway/Raymar Road. The current crossover rests adjacent to one of the largest pieces of undeveloped property with Interstate frontage within Bryant. An extension north from crossover (Bryant Parkway) has already been constructed that will eventually tie the interchange to Hilldale Road to the north. It will also connect to a planned extension south of the crossover about five miles and connect to West Sardis Road. The interchange and its planned extensions would relieve traffic congestion along Highway 183/Reynolds Road, provide an alternative for commuters, improve access to Bryant's south school campuses, and aide economic development efforts at the Saline County Airport.

The second additional interchange is planned at the Springhill Crossover to serve the long-term needs of the City. The interchange would serve the needs of traffic on the northwest side of Bryant and other areas further north and west. Neither Alcoa Road nor Reynolds Road serve as strong north-south arterials because they both have a northern terminus at Highway 5. This means Springhill Road will continue to face more pressure from traffic as the City grows and more property is developed along and near Springhill Road. The City has been wise in discouraging commercial growth on Springhill Road as this will exacerbate these problems. This interchange will become necessary over the long term but is not an immediate need.





Improving connectivity will be essential to allowing Bryant's transportation system to keep pace with its rapid growth. Reynolds Road has poor connectivity and is becoming problematically congested.

Arterials

The Walk Bike Drive Plan suggests a continuation of arterial roads throughout the planning area as a means to improve circulation across the City, east-west, and north-south. Many of the arterial roads within the planning area are state highways. Proposed additions to the road network with the extension of arterial roads will accommodate improved traffic flow by completion of the network of streets.

This type of connectivity helps spread traffic load. This is particularly important in a fast growing city like Bryant. Infrastructure often trails growth in such fast growing cities. Having a street network with strong connectivity can help forestall or eliminate the need for widening of roadways, providing a city more time to catch its infrastructure up to growth. For example, Reynolds Road with poor connectivity has similar traffic counts to Broadway Avenue with high connectivity within downtown Little Rock, which is roughly 10 times the size of Bryant.

The primary function of arterial streets is to move traffic. Ideally, this function would be protected. However, historic development patterns and economic factors sometimes lead to problems in maintaining traffic flow. Many of the City's arterial roads and adjacent lands were initially constructed and subdivided in a manner that placed a priority on access. As the City and traffic along the arterial roads have grown, the role of the roads has changed, placing greater priority on moving traffic. This access-traffic flow conflict reduces the efficiency and capacity of the road facilities. Such issues cannot be easily or quickly fixed. Addressing the problem requires steady, dedicated implementation of access management standards and policies over the long term.

> Good access management helps decrease congestion and can forestall the need for roadway widening. Access management will be important to ensuring the City is a good steward of tax dollars by maximizing the impact of public money spent on transportation facilities.

Economic factors can also play a role in determining the long-term efficiency and capacity of arterial roads. The high traffic volumes on arterial connectors attract commercial development that desires a great degree of property access. These development demands can easily result in arterial roads littered with curb cut after curb cut and an accompanying diminished capacity and traffic flow. Because cities in Arkansas depend heavily upon sales tax revenue, the Planning Commission faces a constant need to balance traffic concerns with economic development concerns. Finding that balance will be important to ensuring economic growth and protecting taxpayers. Methods of achieving this balance include access management.

Collectors

It is typical to design collectors so they will not function as continuous through streets but will serve to collect traffic and place it onto perimeter arterial-type roads. The City of Maumelle is a good example of this type of transportation system. In a grid street pattern, however, a street several miles long may serve as a collector rather than an arterial if its predominant use is only to reach the next junction with an arterial. This improved connectivity allows the transportation system to be less dependent on large arterial roads to move traffic. Examples of this kind of network can frequently be seen within the older portions of many cities.

The policies and proposals of this plan support a street network that uses collector streets to improve connectivity. The City will strive for a system of collector streets spaced approximately one-quarter to a half-mile in both north-south and east-west directions.

A good network of connected, functional collector streets will be important to ensuring Bryant's traffic problems don't worsen over time.

In most cases, these are existing streets or extensions of existing streets. In undeveloped areas, they are indicated on the Plan Map as general locations. As new developments occur, developers will be responsible for construction of the collector street system. This will include improving all or a portion of existing streets located within, or adjacent to, the developments.

Some streets designated as collectors are fully developed in a manner that will preclude their being brought into compliance with the standards adopted herein. These are maintained as collectors on the plan for two reasons. First, their designation as collectors may result in avoiding any further degradation to their functional classification. Second, in the event that major redevelopment does occur in the future, the Planning Commission may, at that point, require that such redevelopment adhere to the provisions of this plan.

4.2 Bicycle/Pedestrian Facilities

User Types

When designing bicycle and pedestrian facilities it is important to keep in mind the types of users that will be or are intended to be accommodated by the facilities constructed. This plan is designed around more readily accommodating pedestrians and Casual/Less Confident bike riders. As such, more emphasis has been placed on bike and pedestrian facilities that separate users from traffic and make them feel safer. Below is a description of the use types taken from AASHTO's *Guide for the Development of Bicycle Facilities, 2012.*

Experienced/Confident Riders

This group includes bicyclists who are comfortable riding on most types of bike facilities, including roads without any special treatments for bicyclists. This group also includes utilitarian and recreational riders of many ages who are confident enough to ride on busy roads and navigate in traffic to reach their destination. However, some may prefer to travel on low-traffic residential streets or shared-use paths. Such bicyclists may deviate from the most direct route to travel in their preferred riding conditions. Experienced bicyclists may include commuters, long-distance road bicyclists, racers, and those who regularly participate in rides organized by bike clubs.

Experienced/confident riders often prefer road riding.

Casual/Less Confident Riders

This group includes a majority of the population and includes a wide range of people: 1) those who ride frequently for several purposes, 2) those who enjoy biking occasionally but may only ride on trails or low-traffic and/or low-speed streets in favorable conditions, 3) those who ride for recreation, perhaps with children, and 4) those for whom the bike is a necessary mode of transportation. In order for this group to regularly choose biking as a mode of transportation, a physical network of visible, convenient, and well-designed bike facilities is needed. People in this category may move over time to the "experienced and confident" category.

The bicycle/pedestrian system will be designed in order to primarily accommodate inexperienced users. Design for all facilities should center on the "Casual/Less Confident Rider" user type. Doing so will help ensure greater use and satisfaction by the Bryant community.

EXPERIENCED/CONFIDENT RIDERS	CASUAL/LESS CONFIDENT RIDERS
Most are comfortable riding with vehicles on streets and are able to navigate streets like a motor vehicle, including using the full width of a narrow travel lane when appropriate, using left-turn lanes.	Prefer shared-use trail, bike boulevards, or bike lanes that are buffered or along low-volume, low-speed streets.
While comfortable on most streets, some prefer on-street bike lanes, paved shoulders, or shared-use trails when available.	May have difficulty gauging traffic and may be unfamiliar with the rules of the road as they pertain to bikes. May walk bike across intersections.
Prefer a more direct route.	May use less direct route to avoid arterials with heavy traffic volumes.
Avoid riding on sidewalks. Ride with the flow of traffic on streets.	If no on-street facility is available, may ride on sidewalks.
May ride at speeds up to 25 mph on level grades, up to 45 mph on steep descents.	May ride at speeds around 8 to 12 mph.
May cycle long distances.	Cycle shorter distances: 1 to 5 miles is a typical trip distance.

Casual/less confident riders ofter prefer shared-use trails.

Bicycle and Pedestrian Facility Types

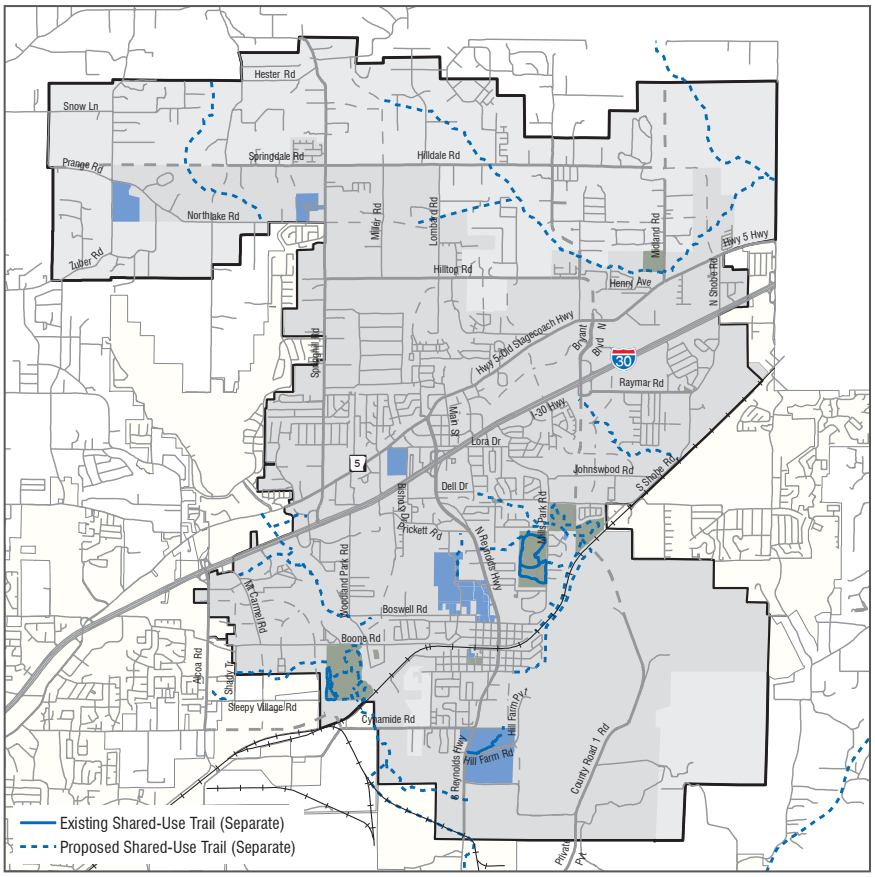
The following constitute the facility types for the bicycle and pedestrian elements of this plan.

TRAILS	CLASS	USER	
Shared-Use Trail (Separated)	I	Pedestrian/ Bike	A trail, at least 12' wide, designed for use by a variety of users. Located separate from a roadway facility with a park or linear trail system. Ex. Owen Creek Trail
Shared-Use Trail (Road)	I	Pedestrian/ Bike	A trail, at least 12' wide, designed for use by a variety of users. Located adjacent to a roadway facility as a means of providing safe facilities of casual and less confident bike rider and pedestrians. Ex. Bryant Parkway
BIKE FACILITIES			
Bike Lane	II	Bike	A portion of a roadway (lane) that has been designated by striping, signing, and pavement markings for the exclusive use of bicycles.
Bike Route	III	Bike	A traffic lane with pavement markings and signage, typically a sharrow or wide shoulder, that is on a bicycle route and is to be shared between vehicles and bicycles.
PEDESTRIAN CONNECTIONS			
Sidewalks	N/A	Pedestrian	Separated pedestrian paths, at least 5' wide, that are used to make pedestrian connections to the trail system.

Shared-Use Trails (Separated)

- Separated Shared-Use Trails (sometimes called greenways) are at least 12 feet wide and located on a right-of-way or easement independent of a roadway.
- These facilities are designed for a wide variety of users, including cyclists, walkers, joggers, wheelchair users, skaters, etc.
- These trails often run along natural features such as creeks to connect parks, schools, and other community features.

Applicability: Future separated shared-use trails have been proposed along creeks (Hurricane Creek, Owen Creek, and Crooked Creek), in parks (Alcoa Park and Bishop Park), and along utility easements (Entergy and Bryant Sewer). These facilities are intended to be signature features of the City's trail system that will receive high traffic and use (Bishop Park Trail, Alcoa Park Trail, Owen Creek Trail, and portions of the Hurricane Creek Trail). Such trails are generally favored by most users except experienced and avid cyclists. See Section 5 for specific design standards for the construction of shared-use trails.



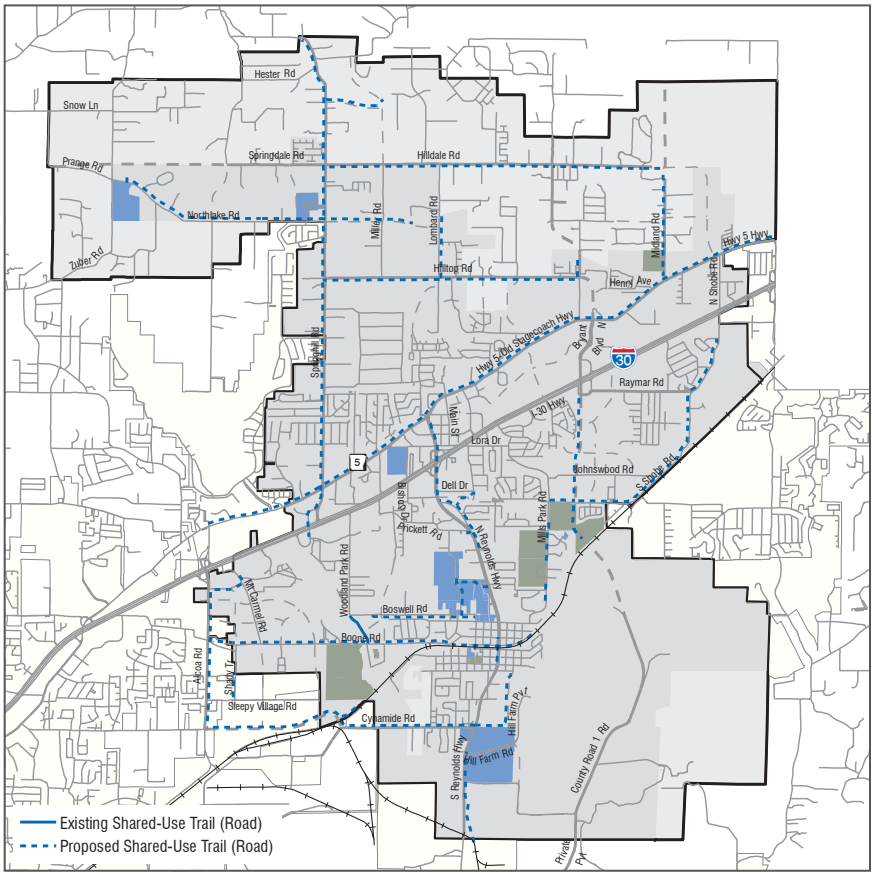
Shared-Use Trails (Road)

- Road shared-use trails (sometimes called sidepaths) are at least 12 feet wide and located on a road right-of-way adjacent to a street or highway.

- These facilities are designed for a wide variety of users, including cyclists, walkers, joggers, wheelchair users, skaters, etc. However, certain locations and context may restrict the types of bicycle riding use.

- These trails help form a backbone to connect various trail destinations such as schools, parks, etc.

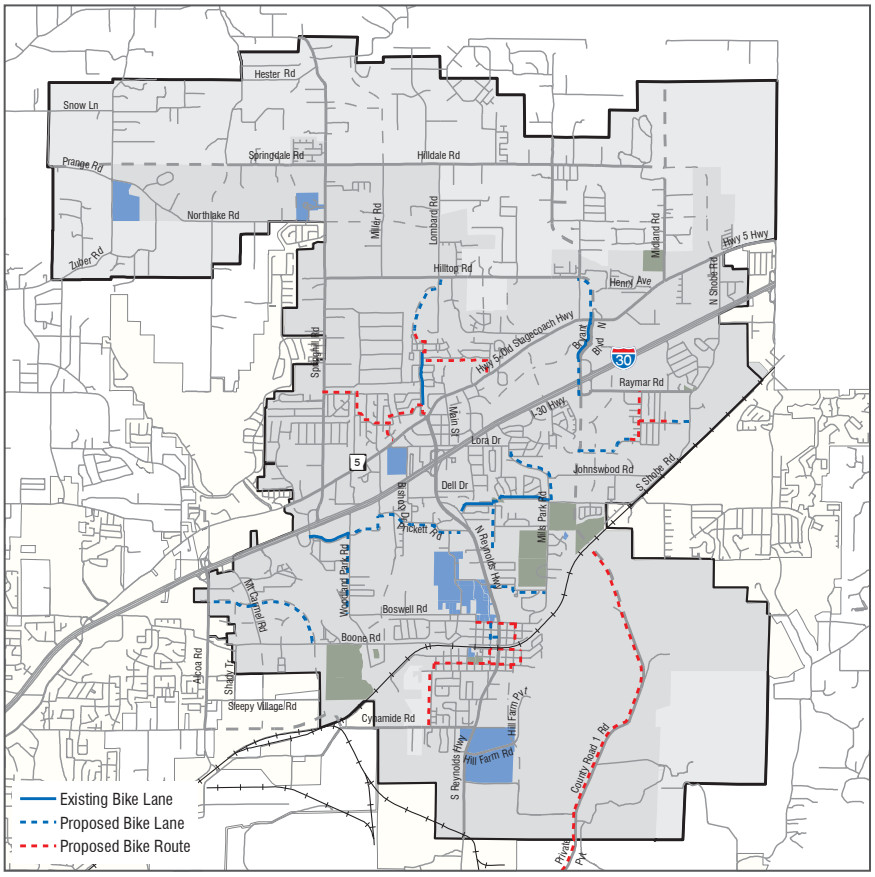
Applicability: Future road shared-use trails have been proposed along streets (Boone-Rail Trail, Hilldale Road, Hilltop Road, etc) and arterial roadways (Highway 5, Reynolds Road, Bryant Parkway, and Springhill Road). These facilities are designed to give priority to inexperienced and casual users. Avid and experienced cyclists tend to prefer other facilities because use of road shared-use trails require the user to operate at slow speeds to maintain safety with cars. Corridors where road shared-use trails are planned should be access managed to limit the number of driveways and increase driveway spacing distance. This provides for greater safety in the use of these facilities for bicycles, pedestrians, and vehicles. See Section 5 for specific design standards for the construction of shared-use trails.



Bike Lanes/Bike Routes

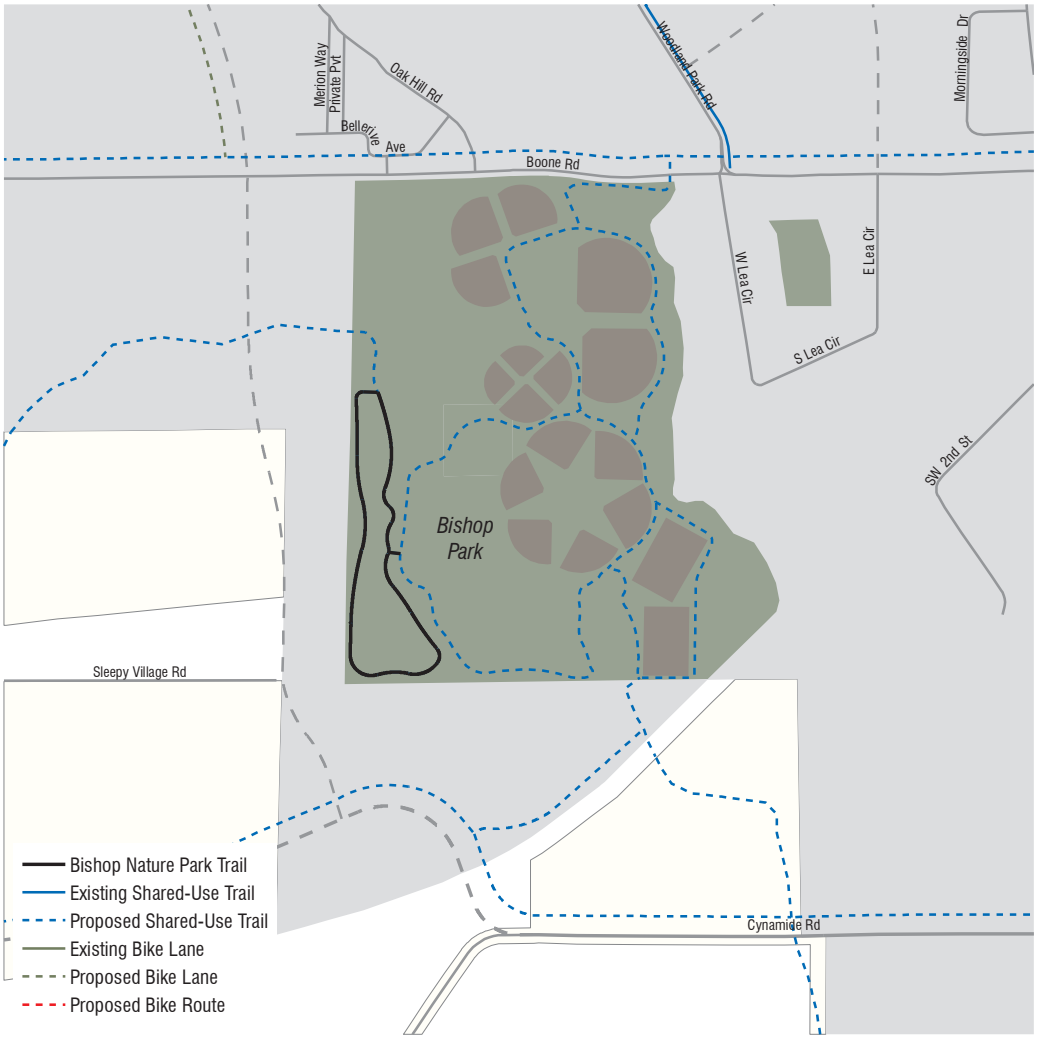
- Bike lanes are a road striping feature that designates a portion of a street (preferential lane) for sole use by bicycles.
- Bike routes are a road striping and signage feature (sharrow) that designates a street for bike use as part of a connected system. No designated lane is provided.
- Bike lanes and bike routes are a critical component to creating a comprehensive system of accessibility and mobility for bicycle users. These facilities are designed solely for bicycle use.

Applicability: Bike lanes future road shared-use trails have been proposed along lower traffic collector streets and local roads (Prickett Road, Debswood Drive, Rogers Drive, Boswell Drive, etc.) These facilities are generally favored by experienced and avid cyclists. This plan recommends the use of buffered bike lanes to protect bike users from traffic through 1.5-3' marked buffer. Bike routes have been proposed along very low traffic local roads (Monticello West, Ashlea Place Drive, SW 3rd Street, Carmichael Road, etc.) These facilities are designed to give priority to more inexperienced and casual users. Sharrow lane marking and bike routes should be features of any designated bike route. See Section 5 for specific design standards for the construction of bike lanes and bike routes.



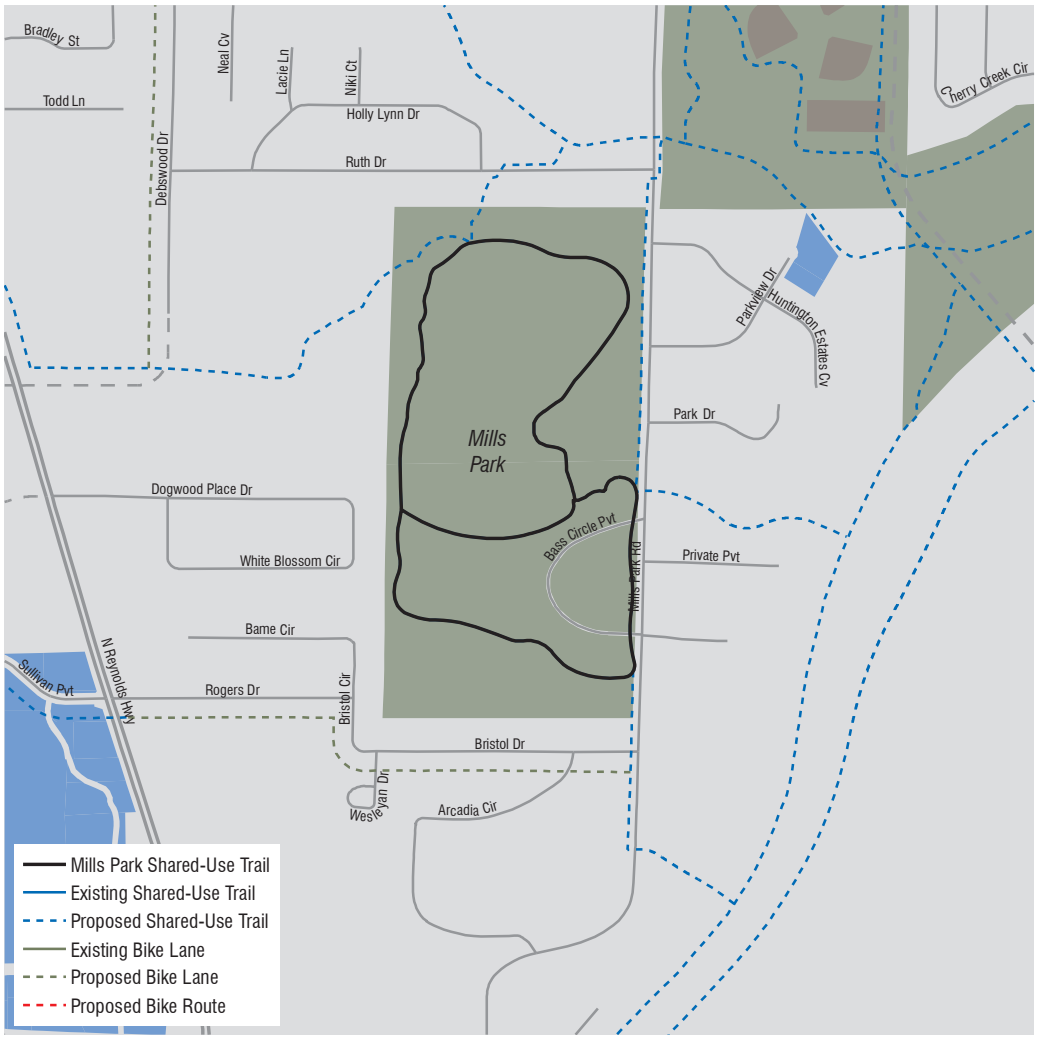
4.3 Existing Trails

Bishop Park Nature Trail



LOCATION	Bishop Park
TYPE	Class I (Separated)
LENGTH	0.7 miles
PAVING	Natural Surface
TRAILHEAD	N/A
FEATURES	Natural Area, Bishop Park
CONNECTIONS	Boone-Rail Trail via connector and Bishop Park Shared-Use Trail

Mills Park Shared-Use Trail



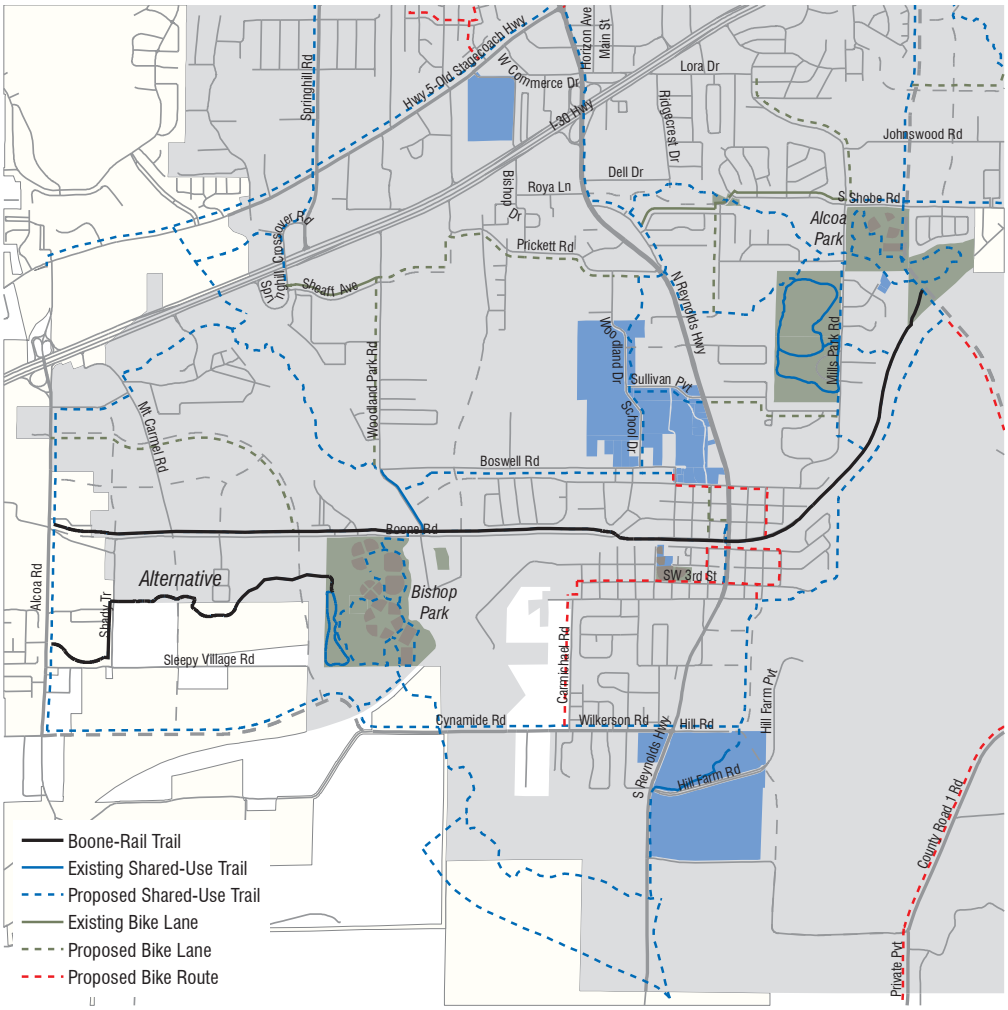
LOCATION	Mills Park
TYPE	Class I (Separated)
LENGTH	1.5 miles
PAVING	Asphalt
TRAILHEAD	Mills Park
FEATURES	Natural Area, Mills Park
CONNECTIONS	Boone-Rail Trail via connector, Crooked Creek Trail, and Prickett-Mills Park Connector

4.4 Major Proposed Trails

Bishop Park Trail

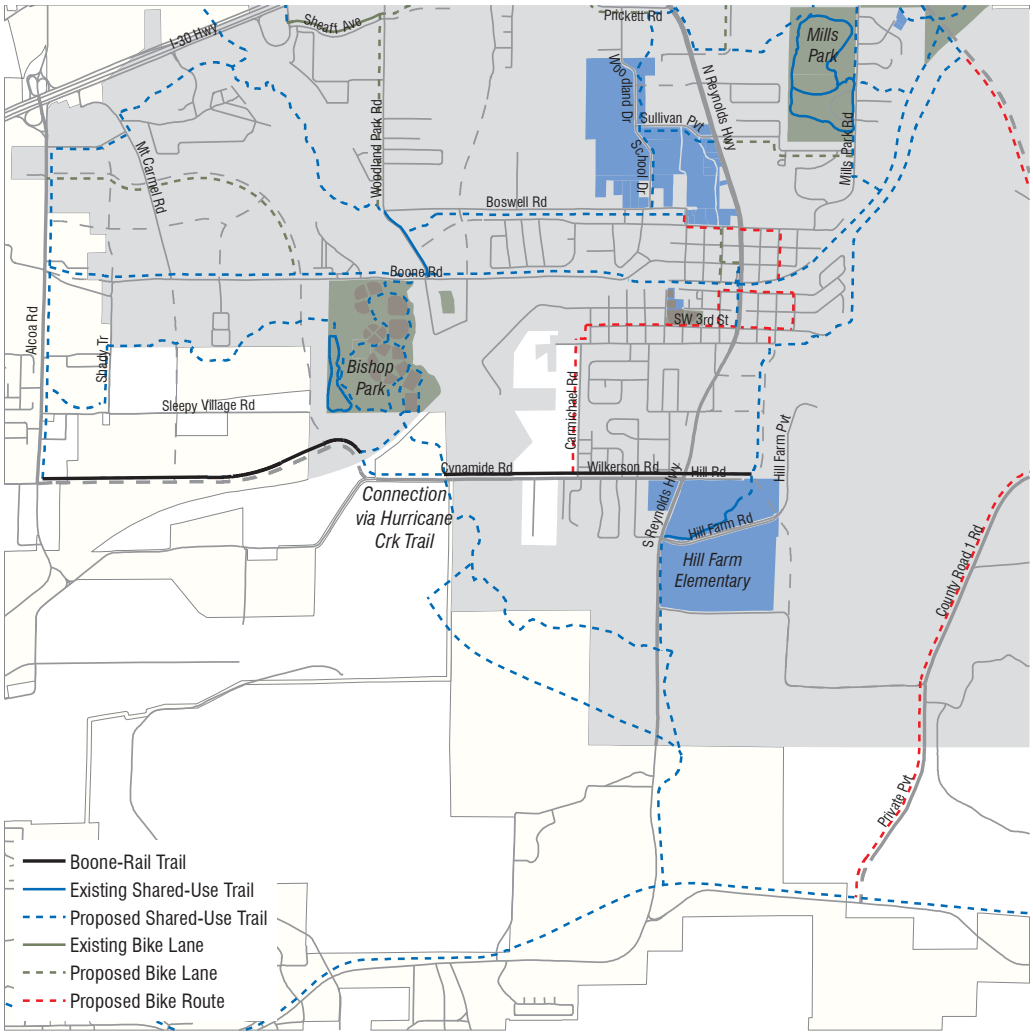
LOCATION	Bishop Park
TYPE	Class I (Separated)
LENGTH	1.7 miles
PAVING	Concrete, Asphalt, and/or Compacted Fine Aggregate
TRAILHEAD	Bishop Park Trailhead
CONSTRUCTION CONSTRAINTS	Improvements within existing park and will include improving existing sidewalks to trail standards
CONNECTIONS	Hurricane Creek Trail, Boone-Rail Trail, and Bishop Park Nature Trail
DESCRIPTION	This park trail will serve as an important connection between portions of the Hurricane Creek Trail.

Boone-Rail Trail



LOCATION	South Bryant, Heart of Bryant
TYPE	Class I (Separated/Road)
LENGTH	4.6 miles
PAVING	Asphalt or Concrete
TRAILHEAD	Bishop Park, Alcoa 40 Park, Mills Park, and Hurricane Creek Elementary (Alternative)
CONSTRUCTION CONSTRAINTS	Use UPRR ROW along Railroad and construct with the improvement of Boone Road
CONNECTIONS	Mills Park via connector, Alcoa 40 Park Trail, Benton Trails, Crooked Creek Trail, Alcoa Trail, and Hurricane Creek Trail
DESCRIPTION	This trail will provide a critical east-west spine for the City with many of the City's important north-south trails connecting off of this trail system.

B-Town Trail

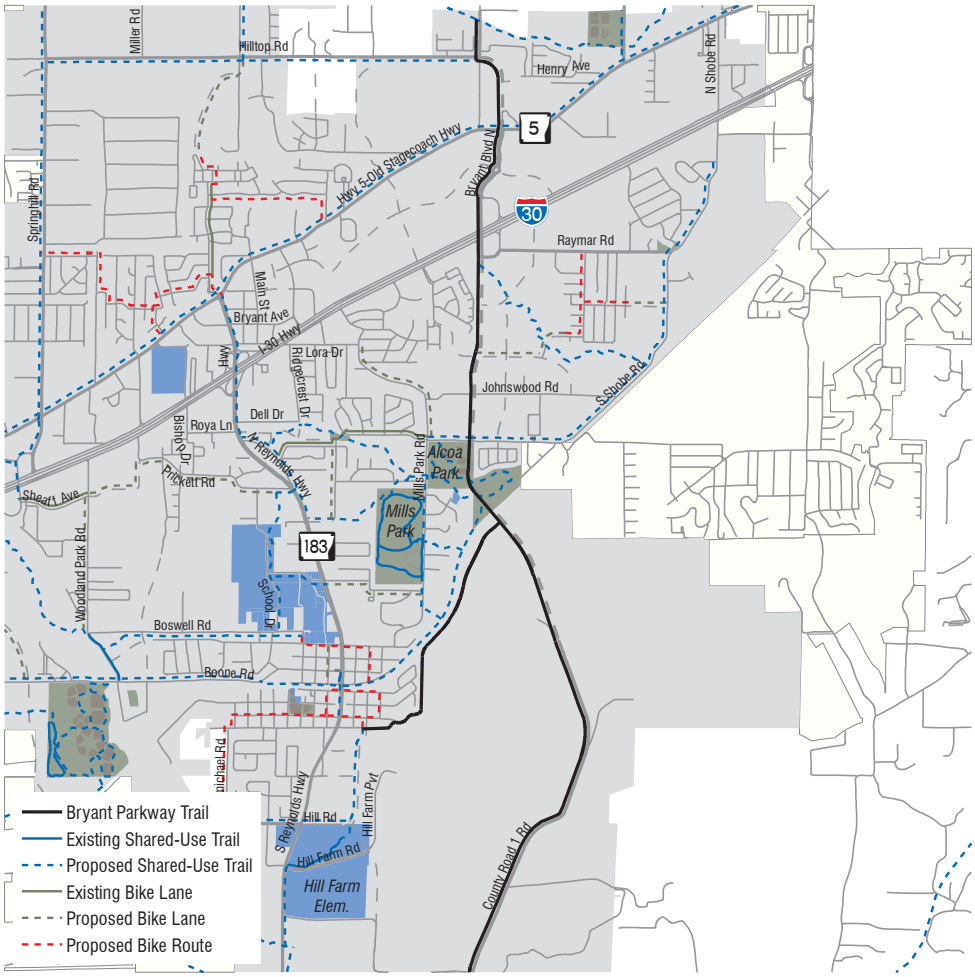


LOCATION	South Bryant
TYPE	Class I (Road)
LENGTH	3.7 miles
PAVING	Concrete or Asphalt
TRAILHEAD	Hill Farm Elementary Trailhead
CONSTRUCTION CONSTRAINTS	Construct with relocation of Cynamide Road, participate with Benton on construction, construct with widening of Wilkerson Road, and construct the improvement and extension of Hill Road
CONNECTIONS	Hurricane Creek Trail, Benton Trails, Bryant Parkway Trail, and Alcoa Road Trail
DESCRIPTION	This trail will provide an important alternative to the Boone-Rail Trail if that trail cannot be constructed. Almost all the improvements will come as part of roadway improvements paid for by the City and developers.

Crooked Creek Trail

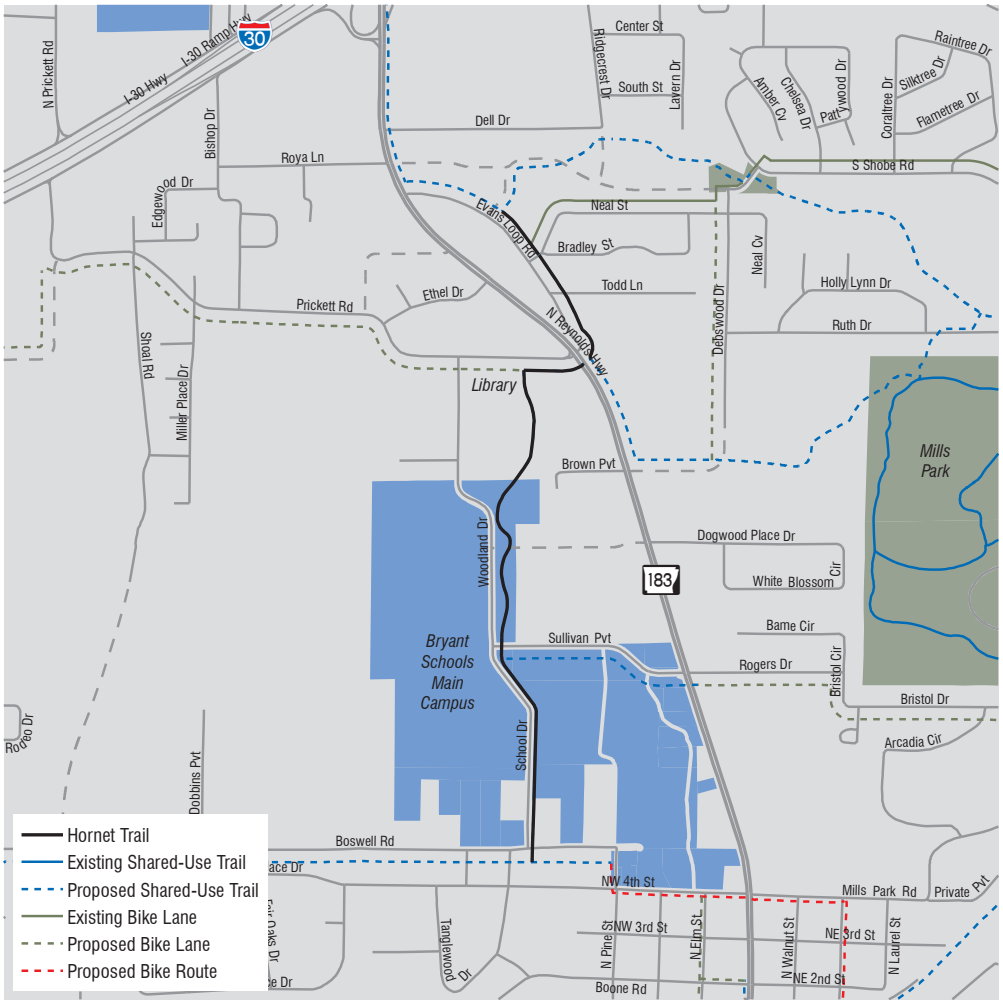
LOCATION	Reynolds Road, Midtown Bryant
TYPE	Class I (Road/Separated)
LENGTH	1.9 miles
PAVING	Asphalt/Concrete and Fine Compacted Aggregate
TRAILHEAD	Debswoord Park Trailhead and Alcoa 40 Park Trailhead
CONSTRUCTION CONSTRAINTS	May require a cantilevered trail over I-30 bridge, Use existing ROW along Reynolds Road and Evans Loop, explore using existing sewer easement for construction along Crooked Creek, and partially crosses City property
CONNECTIONS	Hornet Trail, Shobe Road bike lanes, Alcoa 40 Park Trail, Bishop Park via connector, and North Bryant via bike facilities
DESCRIPTION	This trail will provide a north-south connection across I-30 and will be critical for improving bike/pedestrian connectivity.

Bryant Parkway Trail



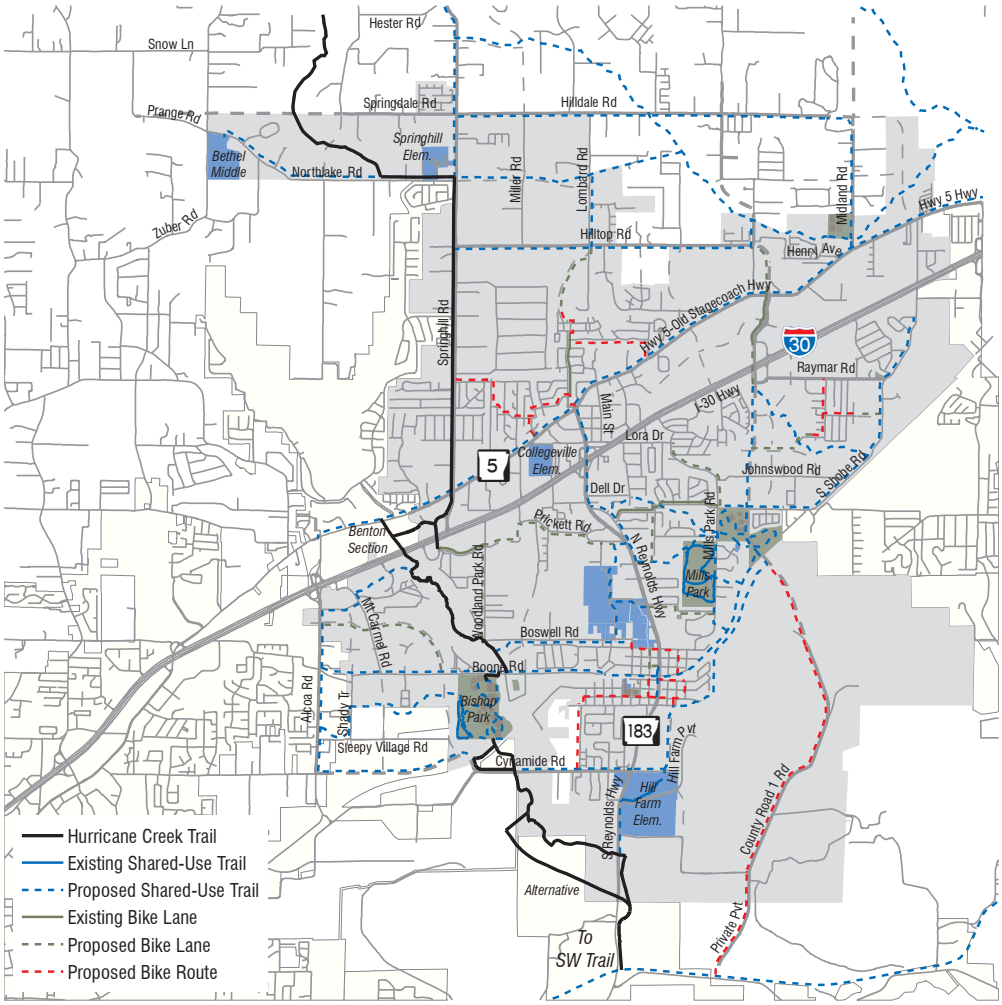
LOCATION	East Bryant, Bryant Parkway Corridor
TYPE	Class I (Road), Class II
LENGTH	6.2 miles
PAVING	Asphalt or Concrete
TRAILHEAD	Alcoa 40 Park Trailhead and Midland Park Trailhead
CONSTRUCTION CONSTRAINTS	Construct with the improvement/construction of the Bryant Parkway Corridor
CONNECTIONS	Owen Creek Trail, Hilltop Trail, Alcoa 40 Park Trail, B-Town Trail. Southwest Trail, Boone-Rail Trail
DESCRIPTION	This trail will serve as the eastern north-south spine for the bike/pedestrian system connecting several east-west trail connections.

Hornet Trail



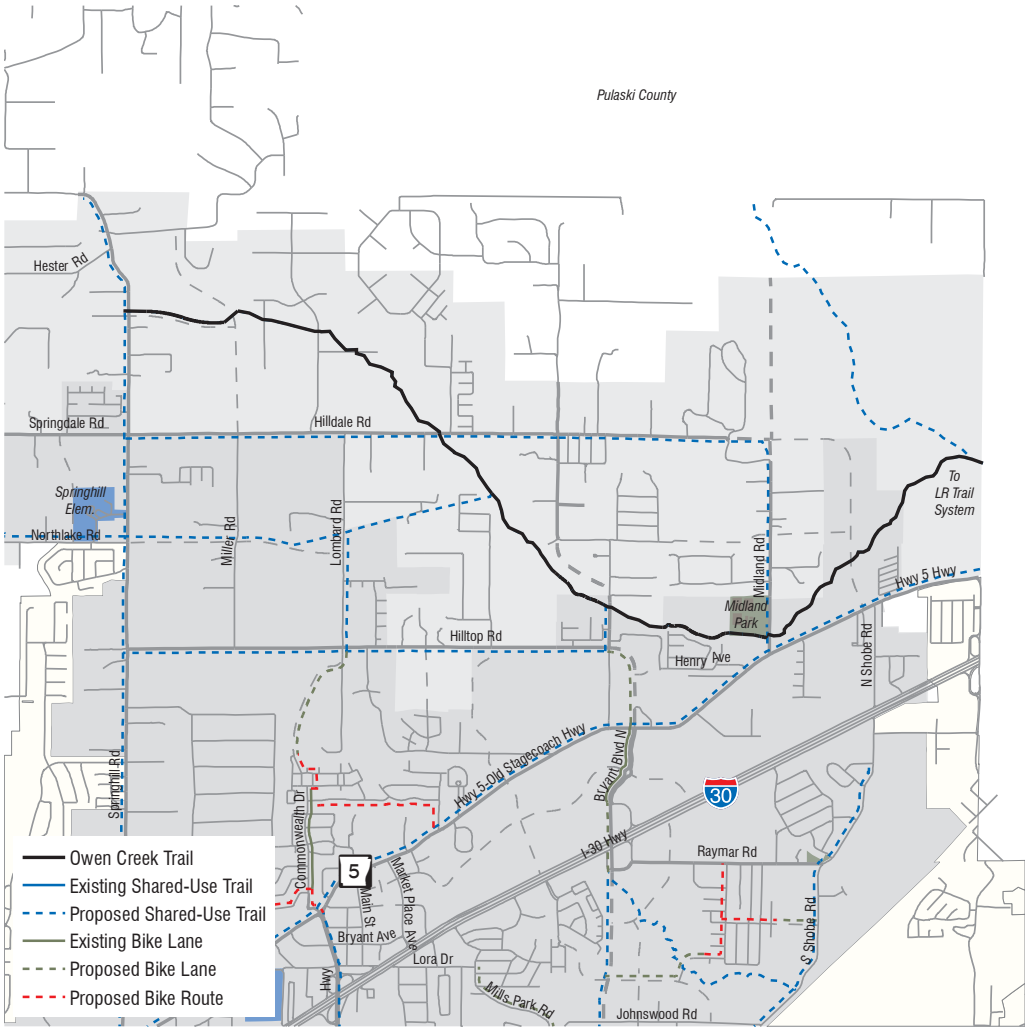
LOCATION	Bryant School Campus, Bryant Library
TYPE	Class I (Road/Separated)
LENGTH	1.2 miles
PAVING	Asphalt or Concrete
TRAILHEAD	Bryant Library Trailhead
CONSTRUCTION CONSTRAINTS	Need easement across portion of private land, construct in conjunction with Bryant Schools, and use the existing ROW from Prickett Road and Evans Loop
CONNECTIONS	Bike facilities on Prickett Road, Crooked Creek Trail, and various other bike facilities
DESCRIPTION	This trail intended to provide safe connections to Bryant Schools' main campus and the surrounding neighborhoods.

Hurricane Creek Trail



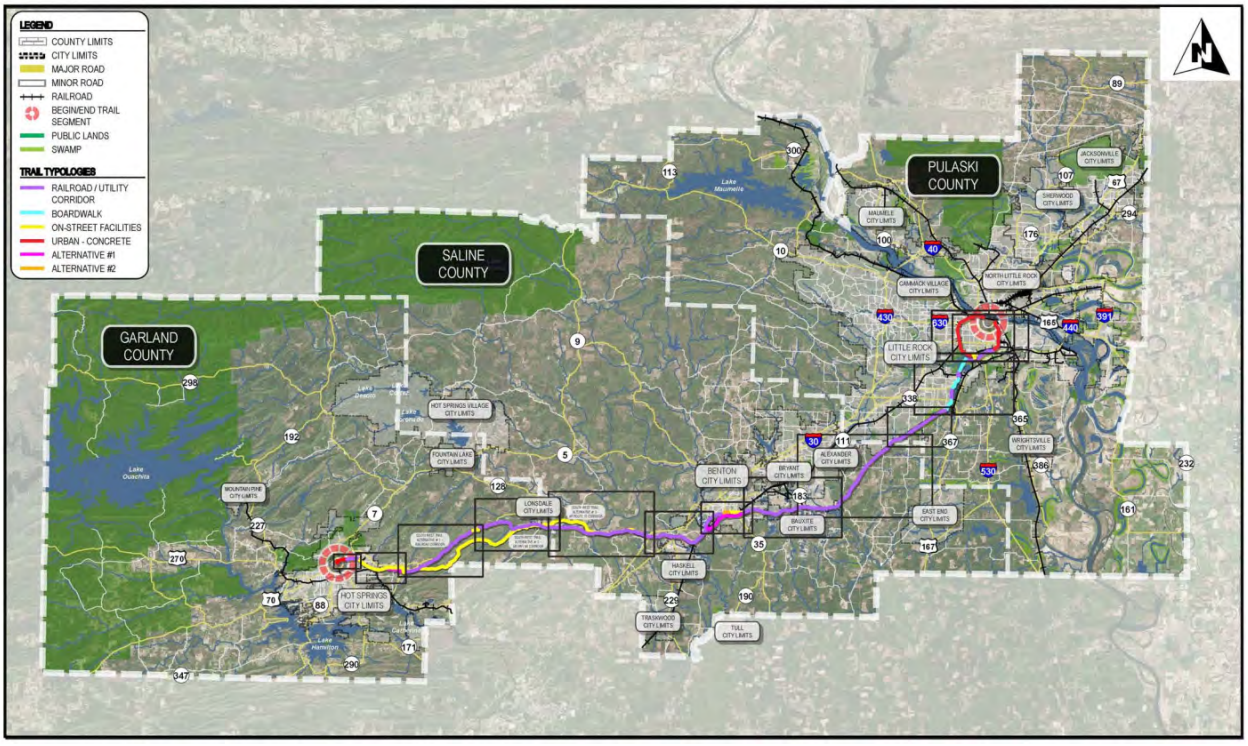
LOCATION	Hurricane Creek, Springhill Road
TYPE	Class I (Road/Separated)
LENGTH	11.8 miles
PAVING	Concrete or Asphalt and Fine Compacted Aggregate
TRAILHEAD	Bishop Park Trailhead, Springhill Manor Park Trailhead via connector, and Springhill Elementary Trailhead
CONSTRUCTION CONSTRAINTS	Construct partially on PTU property, need various easements across property, use Bauxite and Northern Railroad (if abandoned), cross under I-30 at Hurricane Creek bridge, and use Springhill Road ROW
CONNECTIONS	Bishop Park Trails, B-Town Trail, Boone-Rail Trail, Highway 5 bike facilities, Hilltop Trail, Hurricane Owen Trail (to connect with Owen Creek Trail), and Southwest Trail
DESCRIPTION	This is a major north-south trail spine of the West of Bryant. This trail could provide a regional greenway and major connection to the proposed Southwest Trail.

Owen Creek Trail



LOCATION	Owen Creek, North Bryant
TYPE	Class I (Separated)
LENGTH	5.2 miles
PAVING	Fine Compacted Aggregate and/or Concrete/Asphalt
TRAILHEAD	Midland Soccer Trailhead
CONSTRUCTION CONSTRAINTS	Explore possibility of using existing sewer line easement and obtain easement/ROW east of Midland Road
CONNECTIONS	Fourche Creek Trail, Hilldale-Midland Trail, Bryant Parkway Trail, and Hurricane-Owen Trail
DESCRIPTION	This trail will provide a connection to the Little Rock Trail system and provide a scenic greenway along the northern part of Bryant.

Southwest Trail



SOUTH WEST TRAIL – HOT SPRINGS TO LITTLE ROCK
TRAILS THROUGH CITY OF BENTON TO EAST BAUXITE CITY LIMITS

FIGURE 8. MAP OF SEGMENT 8
SEGMENT 8 MEASURES TO 6.71 MILES

0 1,300 2,600 5,200 7,800'

LOCATION	Rock Island Railroad ROW
TYPE	Various
LENGTH	~60 miles
PAVING	Various
TRAILHEAD	Multiple
CONNECTIONS	Echo Lake Trail and Hurricane Creek Trail
DESCRIPTION	This regional trail is to be constructed by various regional, state, and local entities in the area. This trail is projected to have major tourism boost. Local connections to the trail are highly important.

Section Five: **Standards**

5.1 Cross Sections

The following cross sections are provided to govern the construction of street and bicycle/pedestrian facilities by the City of Bryant and through private resources by developers. These cross sections work in tandem with the City of Bryant's Street Construction Standards and Specifications that govern all aspects of roadway design and construction excluding street pavement width, curb and gutter requirements, and requirements of bike and pedestrian elements.

CROSS SECTION NAMING CONVENTION	
ROADWAY CLASS	C4.0-4 : Minor Arterials, C5.0-6 : Collectors, C6.0-5 : Local Streets
BIKE/PEDESTRIAN ELEMENTS	I : Shared-Use Trails, II: Bike Lanes, III: Bike Routes

Minor Arterials

Minor Arterials provide network connections within and through the urbanized area. These facilities typically provide a greater amount of access to adjoining land as compared to principal arterials, where the primary function is providing mobility by moving traffic.

1. Required Elements:

    a) Right-of-Way: All required design elements must be included in the cross section and located on publicly owned ROW. Sidewalks or bikeways may be located on permanent dedicated easements. The right-of-way must be sufficient to accommodate four lanes.

    b) Curb and Gutter: Curb and gutter is required except in cases where terrain and/or forecast land use densities are compatible with an open-shoulder design typically used in rural or exurban areas. The gutter width is not to be included in the travel lane.

    c) Sidewalks: Sidewalks are required on both sides of the roadway. Minimum sidewalk width is 5 feet and must be compatible with the Americans with Disabilities Act.

    d) Green Space Buffers: A buffer is required between the back of curb and the sidewalk that is a minimum of 5 feet. However, no buffers are required in Central Business Districts.

    e) Pedestrian Crossings: Safe pedestrian crossing provisions are required to be demonstrated by the proposing jurisdiction or agency where more than 36 feet of pavement (including the gutter) have to be crossed by a pedestrian where pedestrian crossing is anticipated based on land use.

    f) Bike Lanes/Trails: If on a planned bikeway route, the bicycle element must be included and must adhere to the bicycle design standards shown on the appropriate cross section. Where bike lanes are provided, a minimum buffer from the main travel lanes is required.

g) Lane Width: 10 feet minimum for main travel lanes or 11 feet maximum, where the design speed and traffic mix warrant.

2. Optional Elements:

   a) 8 feet minimum paved shoulder on first phase of a planned four-lane minor arterial, with or without curb and gutters.

3. Preferred Elements:

   a) Landscaping of medians and buffers.

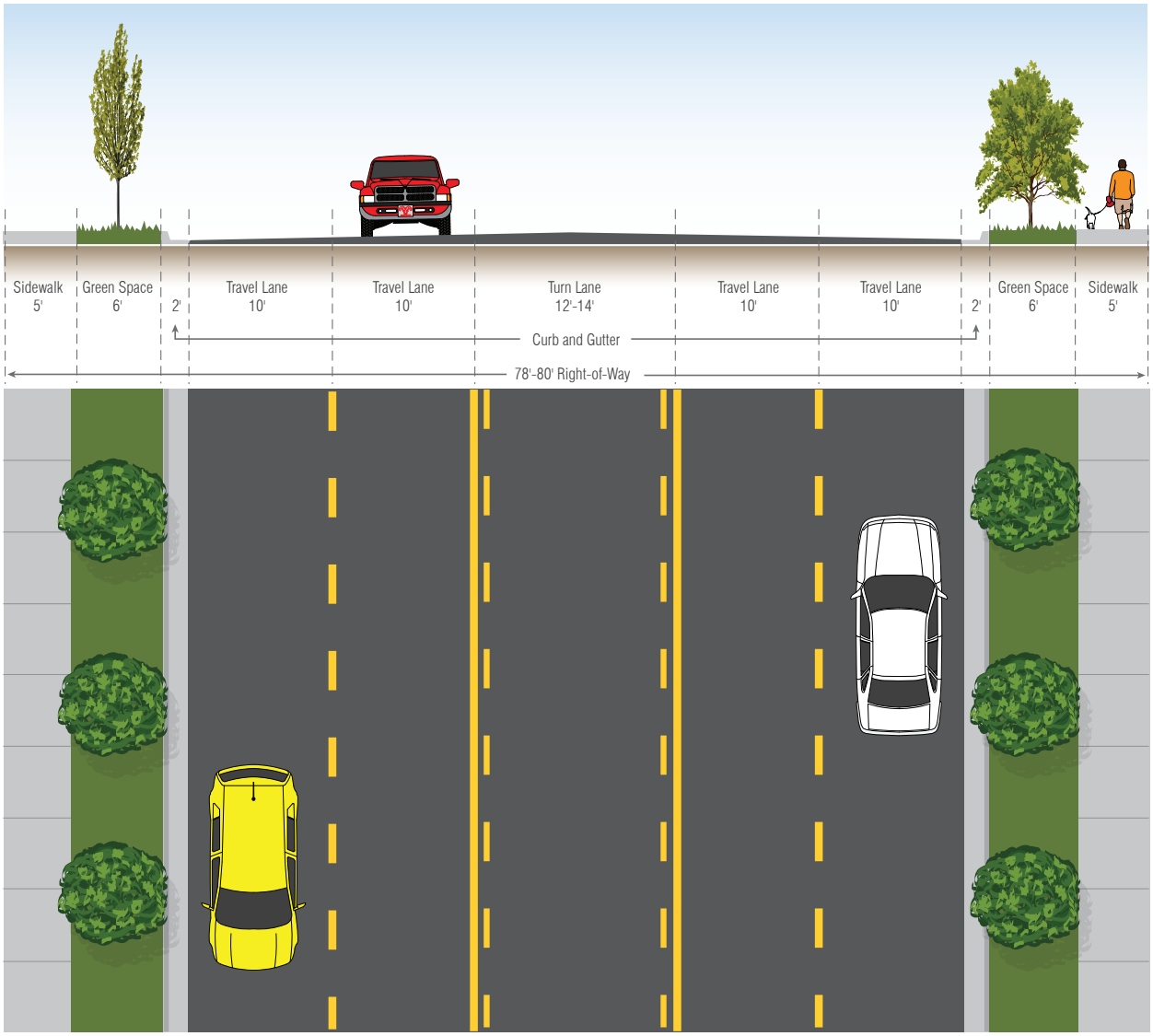
   b) A non-traversable median is preferred for major retrofits and on new locations.

   c) Where applicable, a shared-use trail is preferable over bike lanes.

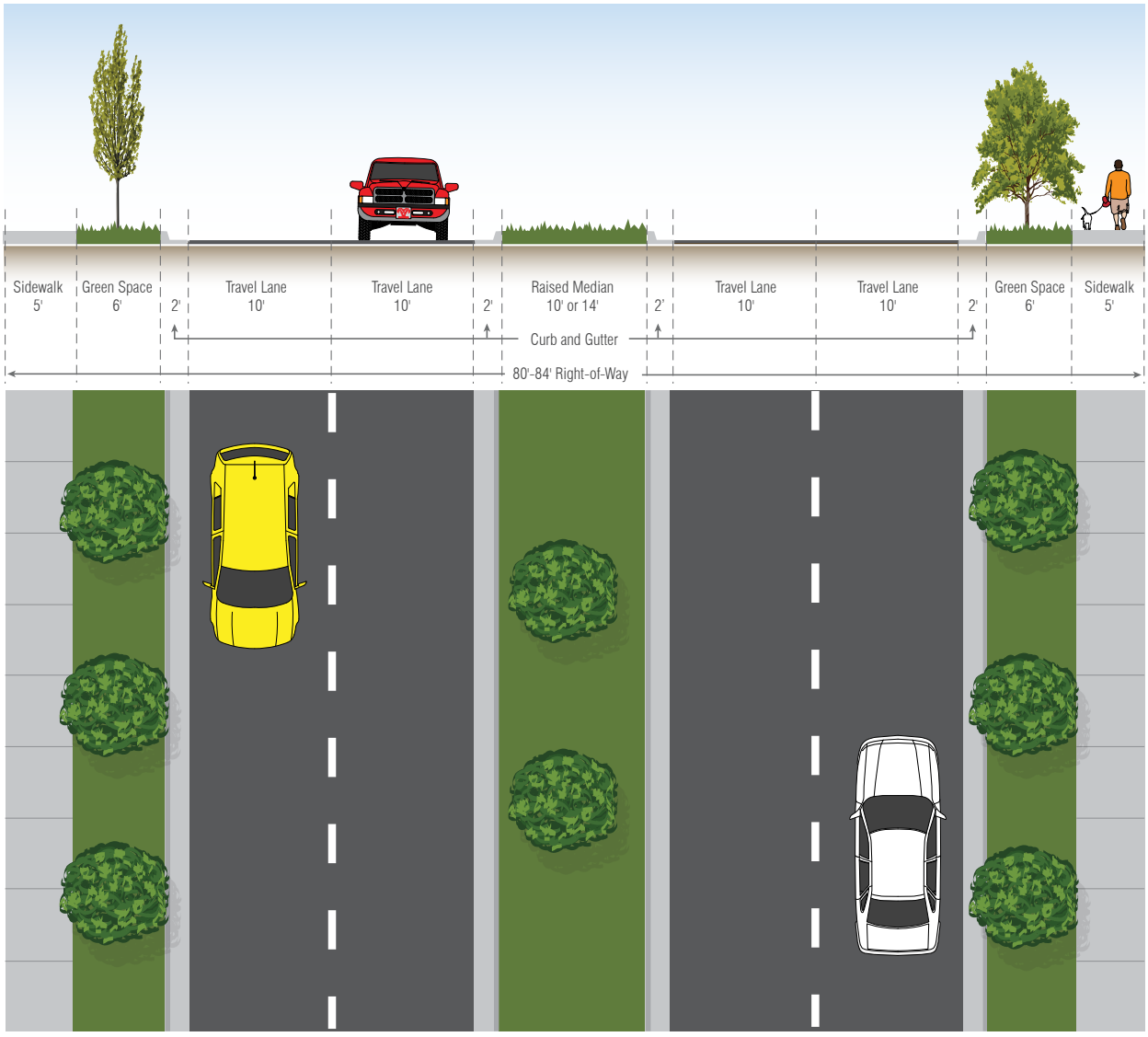
4. Prohibited Elements:

   a) Parking lanes.

C4.0 – Minor Arterial

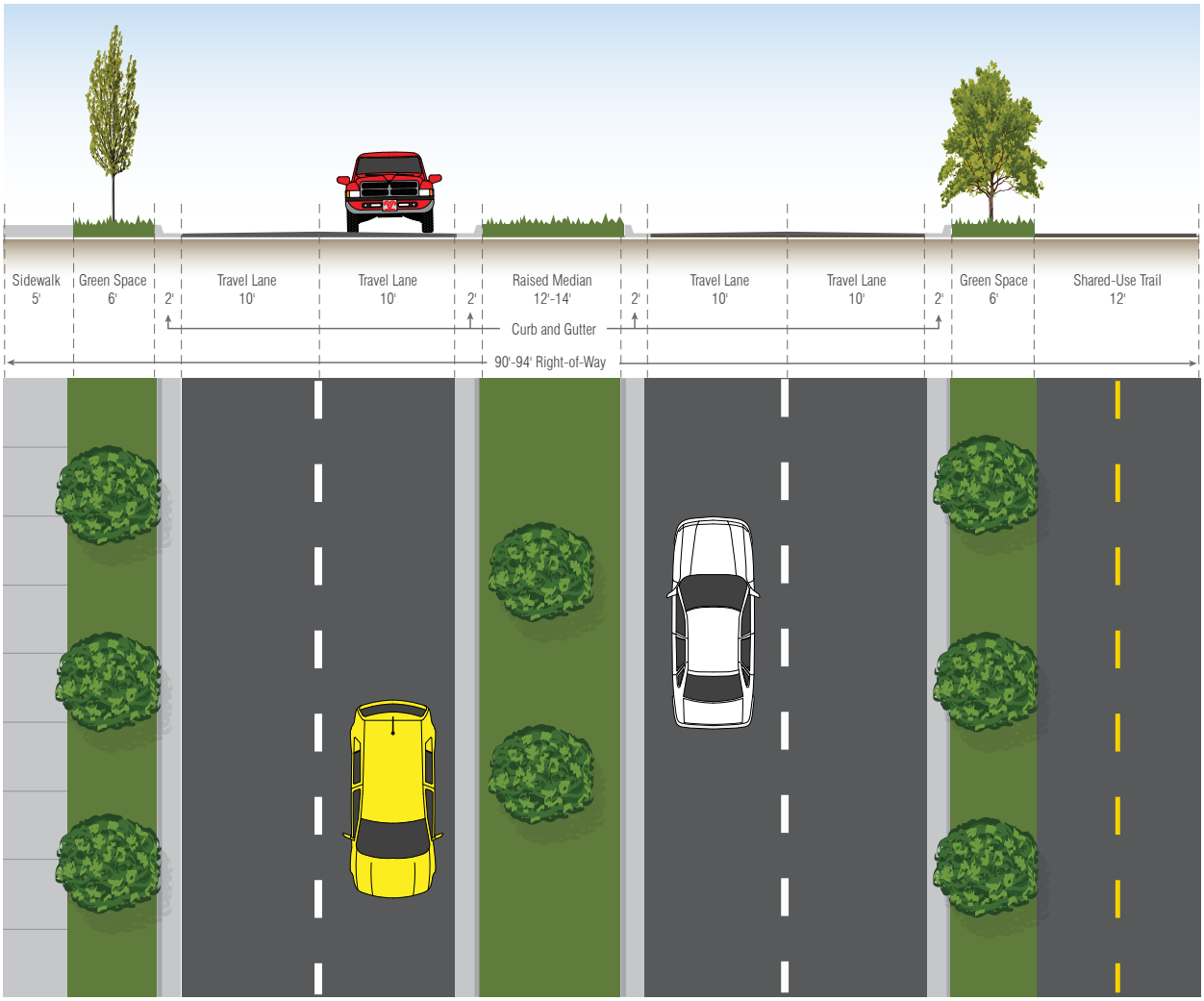


C4.1 – Minor Arterial with Median



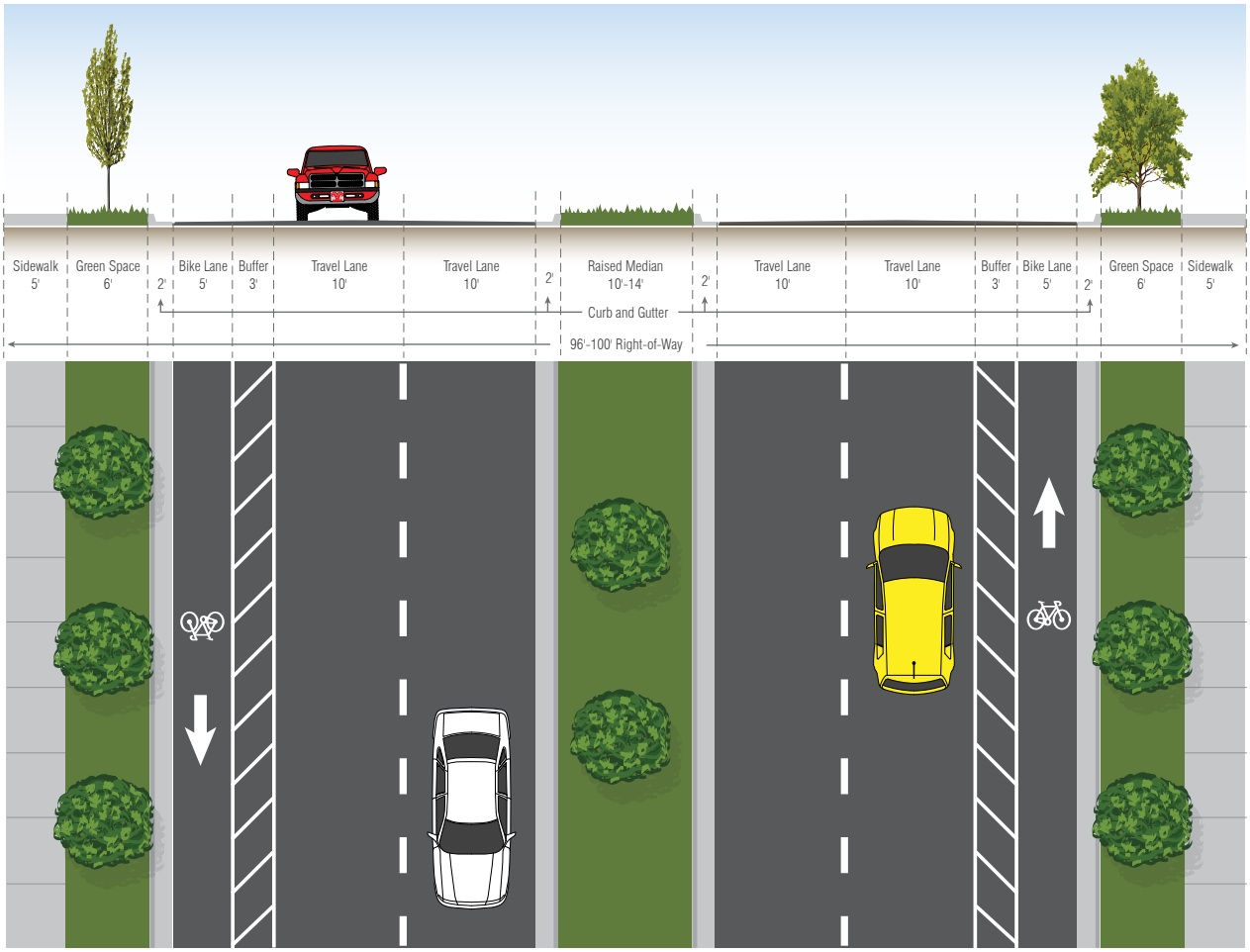
Note: 14-foot median is used when pedestrian refuge island is anticipated.

C4.2l – Minor Arterial with Trail



Note: 14-foot median is used when pedestrian refuge island is anticipated.

C4.3II – Minor Arterial with Bike Lanes



Note: 14-foot median is used when pedestrian refuge island is anticipated.

Collectors

Collector Roadways connect local traffic with the arterial roadway network and provide easy access to adjoining land.

1. Required Elements:

    a) Right-of-Way: All required design elements must be included in the cross section and located on publicly owned ROW. Sidewalks or bikeways may be located on permanent dedicated easements.

    b) Curb and Gutter: Curb and gutter is required except in cases where terrain and/or forecast land use densities are compatible with an open-shoulder design typically used in rural or exurban areas. The gutter width is not to be included in the travel lane.

    c) Sidewalks: Sidewalks are required on both sides of the roadway, except within Industrial Developments (C5.6III). Minimum sidewalk width is 5 feet and must be compatible with the Americans with Disabilities Act.

    d) Green Space Buffers: A buffer is required between the back of curb and the sidewalk that is a minimum of 5 feet. However, no buffers are required in Central Business Districts or where C5.3/C5.4II is used.

    e) Pedestrian Crossings: Safe pedestrian crossing provisions are required to be demonstrated by the proposing jurisdiction or agency where more than 36 feet of pavement (including the gutter) have to be crossed by a pedestrian where pedestrian crossing is anticipated based on land use.

    f) Bike Lanes/Trails: If on a planned bikeway route, the bicycle element must be included and must adhere to the bicycle design standards shown on the appropriate cross section. Where bike lanes are provided, a minimum buffer 1.5 feet from the main travel lanes is required.

    g) Lane Width: 10 feet minimum for main travel lanes or 11 feet maximum, where the design speed and traffic mix warrant. There is a maximum of two travel lanes allowed.

2. Optional Elements:

    a) Parallel parking may be used where warranted (C5.3, C5.4II).

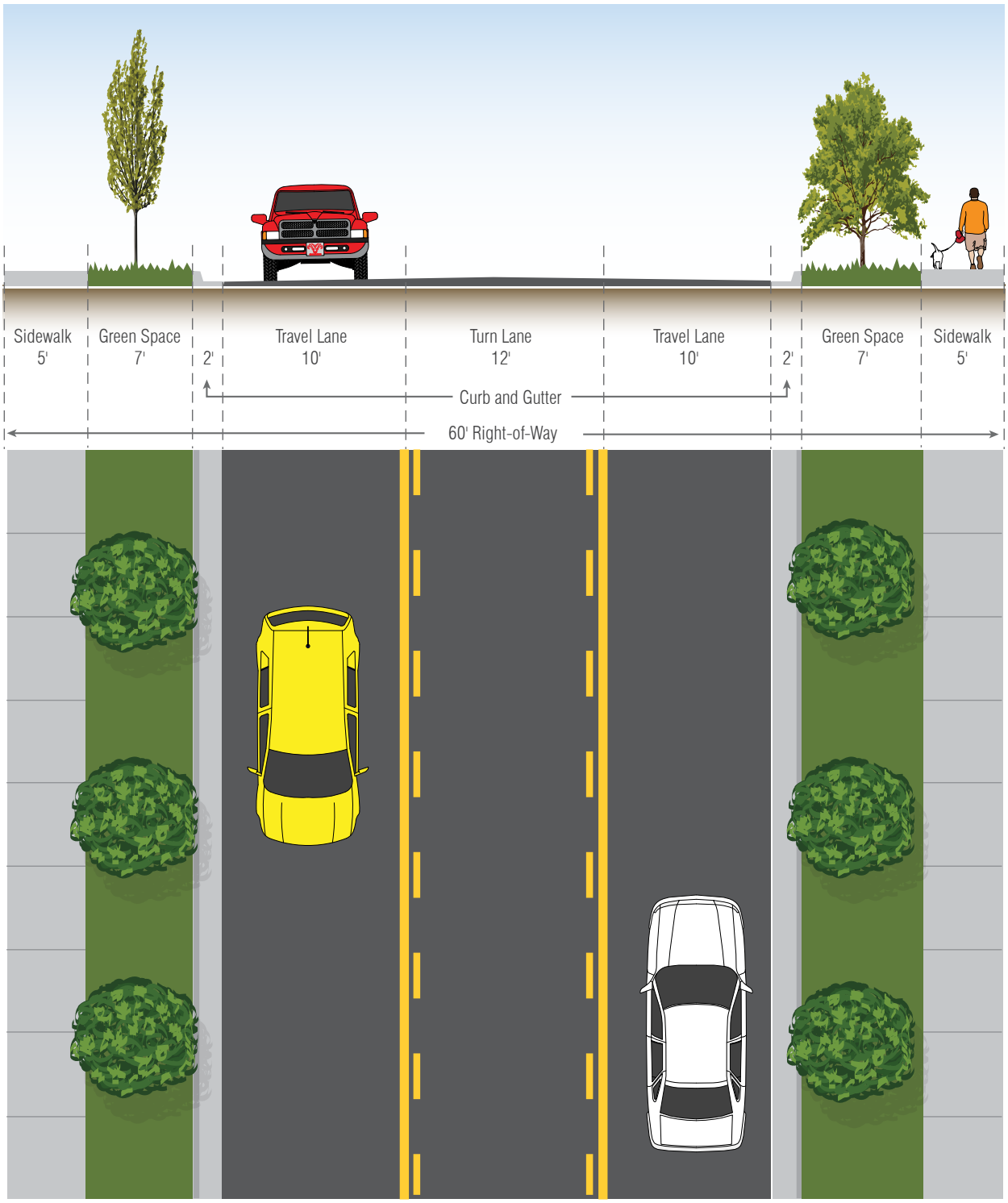
3. Preferred Elements:

    a) Landscaping of medians and buffers.

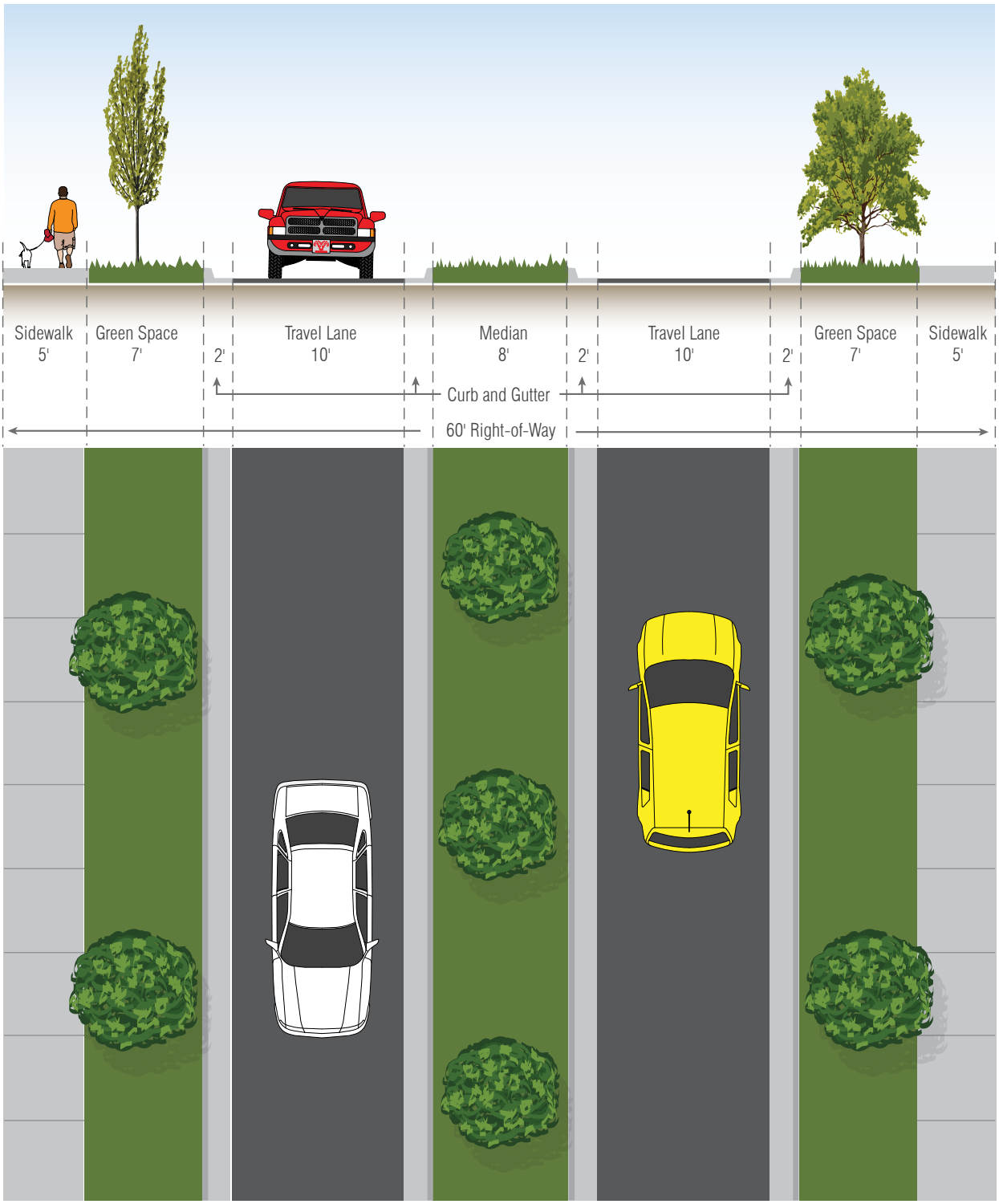
    b) A non-traversable median is preferred for major retrofits and on new locations.

    c) Where applicable, a shared-use trail is preferable over bike lanes.

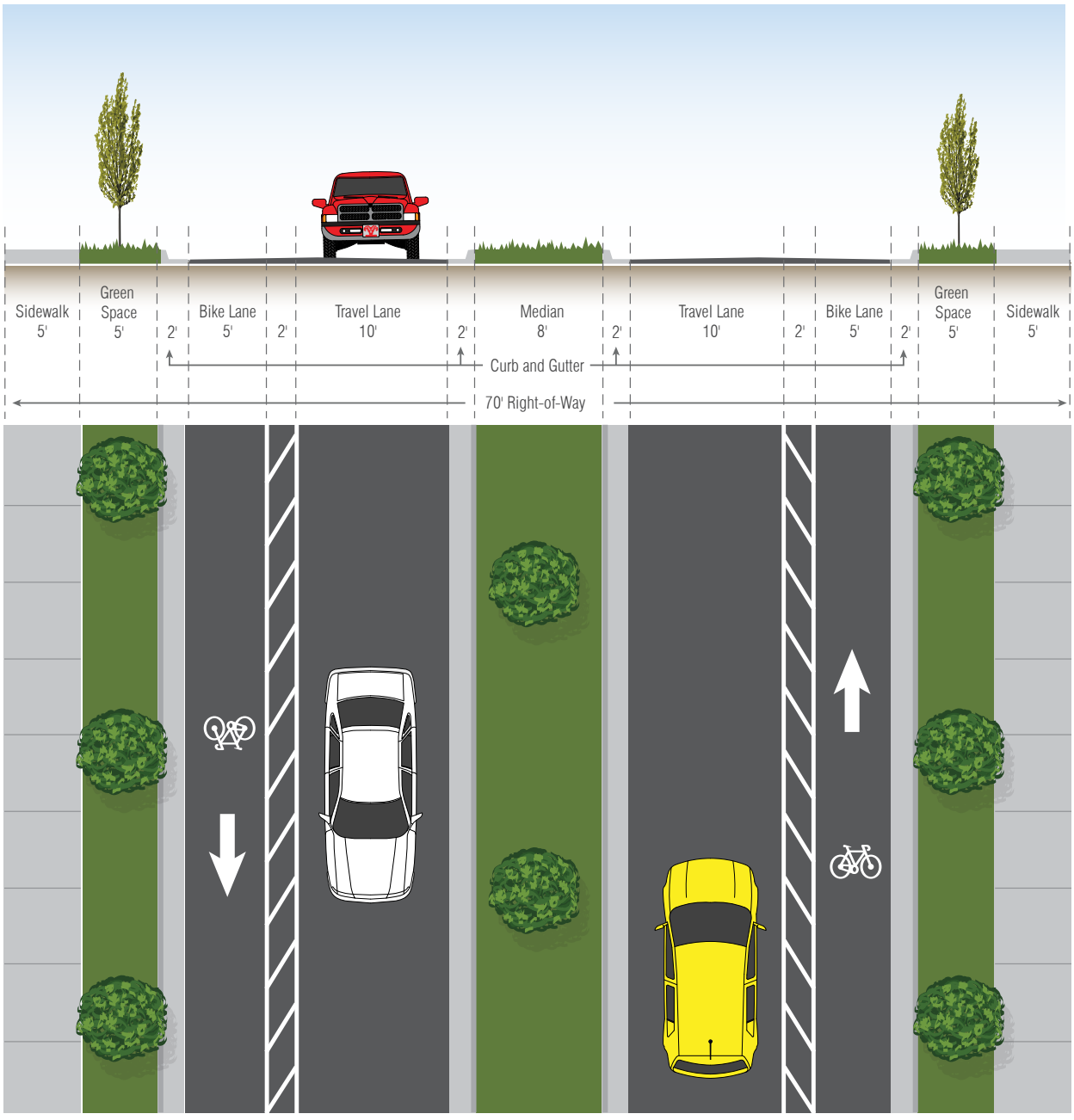
C5.0 – Collector



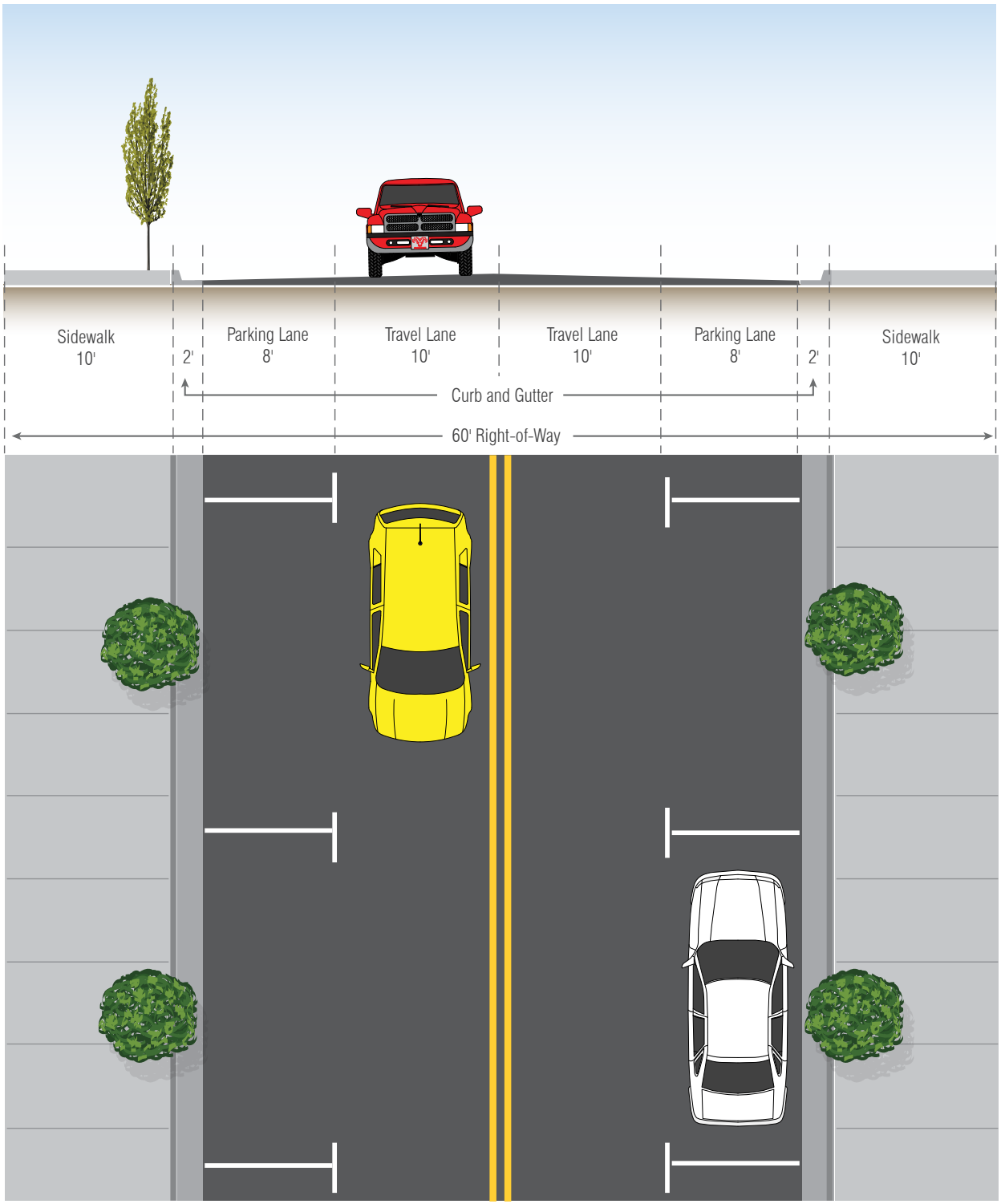
C5.1 – Collector with Median



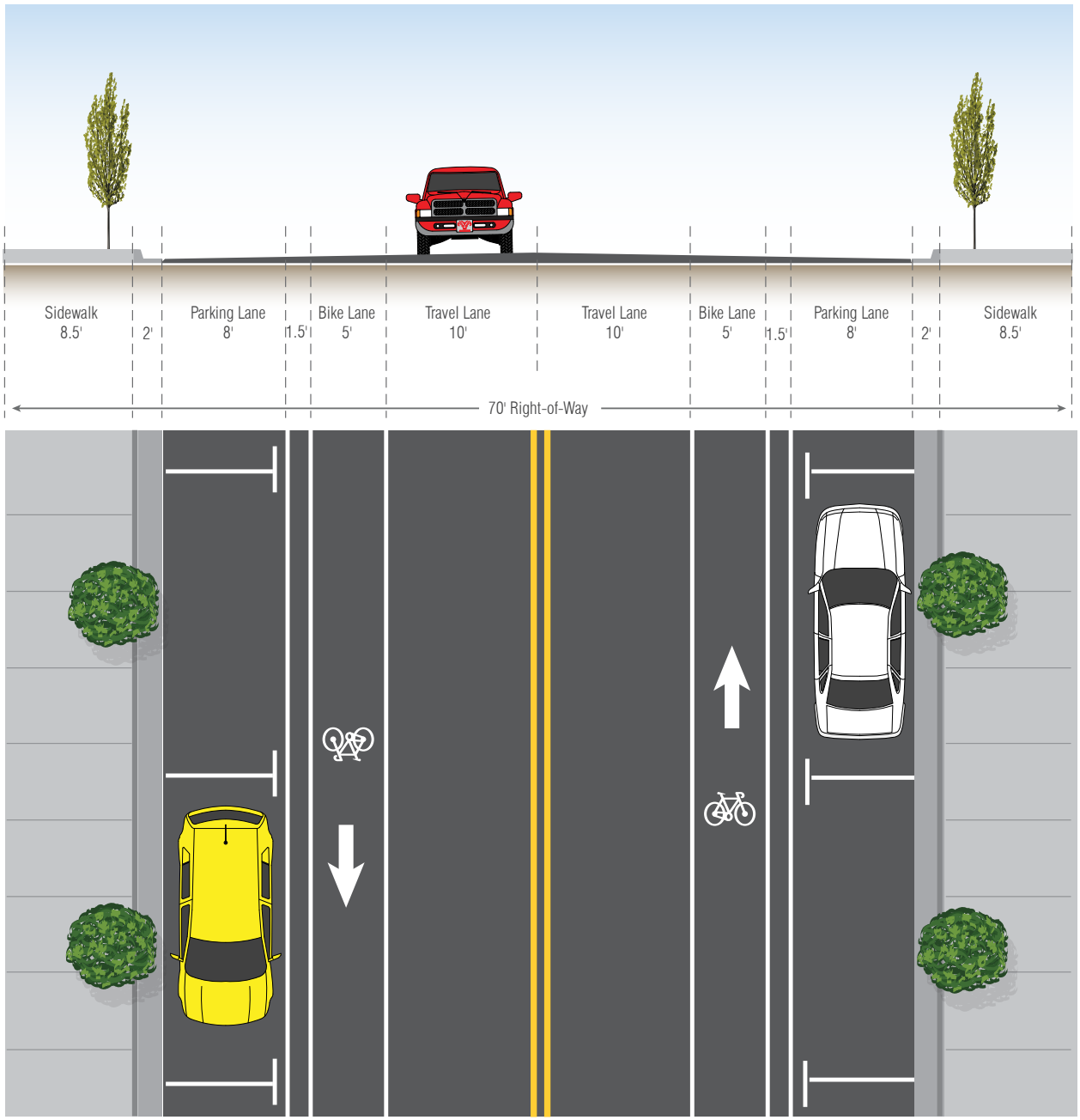
C5.2II – Collector with Bike Lanes



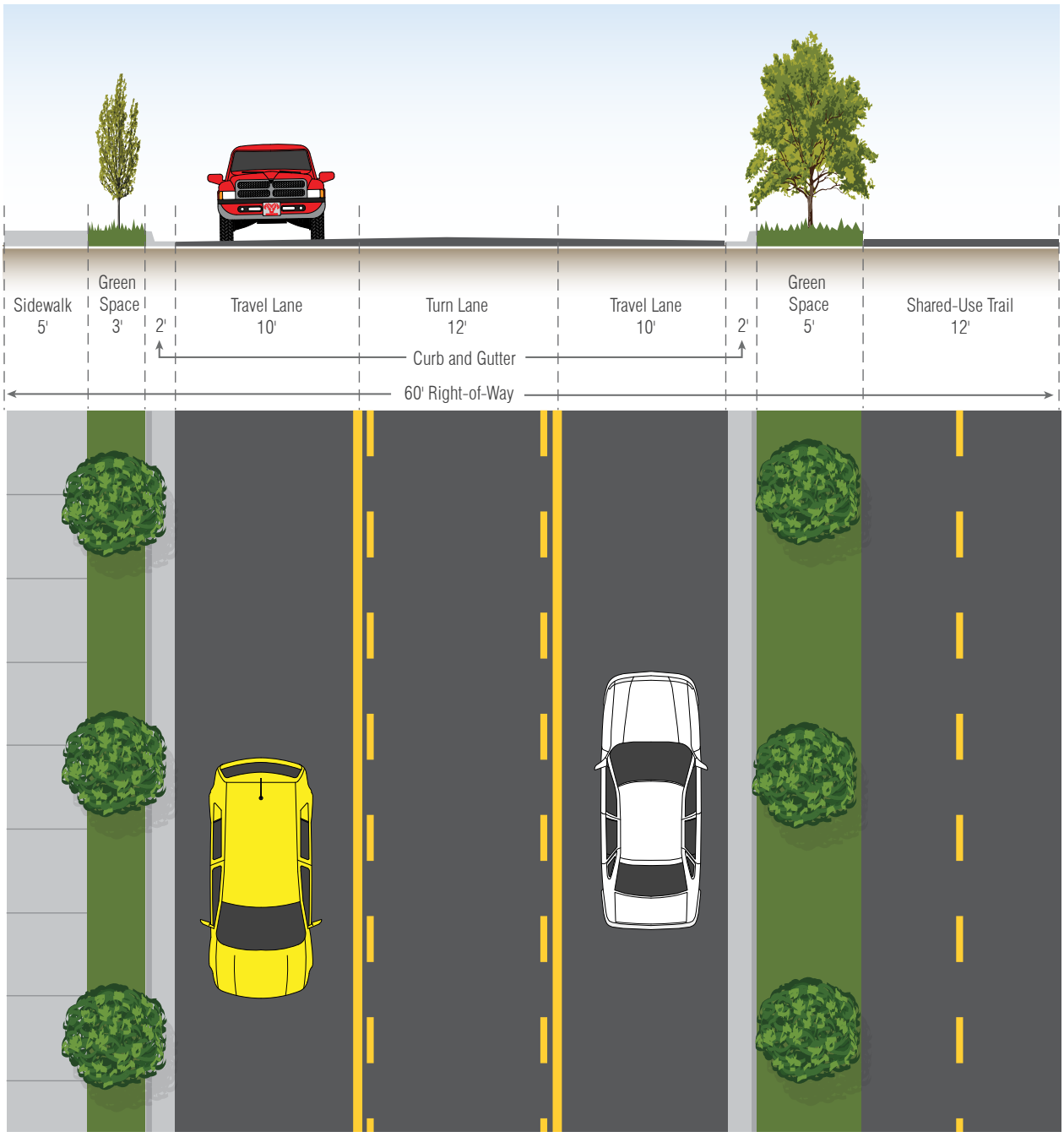
C5.3 – Urban Collector



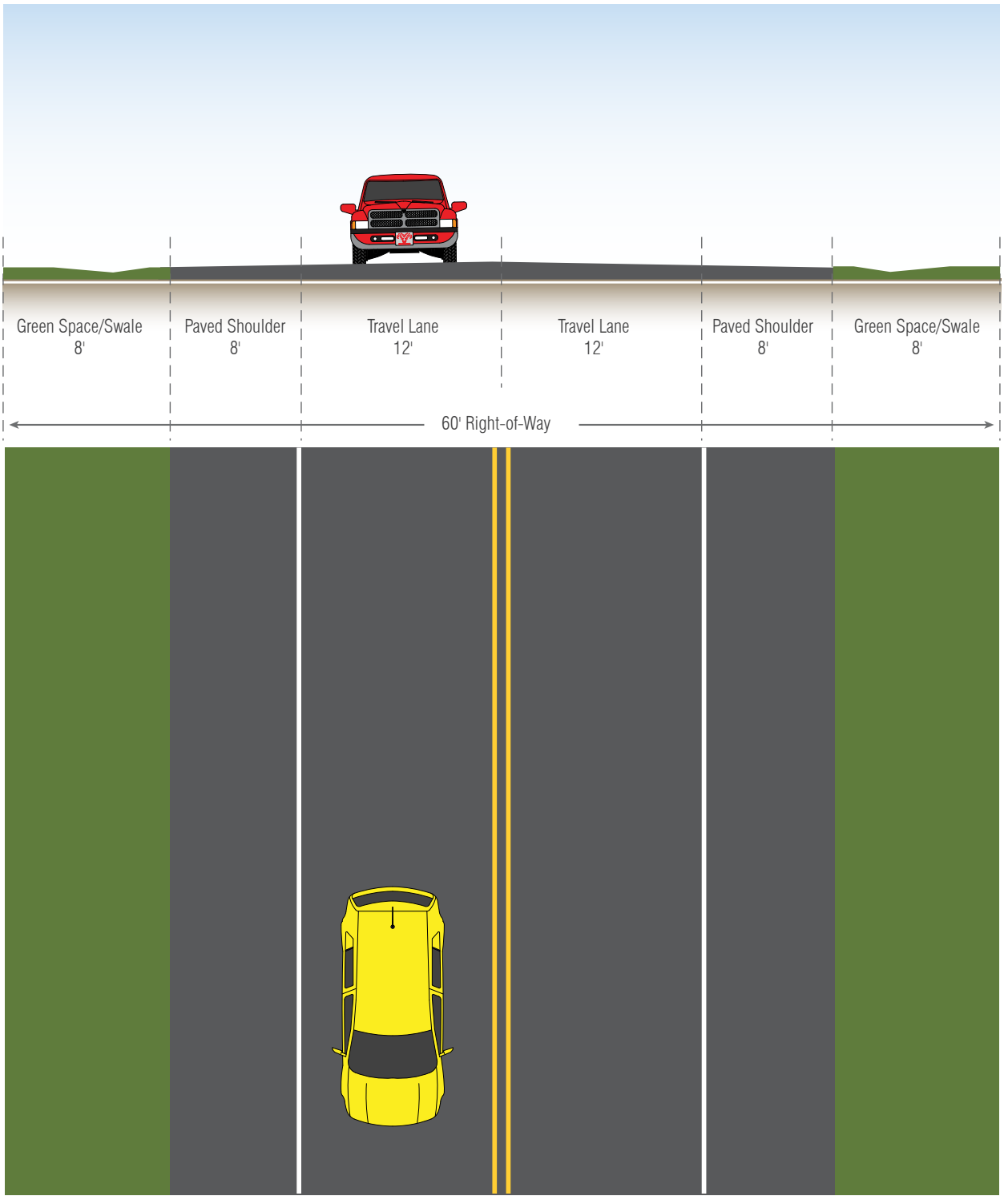
C5.4II – Urban Collector with Bike Lanes



C5.5 – Collector with Trail



C5.6III – Industrial Collector



Local Streets

Local streets are intended to connect traffic with collectors and to the arterial roadway network. They are not intended to carry large traffic loads and are designed for low speeds, providing access to adjoining land.

1. Required Elements:

    a) Right-of-Way: All required design elements must be included in the cross section and located on publicly owned ROW. Sidewalks or bikeways may be located on permanent dedicated easements.

    b) Curb and Gutter: Curb and gutter is required except in cases where terrain and/or forecast land use densities are compatible with an open-shoulder design typically used in rural or exurban areas where the average lot size is greater than one acre. The gutter width is not to be included in the travel lane.

    c) Sidewalks: Sidewalks are required on both sides of the roadway, except within Industrial Developments (C6.5III). Minimum sidewalk width is 5 feet and must be compatible with the Americans with Disabilities Act.

    d) Green Space Buffers: A buffer is required between the back of curb and the sidewalk that is a minimum of 3 feet. However, no buffers are required in Central Business Districts or where C5.3/C5.4II is used. Where not buffer can be provided due to topographical constraints, sidewalks must be at least six feet in width.

    e) Bike Lanes/Trails: If on a planned bikeway route, the bicycle element must be included and must adhere to the bicycle design standards shown on the appropriate cross section.

    f) Lane Width: All lanes shall be used for driving and parking where the combined lanes are greater than 22 feet in width.

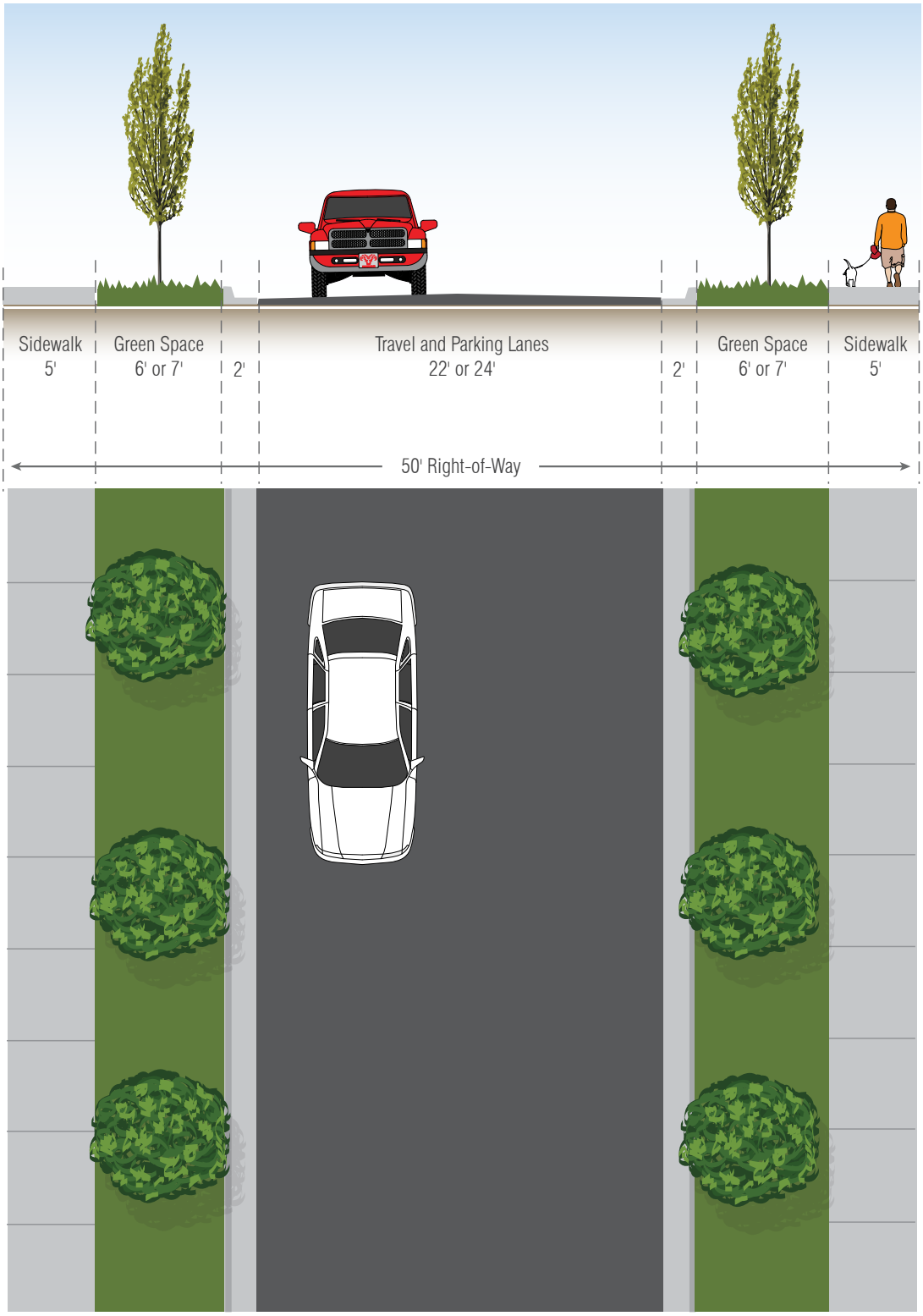
2. Optional Elements:

    a) Parallel parking may be used where warranted (C6.4).

3. Preferred Elements:

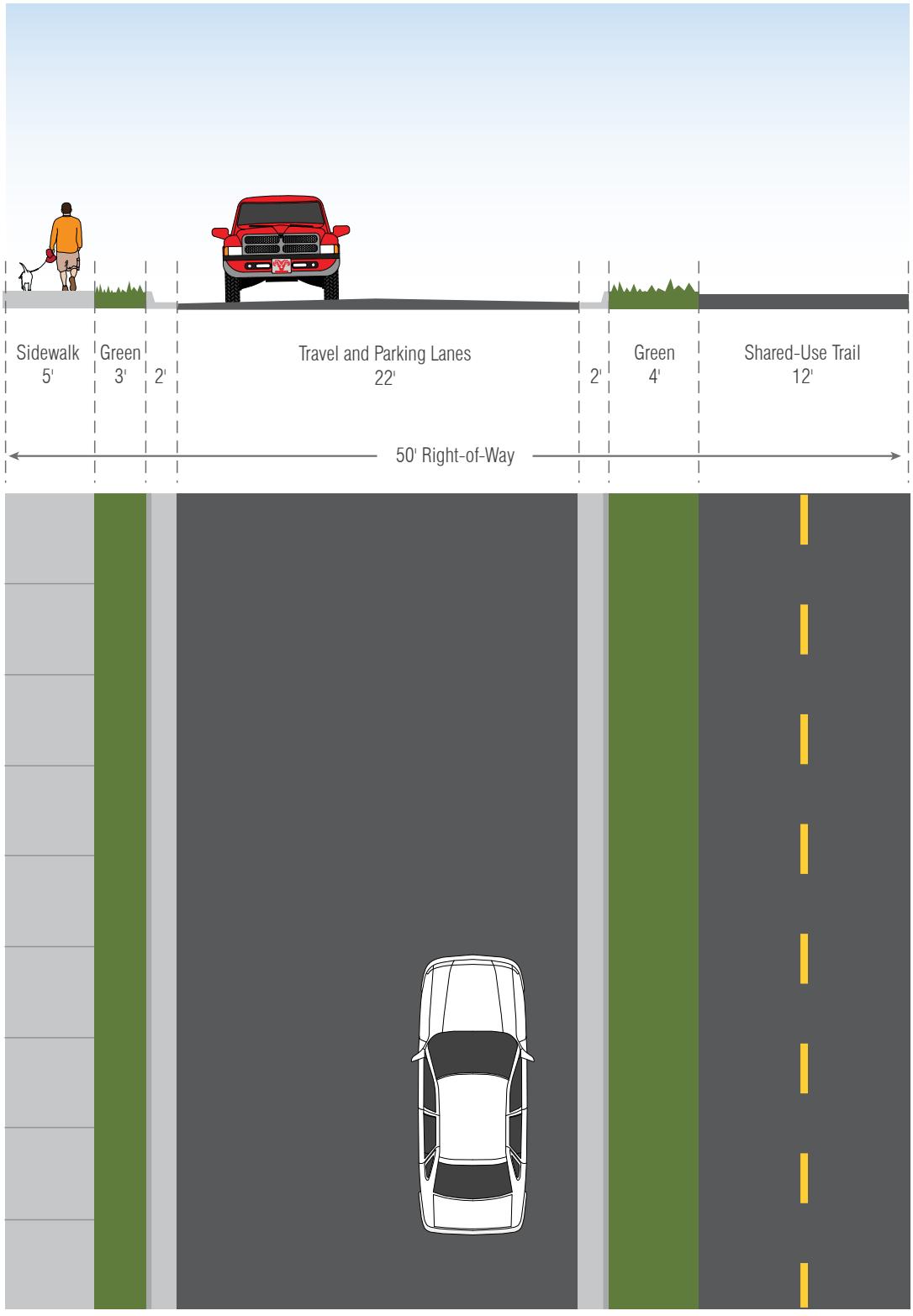
    a) Where applicable, a shared-use trail is preferable over bike lanes.

C6.0 – Local Street



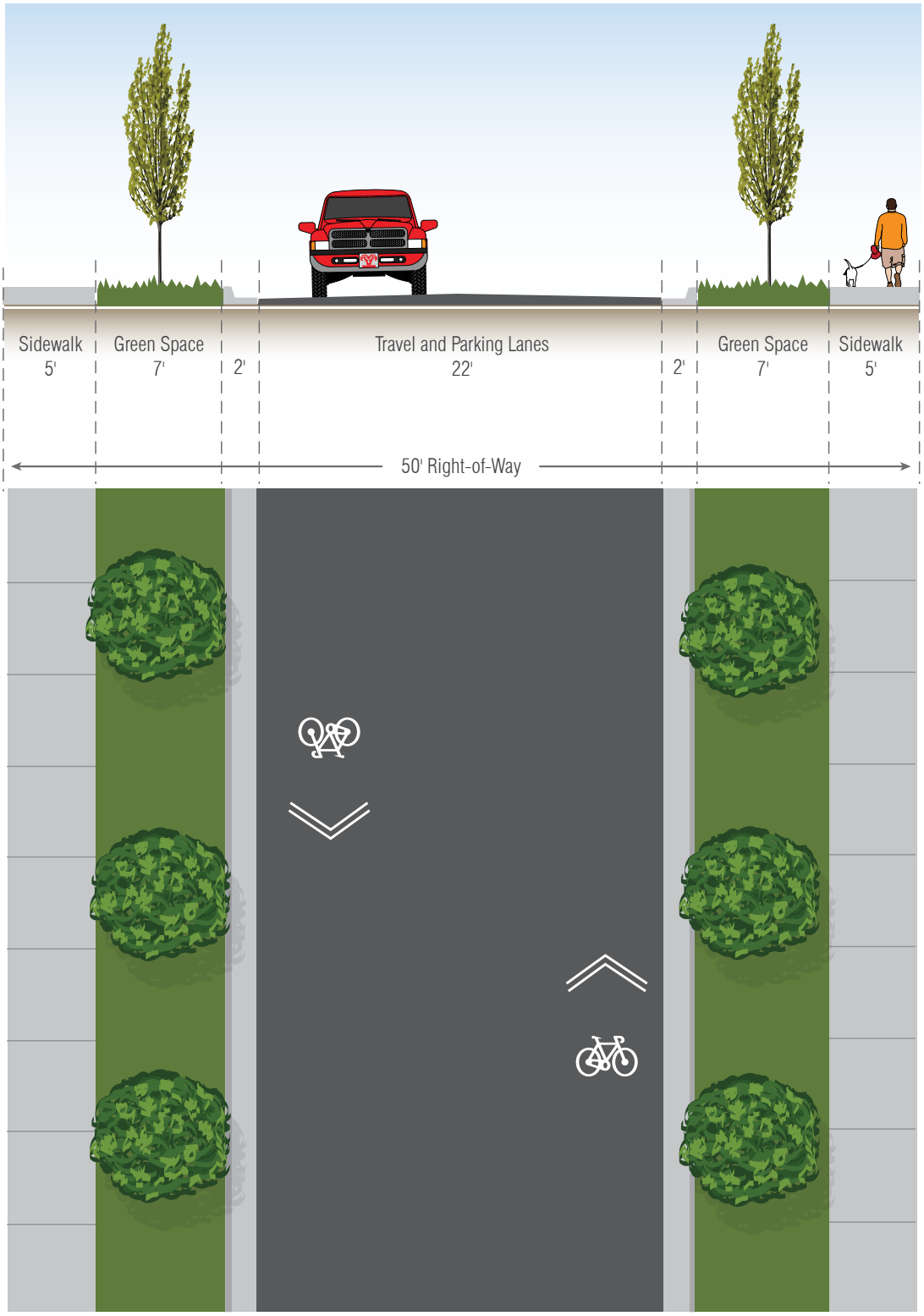
Note: Where parking is provided on-street, paving will be 24 feet wide. In such cases, the green spaces may be reduced to 6 feet.

C6.1l – Local Street with Trail



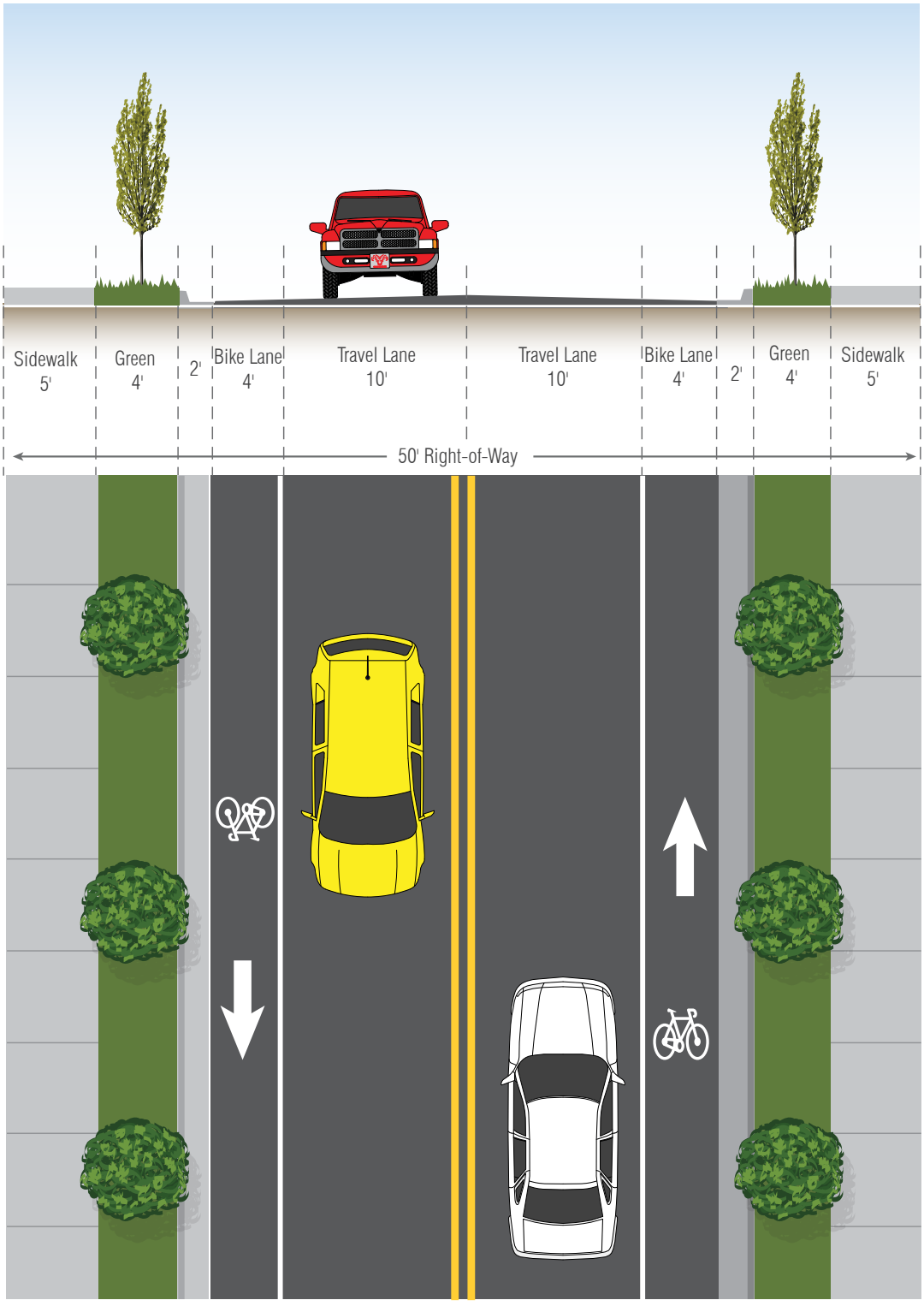
Note: No on-street parking is allowed.

C6.2III – Local Street with Bike Route

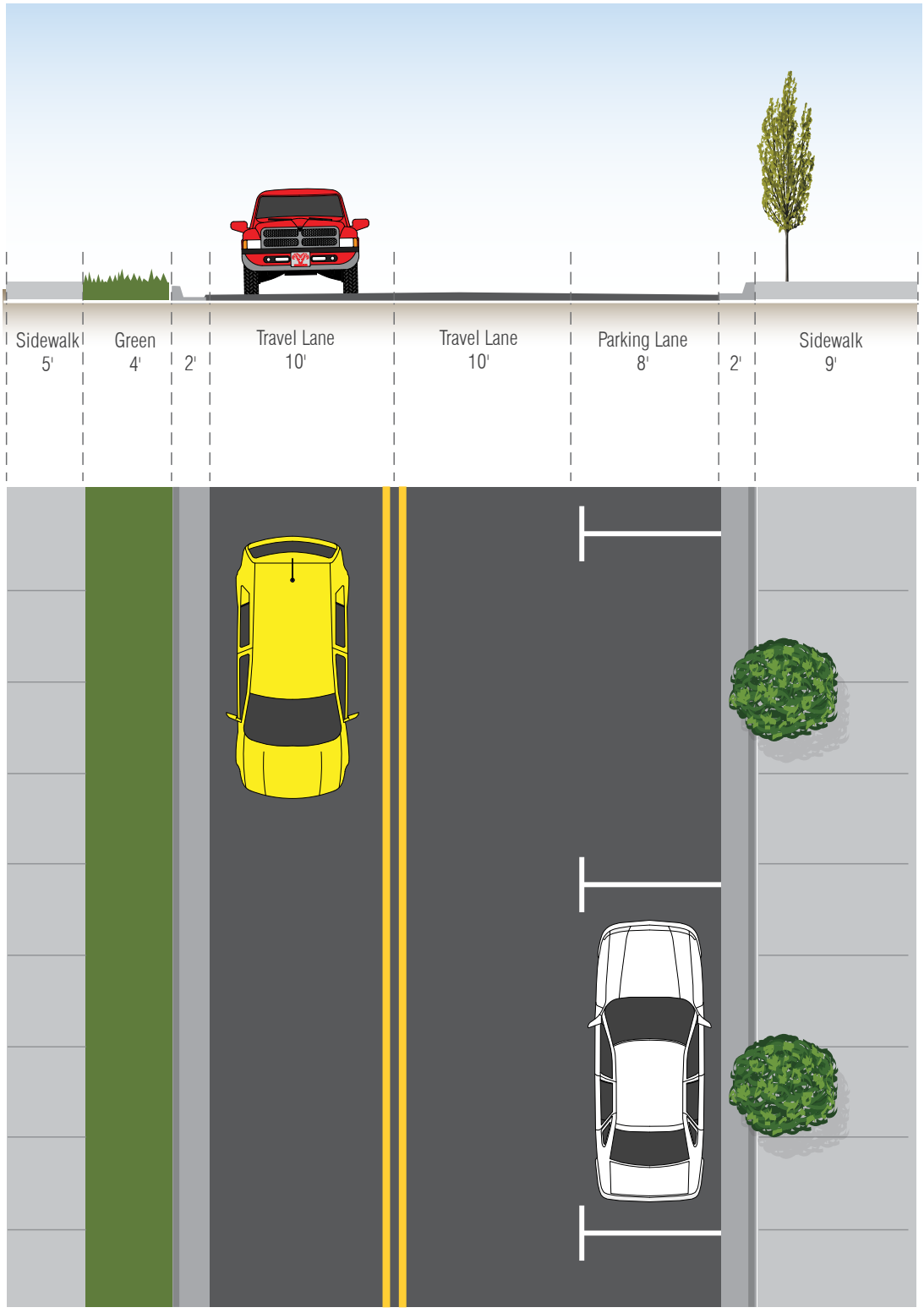


Note: No on-street parking is allowed.

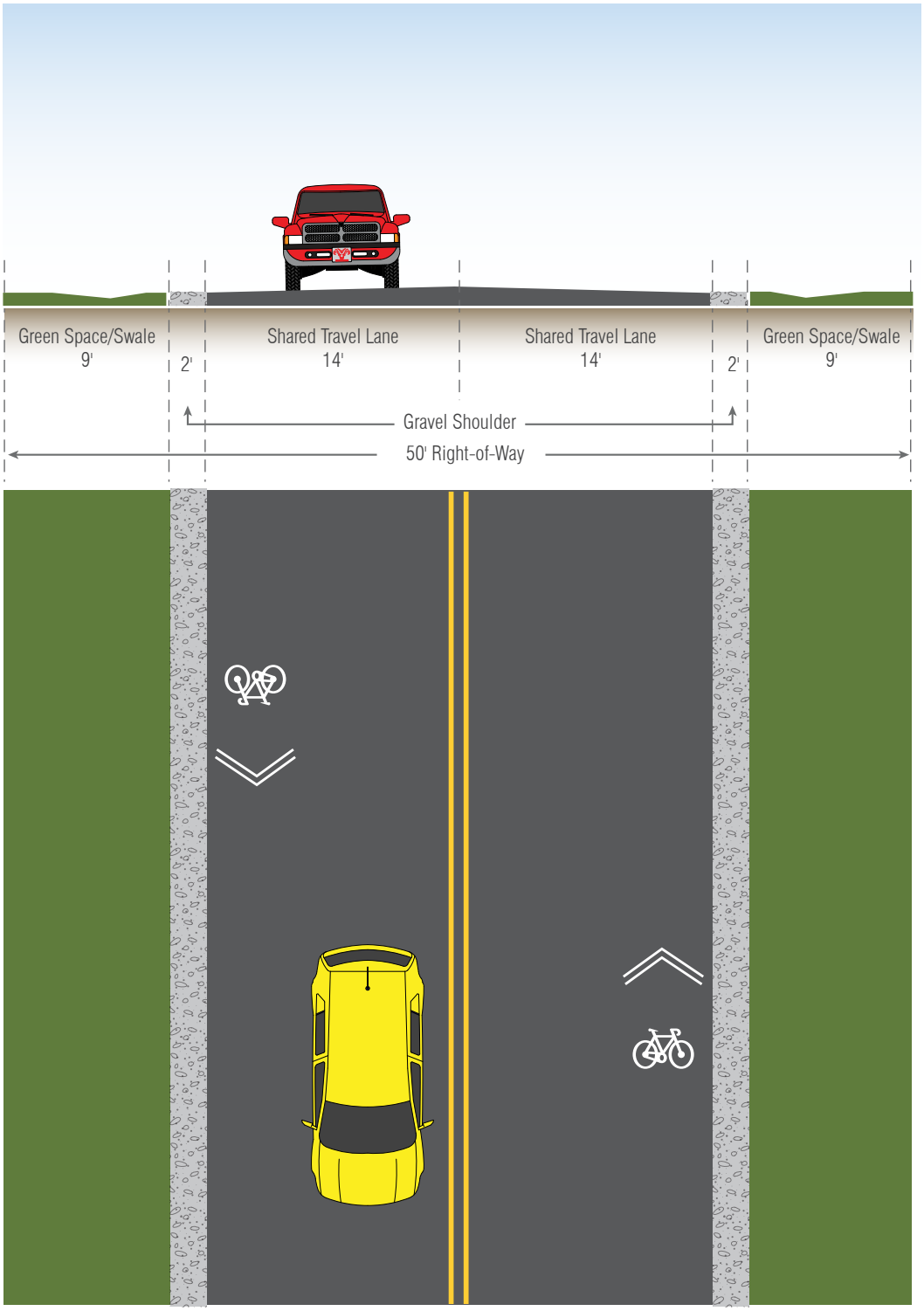
C6.3II – Local Street with Bike Lanes



C6.4 – Local Street with Parking Lane



C6.5III – Rural Local Street



Shared-Use Trails

The following cross section data is to be used only for shared-use trails, which are constructed separate from a roadway. For shared-use trails constructed with a roadway, see the appropriate cross section above.

1. Required Elements:

    a) Right-of-Way/Easement: Share-use trails may be placed on a dedicated right-of-way or within a permanent dedicated easement. Easement/right-of-way should be adequate for trail and needed amenities. Fifteen feet is the minimum requirement, and 20 feet is preferable.

    b) Paving Surface: Concrete, Asphalt, or Fine Compacted Aggregate

    c) Width: Minimum 12' width up to 16' in park areas where heavy use warrants a wider trail.

    d) Curb/Shoulder: A suitable shoulder or curbing is required depending on the paving surface. Concrete – None, Asphalt – gravel or concrete, Fine Compacted Aggregate – Concrete or appropriate edging containment.

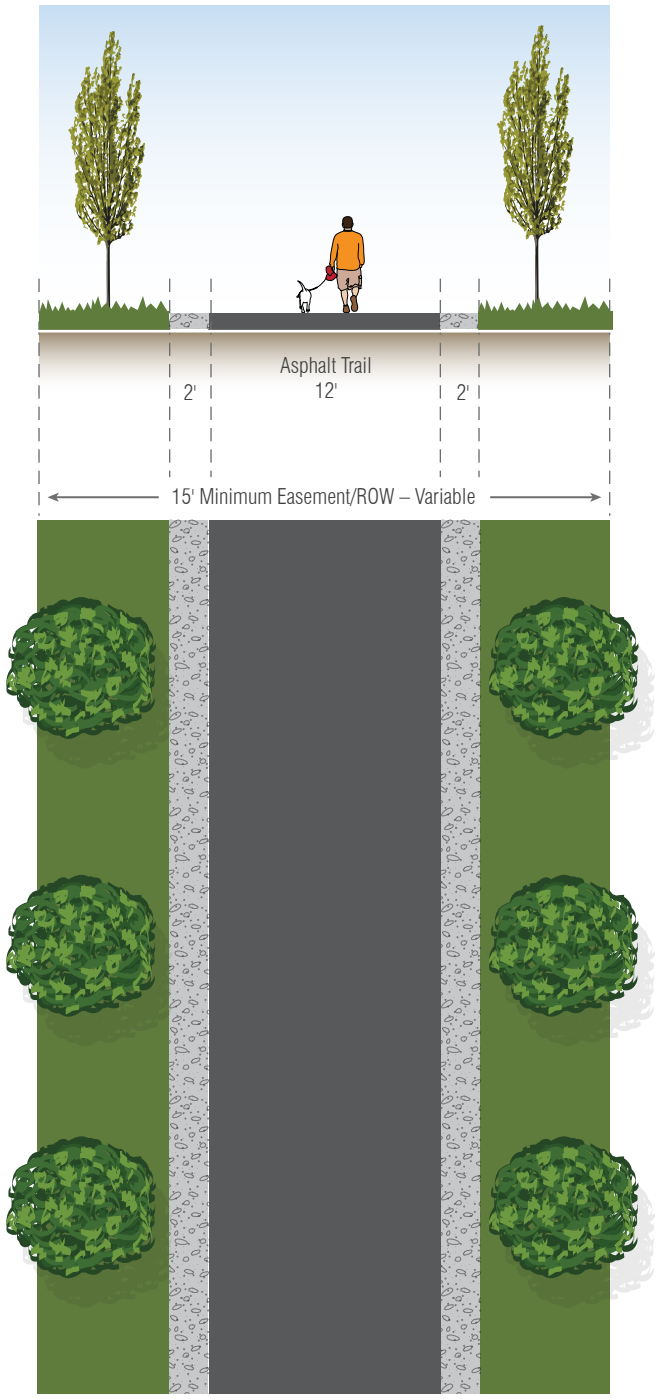
2. Optional/Preferred Amenities:

    a) Park Benches

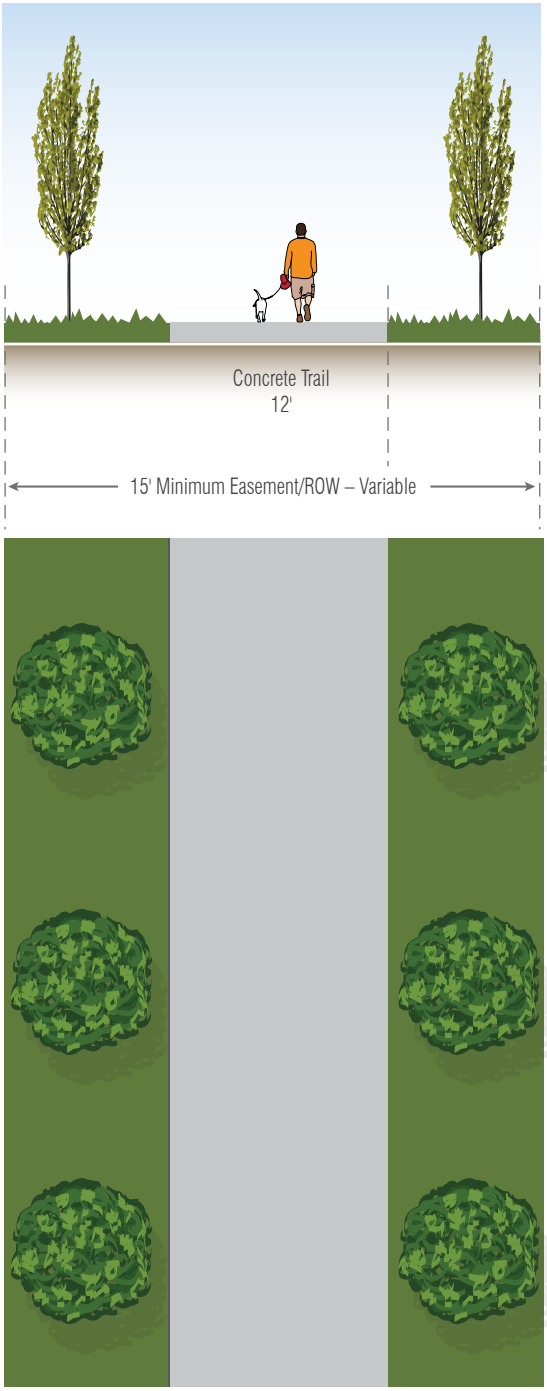
    b) Public Art Installations

    c) Lighting – only where night use is encouraged such as parks.

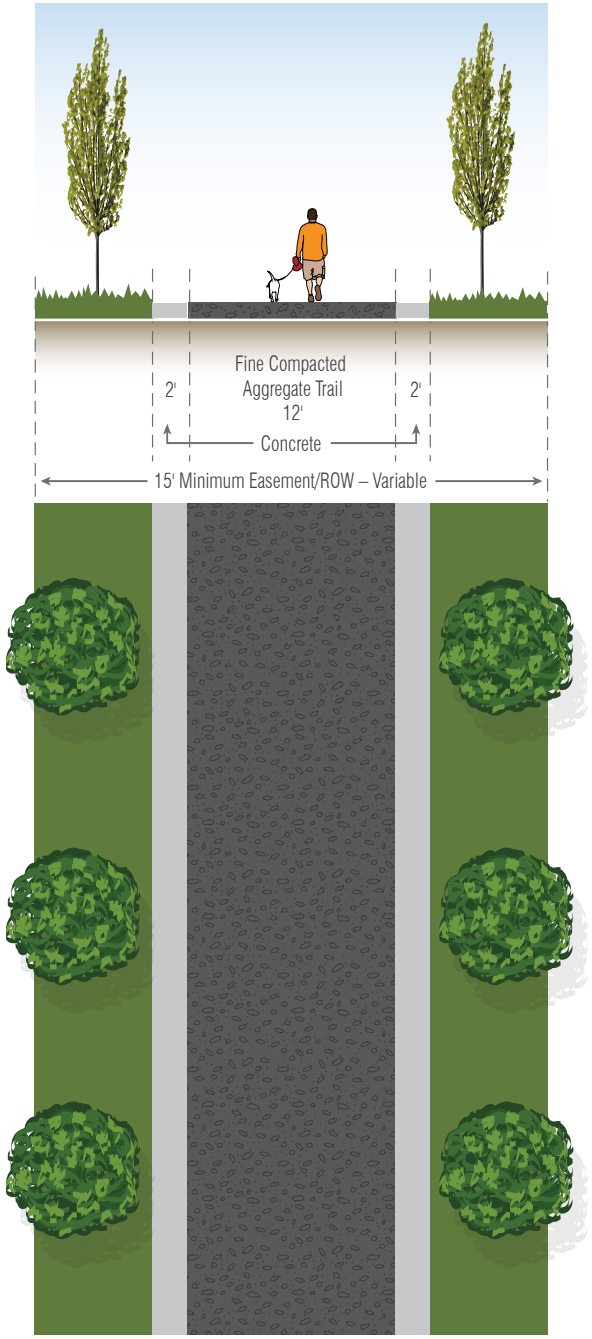
Class I – Shared-Use Trail (Asphalt)



Class I – Shared-Use Trail (Concrete)



Class I – Shared-Use Trail (Aggregate)



5.2 Bicycle and Pedestrian Facility Design Standards and Guidelines

Where these standards are silent or questions and uncertainty regarding design of bicycle and pedestrian facilities exist, refer to one of the following manuals:

1) AASHTO *Guide for the Development of Bicycles Facilities*, 2012

2) AASHTO *Guide for the Planning, Design, and Operation of Pedestrian Facilities*, 2004

3) NACTO *Urban Bikeway Design Guide*

4) FHWA *Manual on Uniform Traffic Control Devices* (MUTCD)

Trailheads

Trailheads are the primary access points to a trail system. The size of the trailhead and its amenities will be determined by the site conditions with consideration of location and anticipated use. Trailheads should be designed and reviewed prior to construction.

Within the plan, the trail heads are well distributed throughout the community and are primarily located at point sources of pedestrian activity. These include schools, parks, playgrounds, and other public facilities. Most of the trailheads already have several amenities such as parking, benches, bike racks, and bathrooms. Therefore, it isn't anticipated that major investments will be required for most of these facilities.

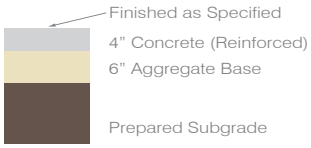
TYPICAL TRAILHEAD AMENITIES
Restrooms
Water Fountains
Parking
Bike Racks
Signage and Trail Maps
Trash Cans
Emergency Phones
Landscaping

Paving

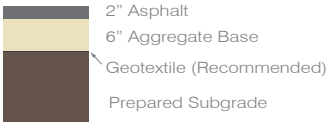
PAVING MATERIALS		
Concrete	Asphalt	Fine Compacted Aggregate

PAVING MATERIAL PERFORMANCE PARAMETERS			
	Concrete	*Asphalt*	*Fine Compacted Aggregate*
Initial Cost	High	Medium	Low
Maintenance	Low	Medium	High
Repair Cost	High	Low	Low
Permeability	None	Semi	Fully

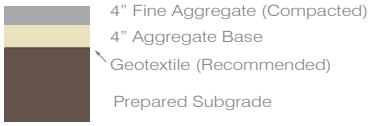
Concrete Paving



Asphalt Paving



Fine Aggregate Paving



Sight Distance

Sight distances should be based upon use for bicyclists and should be based around the hazards, signage, traffic, etc. found on the facility. Design should reference AASHTO *Guide for the Development of Bicycle Facilities*.

> Accessible design is important to ensuring that Bryant's trail facilities can be enjoyed by all users.

Grading and Cross Slopes

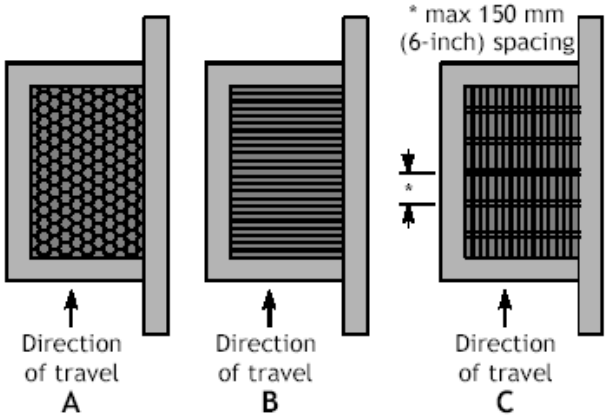
Grading of the trail should be based around intended use for bicyclists and should be compatible with the ADA *Standards for Accessible Design*.

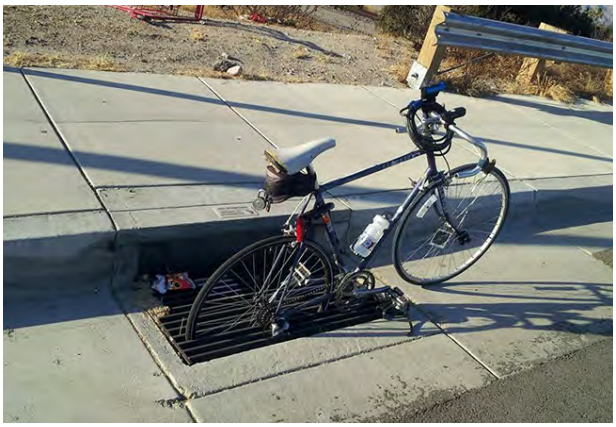
CROSS SLOPES
Do not exceed 2% cross slope.
TRAIL GRADING ALONG ROADWAY
Do not exceed grade of the roadway.

TRAIL GRADING ALONG SEPARATED TRAIL FACILITY	
Distance	Maximum Grade
Overall Trail	5% or less
800 feet	5-6%
400 feet	7%
300 feet	8%
200 feet	9%
100 feet	10%
50 feet	11%

Drainage Grates

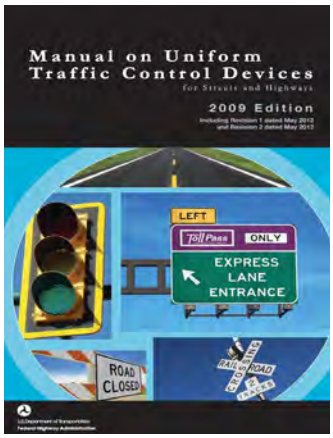
Drainage grates, if improperly designed, can create serious safety hazards for bicycle users by causing bike damages and/or crashes. The following are drainage grates recommended by the Federal Highway Administration.





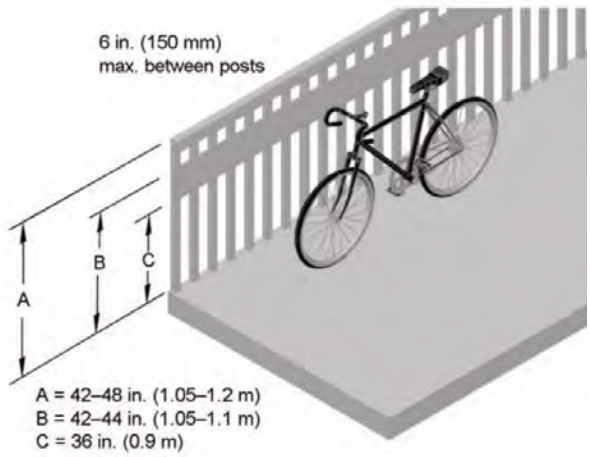
Signage and Pavement Markings

All signage for bicycle and pedestrian facilities should conform to the latest official copy of *Manual on Uniform Traffic Control Devices* (MUTCD).

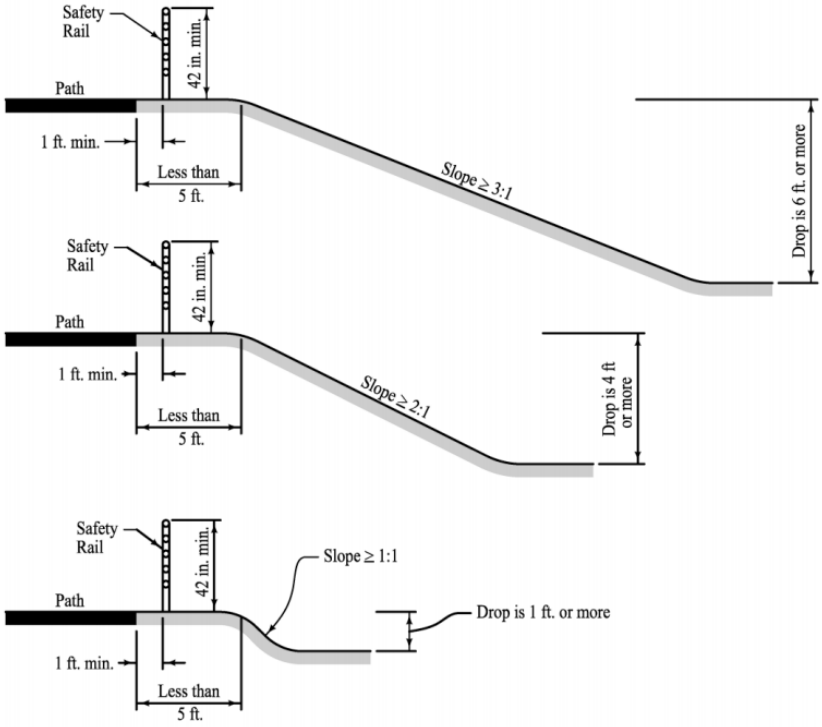


Railings

Where required railings should be at least 42" in height up to 54" in height with 36" bicycle rub-rail.



RAILING USAGE ON TRAILS	
Facility	Used?
Local Street	No
Collector	Yes if <5' setback
Arterial Street	Yes if < 5' Setback
Bridge	Yes
Grade change off Trail	See below



Section Six: **Cost and Phasing**

6.1 Cost Estimates

These cost estimates should be used for planning and budgeting purposes only. They assume the cost associated with the trail or bike/pedestrian improvements as a stand-alone facility or as included in a roadway project. These estimates do not account for any potential needed intersection improvements. Actual trail or improvement construction costs will be determined at the time of design and construction, varying upon the site-specific conditions for each facility. Other unforeseen factors such soil conditions or utility relocation may affect the overall cost of facility development. Raw materials that include a large percentage of the provided cost estimate can fluctuate.

These estimates demonstrate build out of the bicycle/pedestrian system by a private contractor and are based on the assumption that construction costs are borne solely by the City of Bryant. Construction costs burdens can be lessened through grants, city labor, or volunteer labor and materials. It should be noted that City policy will require private development to construct bicycle and pedestrian facilities on private land and along public roadways with commercial and multi-family developments over two acres as well with all platted subdivisions.

Shared-Use Trails

Assumptions: Assumes the cost related to construction. Asphalt construction is indicated for facilities separate from a roadway at $60/LF (linear foot). Concrete construction is indicated for facilities adjacent to a roadway at $100/LF.

Road Adjacent

SECTION	NOTES	SEGMENT COST
North Soccer Park Property Line to Owen Creek	Construct on Park Property with bridge across Owen Creek	$106,065.76
Highway 5 to Northlake Road	Construct with road widening	$1,277,940.19
Bethel Middle School to Little Hurricane Creek	Construct as road is improved	$716,138.53
Reynolds Road to City Limits	Add trail with road widening	$1,894,095.09
Boswell Road to Sullivan Drive	Add to existing roadway	$189,881.26
Springhill to Reynolds	Add trail with widening of road	$599,036.71
Hwy 5 from Alcoa to Springhill	Add Trail with widening	$586,836.09
Mills Park to Alcoa 40 Park	Improve existing sidewalk	$185,831.06
Evans Loop to Highway 5	Widen existing sidewalk	$399,871.42
Proposed Collector to Evans Loop	Build with proposed street construction	$120,926.12
Hurricane Creek to Hill Farm Rd	Construct within Highway 183 ROW	$224,142.37
Pulaksi Tech to Hurricane Creek	Run along existing Highway 183 ROW	$211,351.09
Springhill Road to Hilldale Road	Construct with road widening	$1,073,957.22
Soccer Park to Midland Road Curve	Construct with road widening	$339,236.92
Hurricane Creek to Hurricane Creek (Cynamide Alt)	Cross Union Pacific Railroad with New Overpass	$296,005.71
Cynamide Overpass to Alcoa Road	Construct with New Road	$646,703.50
Hurricane Creek to Carmichael Road	Construct with Road Widening	$262,640.41
Carmichael Road to Highway 183	Construct with Road Widening	$210,944.44
Highway 183 to Hill Farm Road	Construct with New Road and Widening	$130,288.82
Street Rod Ln to Boone Rd Ext	Construct with Alcoa Road Improvements	$410,585.18
Boone Road to Mt Carmel Road	Construct with Alcoa widening	$243,535.53
Hill Road to SE 4th St	Construct with New Road	$264,864.11
SW 3rd to Boswell	Construct with JumpStart Street Improvements	$125,416.69
Boone Rd to Rich Lp	Construct adjacent to UPRR, Provide Fence Barrier	$209,559.49
Rich Lp to NE 3rd St	Construct adjacent to UPRR, Provide postive barrier	$202,878.57
Hurricane Cree Elem to Creek along Shady Trl	Construct with road widening	$122,713.97
Alcoa Road to Shady Trail, Boone Road Ext	Construct with Road Relocation	$130,919.63
Boone Road Ext to Hurricane Creek	Construct with road widening	$580,577.70
Hurricane Creek to Woodland Park Road	Requires new bridge over Hurricane Creek	$33,494.46
Ferguson Property to Pine St on Boswell Road	Construct within ROW, Aggregate Trail	$487,229.16

Road Adjacent Contd.

SECTION	NOTES	SEGMENT COST
Woodland Park Road to Rich St Trail Ext	Construct as road is widened	$399,017.82
Saline County Library to Reynolds Road	Add to existing Road	$49,365.40
Prickett Road to Proposed Debswood Drive Ext	Construct within ROW	$96,913.97
School Drive to Reynolds Road	Widen existing sidewalk	$164,558.02
Lake Yvonne to Mills Park	Construct with new easements	$92,383.51
Springhill Road to Proposed Collector	Construct with New Road	$296,963.74
UPRR to Shobe Road	Construct with new road	$186,736.47
Shobe Road to Raymar Road Overpass	Construct with new road	$499,684.42
Mills Park Road to Cox Canal	Construct with road widening	$679,257.61
Bridgewater Road Ext to Meadow Creek Drive	Construct with road widening	$431,606.04
Cox Canal to Bridgewater Road Ext	Construct with road widening	$185,234.81
Reynolds Road to New Road off Evans Lp	Construct with road widening	$142,060.40
New Road off Evans Loop to Reynolds Road	Construct with Road Widening	$82,907.82
Sheaff Avenue to Highway 5	Add to existing roadway	$246,367.34
Springhill Road to Hilldale Road	Construct with road widening	$1,196,628.89
Springhill Road to Entergy Powerline Easement	Construct with new road	$420,940.91
Hilldale Road to Midland Road Curve	Construct with road widening	$420,740.74
Midland Curve Relocation	Construct with extension of Midland	$131,593.92
Northlake Road to Planning Area Boundary	Construct with road widening	$870,375.86
Soccer Park to Highway 5	Construct with road widening	$32,116.11
Hilltop Road to Owen Creek Trail	Construct with road widening	$112,809.62
Hilltop Road to Entergy Powerline Easement	Construct with road widening	$297,225.77
Reynolds Road to UPRR	Close existing street	$27,440.04
Little Hurricane Creek to Springhill Road	Construct as road is improved	$296,739.64
Alcoa to Mt. Carmel Road	Construct along existing roads	$208,279.31

Separated

SECTION	NOTES	SEGMENT COST
Hilldale Road to Midland Soccer Park	Along creek and sewer easement	$203,150.60
Sullian Drive to Bryant Library/Prickett Road	Obtain easement to construct	$137,818.91
Bishop Park Sewer Easement to Bishop Park	Use sewer easement	$142,538.19
Mills Park Rd to Debswood Dr	Use 12 in sewerline easement and Debswood bridge	$169,395.74
Debswood Bridge to Proposed Collector	Run along creek on City Property	$75,008.40
Bishop Park Multi-Use Trail	Multi-Use trail within Bishop Park	$559,732.22
Bishop Park to Boone Road	Construct around Pond and run under Boone Road Bridge	$55,662.59
Highway 183 to Natural Gas Easement	Run along Hurricane creek	$306,442.06
Pulaski Tech to Natural Gas Easement	Acquire ROW or easement for use on/along B&N Rail	$359,077.73
SW Trail to Bauxite & Northern Railroad	Need easement from Pulaski Tech	$164,209.09
Mills Park to Crooked Creek	Follow tributary to crooked creek, Need bridge	$51,460.22
Reynolds Road to Mills Park Trail	Construct as the property is developed.	$158,391.42
Echo Lake South to Waterford Drive Ext	Construct as property develops	$192,690.69
Waterford Drive Ext to Shobe Road	Construct as property develops	$212,506.44
Midland Road to Fourche Creek/Little Rock	Construct along Owen Creek	$461,384.59
Pulaski County Line to Owen Creek Confluence	Construct along creek in new easement	$581,525.68
Planning Area Limits to Northlake Road	Construct as property develops	$558,747.48
Bauxite & Northern Railroad to Hurricane Creek	Need easement on/along Natural Gas Line	$67,862.03
Natural gas easement to Union Pacific Railroad	Run along Hurricane Creek	$209,971.73
UPRR to Bishop Park	Trail along Hurricane Creek with underpass under UPRR, Alt	$28,973.47
SE 4th to UPRR		$501,889.57
Hill Farm Elementary to Hill Road	On School Property	$41,675.75
NE 3rd to Echo Lake UPRR Overpass	Construct along UPRR ROW	$299,368.98
Shady Trl to Bishop Park Sewer Easement	Run along creek in new easement	$183,882.20
Hurricane Creek Elem to Alcoa	Construct on School Property	$71,832.61
Woodland Park Road through Hurricane Creek Apartments	Obtain easement to use existing cart paths for golf course	$299,351.89
Hurricane Creek Apartments	Construct on existing golf course	$12,876.99
Hurricane Creek Apartments	Obtain easement to use existing cart path on golf course	$28,181.07
Hurricane Creek to Springhill Overpass	Construct on private property as develops	$112,655.20
Woodland Park Road to Boswell Road	Construct as the property is developed	$45,529.79

Separated Contd.

SECTION	NOTES	SEGMENT COST
Woodland Park Road to Boswell Road	Construct as the property is developed	$45,529.79
UPRR to Mills Park Road	Construct as the property is developed	$37,987.49
Proposed Collector to Hilldale Road	Construct along creek in sewer easement	$387,792.24
Hilldale Road to Entergy Powerline Easement	Construct along creek in sewer easement	$122,340.07
Entergy Powerline Easement to Sewer Easement NW	Construct along creek in sewer easement	$158,905.90
Sewer Easement to Hilldale Road	Construct along creek	$87,765.44
Midland Soccer Park to Midland Road	Construct along creek inside park property	$56,939.66
Northlake Road Ext to Owen Creek Trail	Construct within the existing Entergy Powerline easement	$306,587.29
Alcoa 40 Park	Construct through park partially along existing sewer line	$377,283.24
Private Land between Alcoa 40 Park Land	Construct on private property using existing sewer easement	$37,362.18
Hurricane Creek Apartments to I-30	Construct new trail along Hurricane Creek, Go Under I-30 Bridge	$63,620.39
I-30 to Highway 5	Construct on private property as developed	$77,577.34
Mt Carmel Road to Hurricane Creek	Construct on property from Everett BGMC	$151,510.15

Bike Lanes

Assumptions: Assumes the cost related to paving and striping of a bike lane, as appropriate. Thus, paving costs assumed are those that include the additional paving that will be necessary to accommodate the bike lane and not total street cost. This is typically 13'-16' of paving to accommodate bikes lanes plus buffer areas at $80-100/LF. Where cost savings are sought, buffers can be reduced to yield a planning cost estimate of $60/LF. Paving is assumed with 4" ACHM Paving and 12" Aggregate Base.

SECTION	NOTES	SEGMENT COST
N Crescent Drive to Shobe Road	Construct with New Road as property develops	$9,968.80
Rich St to NW 4th St	Construct as a SRTS project, Bike Lane, Add Sidewalks	$10,832.68
Mt Carmel Road to Boone Road	Construct with new road as property develops	$338,474.73
Alcoa Road to Mt Carmel Road	Construct with new road as property develops	$164,197.00
Boswell Road to Sheaff Avenue	Construct with road widening	$320,716.58
Woodland Park Road to Prickett Road	Construct with new road	$165,689.30
Sheaff Avenue Ext to Bishop Drive	Improve with bike lanes with future widening and current pavement	$151,253.17
Bishop Drive to Woodland Drive	Restripe with Bike Lanes	$19,312.33
Woodland Road to Saline County Library	Restripe existing pavement	$5,285.02
Reynolds Road to Mills Park Road	Restripe existing pavement, construct new sidewalk	$28,173.44
Debswood Drive Ext to Neal Street	Restripe existing pavement	$20,858.05
Hunter Lee Drive Ext to edge of Meadowlake Sub	Construct with New Road as property develop	$10,387.84
Echo Lake South to Waterford Drive Ext	Construct with new road	$17,710.21
Lora Drive to Shobe Road	Construct with road widening	$314,580.36
Raymar Road Overpass	Work with AHTD to restripe existing overpass	$17,323.19
Highway 5 to Hilltop Road	Construct with new road	$219,699.58
Midtown undeveloped north to Hilltop Road	Construct as property develops	$260,988.46
Reynolds Road to N Elm St		$30,996.82

Bike Routes

Assumptions: Assumes the cost of bike routes to include sharrows and signage. Signs ($300) to be placed each 250' and sharrows ($700) to be placed each 500'. This yields a cost of $5/LF.

SECTION	NOTES	SEGMENT COST
Edge of Meadowlake Sub to Meadowlake Drive	Stripe for bike route, add bike route signage	$2,041.31
Waterford Drive to Raymar Road	Stripe for bike route, add bike route signage	$11,306.59
Meadowlake Drive to N Crescent Drive	Stripe for Bike Route, Add bike route signage	$6,857.03
Springhill Road to Commonwealth Drive	Stripe as bike route, add bike route signage	$33,219.53
Reynolds Road to Providence Drive	Stripe as bike route, add bike route signage	$3,776.81
Midtown Bryant South entrance to undeveloped north	Restripe as bike route, add bike route signage	$6,611.11
Highway 5 to Ashlea Place Drive	Stripe as a bike route, add bike route signage	$4,295.59
Commonwealth Dr to Hwy 5	Stripe for bike route and add bike route signage	$18,076.19
Spruce to Oak	Stripe with Sharrow, Bike Route Signage, Add Sidewalks	$7,789.95
Oak to existing sidewalk	Stripe with Sharrow, Bike Lane Signage, Add Sidewalk	$2,037.97
Ashley Park to Elm St	Stripe for Sharrow, Bike Lane Signage	$3,228.87
SW 3rd to SW 1st	Stripe for Sharrow, Bike Route Signage, Add Sidewalk	$3,565.78
SW Elm to SE Laurel	Stripe for Sharrow, Bike Route Signage, Add Sidewalk	$7,311.09
Reynolds to SE Laurel	Stripe for Sharrow, Bike Lane Route, Add Sidewalk	$5,003.34
Elm to Reynolds	Stripe for Sharrow, Bike Route Signage, Add Sidewalk	$1,696.25
NE 1st to Mills Park Rd	Stripe for Sharrow, Bike Route Signage, Add Sidewalk	$5,165.81
Pine Street to NE Hazel Street	Stripe with Sharrow, Bike Route Signage, Improve Sidewalks	$10,579.80
Wilkerson to SW 4th	Stripe with Sharrow, Bike Route Signage, Add Sidewalks	$13,205.70
Carmichael Road to SW 3rd St	Stripe with Sharrow, Bike Route Signage, Add Sidewalks	$2,223.94
SE 4th to SE Laurel	Stripe for Sharrow, Bike Route Signage, Add Sidewalk	$1,478.97
SE 3rd to SE 1st	Stripe for Sharrow, Bike Route Signage, Add Sidewalk	$3,595.51
UPRR to Bryant Parkway Terminus	Stripe shoulder with Sharrows and Sign as Bike Route	$92,421.54

6.2 Phasing Plan

Phasing of the implementation of the bike and pedestrian network is broken down into the three phases based upon location, need, cost, and construction constraints. **The following is an explanation of each phase within the plan:**

Phase 1: Years 1-5

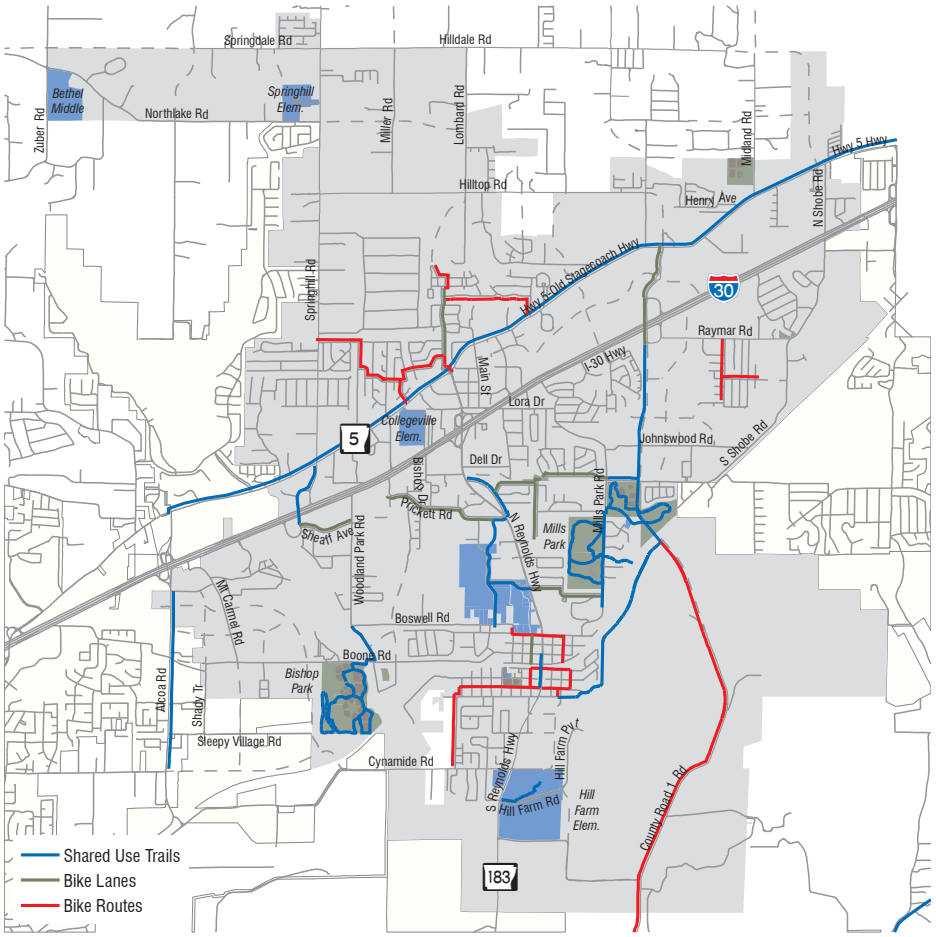
This phase consists primarily of many "low-hanging fruit" or quick victory projects that can be accomplished in the very near term. Such projects are important as they create momentum for the plan and help create a constituency that advocates for continued implementation of the plan.

Phase 1 also contains projects that are currently under construction or will be constructed in the near term as well as segments that are considered critical or important linkages.

These include:

- Bike routes on streets that only require sharrow striping and signage.
- Bike lanes on streets thatonly require restriping of an existing street.
- Shared-use trails planned for construction by the City or AHTD within five years.
- Shared-use trail planned within existing parks.
- Shared-use trails that serve as high priority linkages between existing facilities

Examples: Alcoa Road Trail, Prickett Road Bike Lanes, Heart of Bryant Bike Routes



Phase 2: Years 5-15

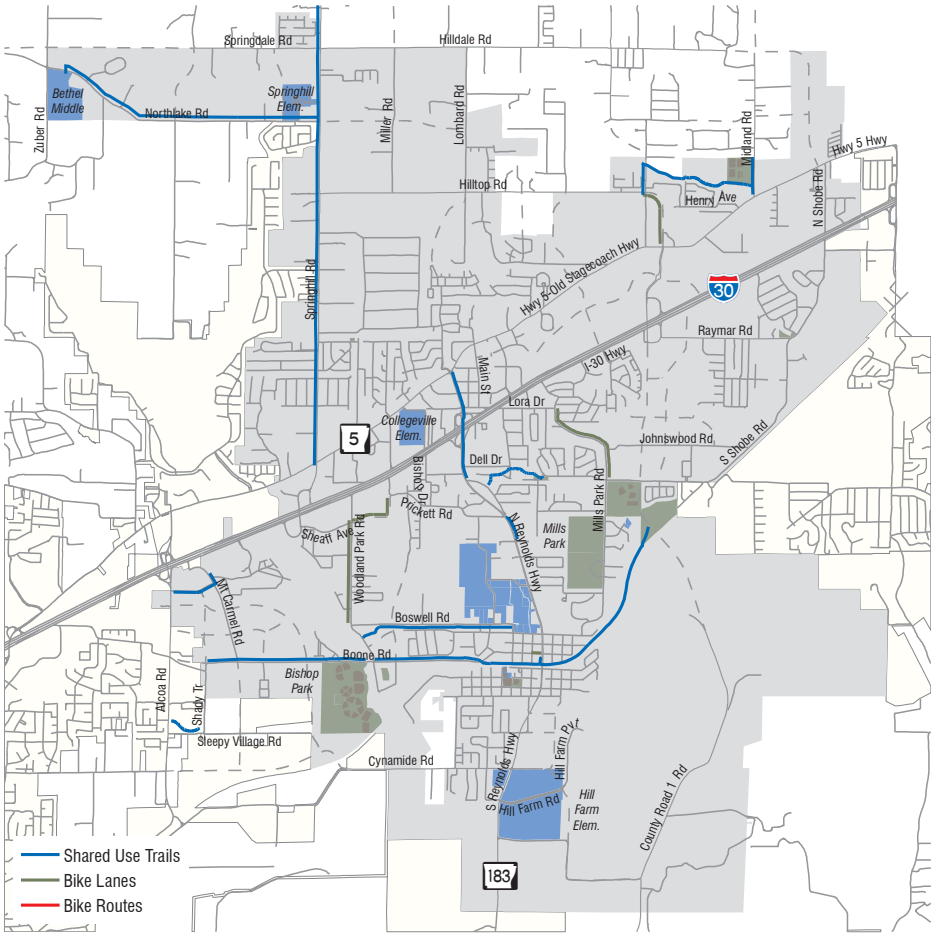
This phase consists of projects that will largely require significant dedicated funding with many segments included with new street construction (Snooks Ln Extension) or street improvements (Boone Road). Other segments will require coordination with private land owners, utilities, or Union Pacific Railroad.

Phase 2 will build on the backbone developed in Phase 1, extend the bike/pedestrian network to include linkages into more neighborhoods, and link more parks, schools, and shopping areas.

These include:

- Bike lanes and shared-use trails that will require street widening.
- Bike lanes and shared-use trails running with roads that are projected to be constructed by the City.
- Shared-use trails that will require acquisition or use of easements.
- Shared-use trails planned for construction by the City or AHTD within five years.
- Shared-use trail planned within existing parks.

Examples: Boone-Rail Trail, Owen Creek Trail near Midland Park, Woodland Park Road Bike Lanes



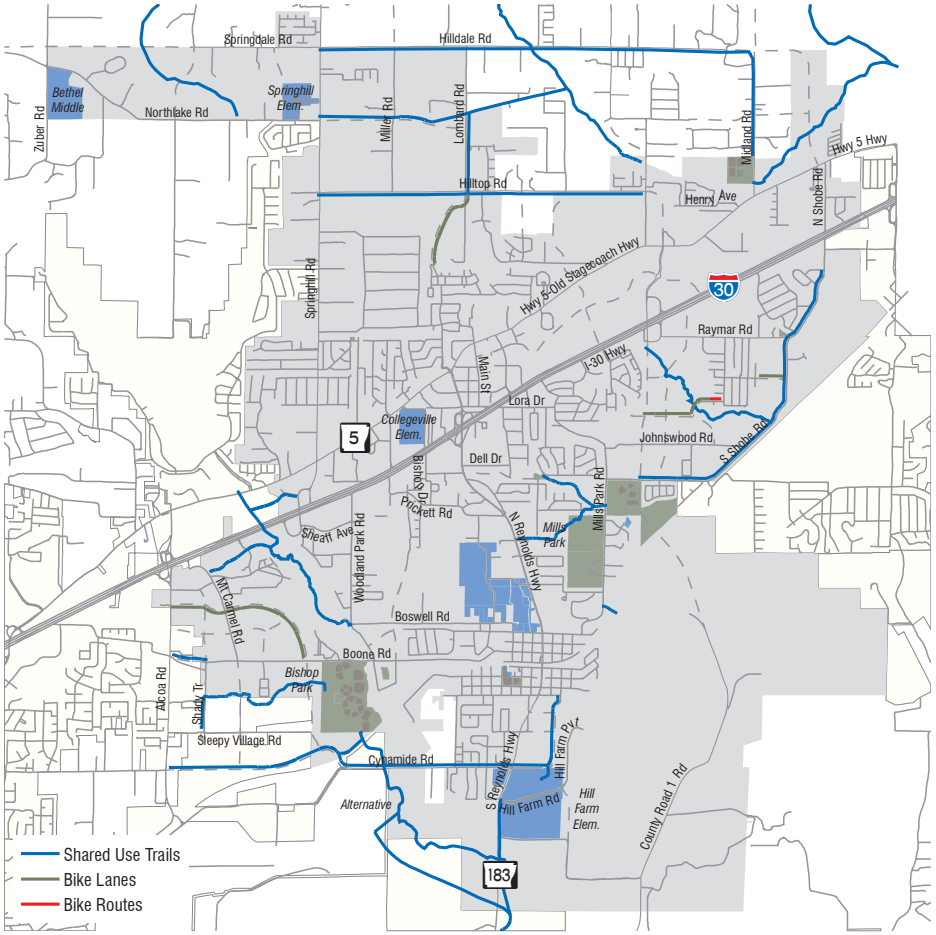
Phase 3: Long Range Projects

This phase predominantly contains projects that are not intended to be constructed by the City of Bryant. This means either bike/pedestrian infrastructure constructed as part of development, trails outside the City limits, or projects that will require regional cooperation. As such, these projects are considered long range, but some can be constructed in the very near term as a result of private development. Other segments are considered long range "dream" projects such as the Hurricane Creek Greenway Trail.

These include:

- Shared-use trail and bike lanes contingent upon future private development.
- Shared-use trails and bike lanes along long-range street improvement projects.
- Shared-use trails and bike lanes that can only be made useful after Phase 1-2 is constructed.

Examples: Hurricane Creek Trail to SW Trail, Crooked Creek Trail, Trail along Northlake Road extension



Section Seven: **Work Plan**

7.1 Implementation Matrix

The following is a matrix that details the actions needed to carry out this plan along with the parties responsible for implementation.

Implementation Actions	Responsible Party			
	City	Developer	AHTD	Metroplan
PLAN ADOPTION AND TRANSPORTATION PLANNING				
1) Adopt Walk Bike Drive – Master Transportation Plan.	✓			
2) Encourage transportation design elements that encourage safety for all users.	✓	✓	✓	✓
3) Provide consultation, advice, and assistance on planning transportation improvements in the City.				✓
DEVELOPMENT PLAN REVIEW				
1) Utilize the Bryant Subdivision Code to carry out the plan.	✓			
2) Regulate driveway access on City streets.	✓			
3) Regulate driveway access on state highways.	✓		✓	
4) Ensure bicycle and pedestrian facilities are considered and incorporated in development plans.	✓	✓		
5) Ensure adequate rights-of-way are dedicated with new developments.	✓			
6) Review proposed half-street improvements for new developments along state highways and arterial roads, which are part of the CARTS Regional Arterial Network.	✓		✓	✓
7) Ensure the enforcement of access management policies and standards contained in this plan and all other City plans and regulations.	✓			
8) Ensure all development proposals are consistent with the provisions of this plan.	✓	✓		

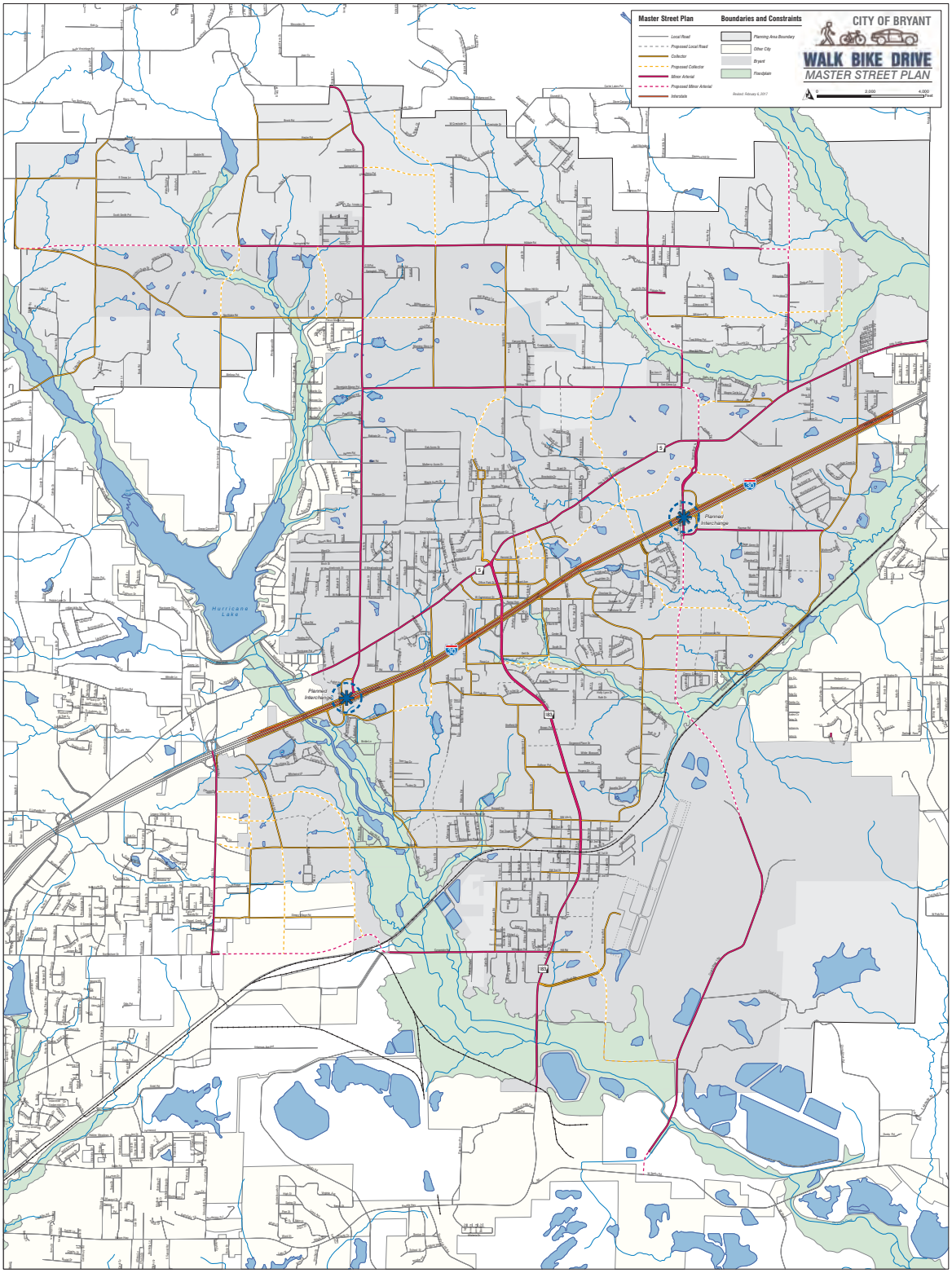
Implementation Actions	Responsible Party			
	City	Developer	AHTD	Metroplan
9) Ensure development review carefully considers both transportation and land use issues simultaneously.	✓			
TRANSPORTATION FACILITIES CONSTRUCTION				
1) Construct half-street improvements for new developments on City streets and state highways according to the cross section standards of this plan.		✓		
2) Finance and construct any proposed trails/sidewalks and local or collector level streets as a part of a new development.		✓		
3) Finance and construct any proposed minor or major arterial street as part of a new development.	✓	✓		
4) Finance and construct trails/sidewalks/bike lanes as well as the widening or location of a new or existing City street that is not tied to a proposed development.	✓			
5) Finance and construct the widening or location of a new or existing state highway that is not tied to a proposed development.			✓	
6) Finance and construct trails/sidewalks/bike lanes as well as the widening or location of a new or existing road, which is part of the CARTS Transportation Improvement Program.	✓		✓	✓
6) Maintain City streets.	✓			
7) Maintain state highways.			✓	

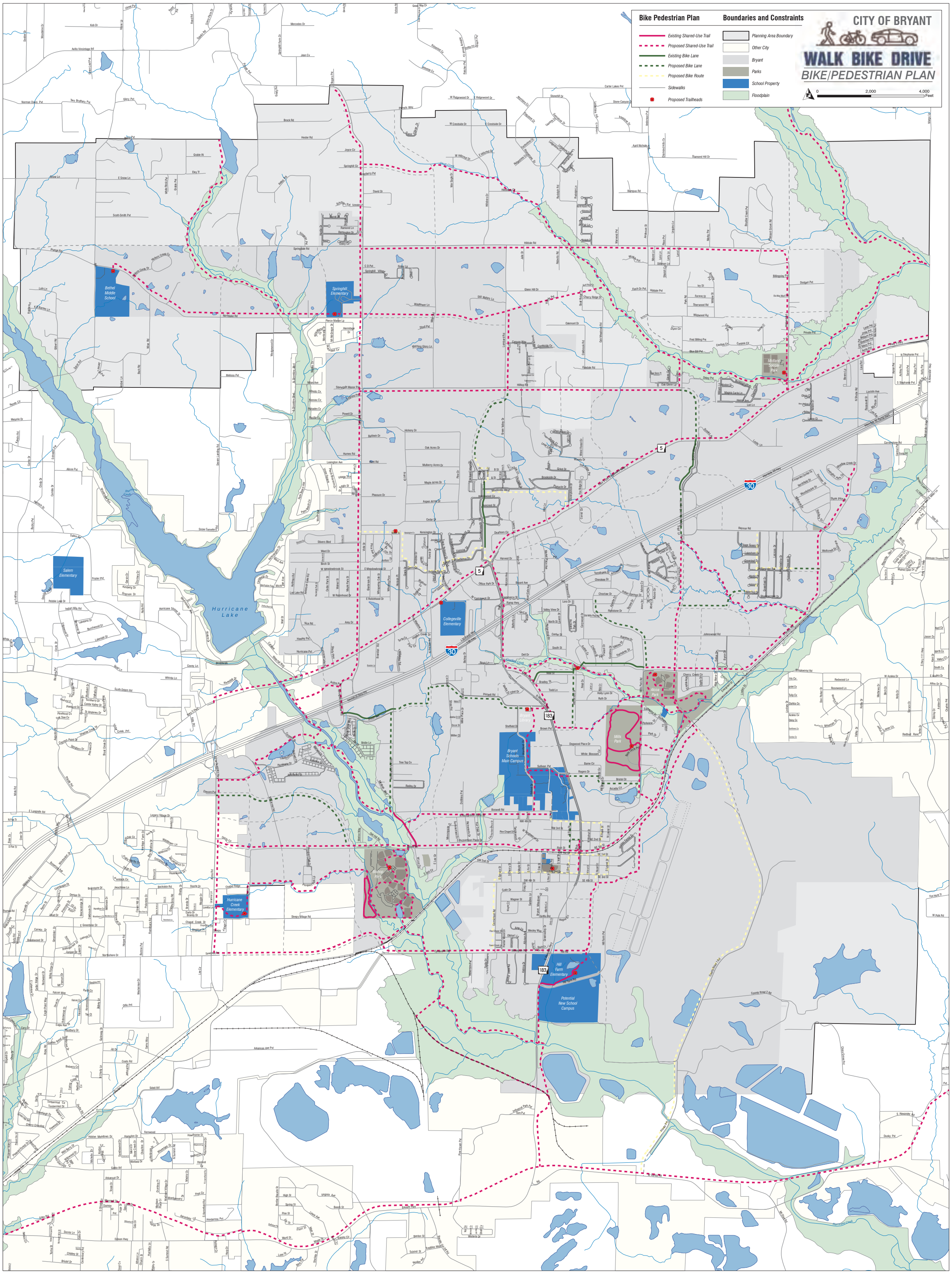
7.2 Performance Measures

The following is a list of performances measures that can track the overall success in implementation of this plan in addressing issues of traffic, vehicle and bike/pedestrian safety, street and bike/pedestrian connectivity, capital improvements, and community satisfaction.

PERFORMANCE MEASURE	GOAL	PROGRESS INDICATOR	LONG-RANGE TARGET
% of Bryant school campuses connected by sidewalks/trails	Improve Connectivity	Annual % increase	100%
% of residences within a ½ mile to bike/pedestrian facilities, including bike lanes and trails	Improve Connectivity	Annual % increase	100%
Number of crashes involving bikes and pedestrians	Improve Safety	Annual decrease in number of crashes	50% reduction from 2016 levels
Number of fatal crashes involving bike and pedestrians	Improve Safety	Annual decrease in number of fatalities	0 deaths
Number of linear miles of street per square mile	Improve Connectivity	Annual increase in street network density	20 miles/sq. mi.
Miles of trails	Capital Improvements	Annual increase in number of miles	10.5 miles by 2030
Miles of sidewalks	Capital Improvements	Annual increase in number of miles	100 miles by 2030
Miles of bike lanes/bike routes	Capital Improvements	Annual increase in number of miles	18 miles by 2030
% of students walking/biking to school	Improve Health	Annual % increase	25%
Number of marked crosswalks	Improve Safety	Annual increase in number of crosswalks	
Linear feet of street overlain each year	Capital Improvements	Amount as budget allows. Currently need approximately 4 miles per year to for adequate maintenance of system.	~4 miles/year
Acres of land developed in a walkable manner	Improve Walkability	Annual increase	300 acres by 2030
% of overall bike/pedestrian system completed	Capital Improvements	Annual % increase	75% by 2030
% of overall roadway system completed	Capital Improvements	Annual % increase	75% by 2030
% level of community satisfaction with bike/pedestrian system	Resident Satisfaction	Annual % increase	90%
% level of community satisfaction with traffic	Resident Satisfaction	Annual % increase	75%

Section Eight: **Plan Map**




Bike Pedestrian Plan
Existing Shared-Use Trail
Proposed Shared-Use Trail
Existing Bike Lane
Proposed Bike Lane
Proposed Bike Route
Sidewalks
Proposed Trailheads
Boundaries and Constraints
Planning Area Boundary
Other City
Bryant
Parks
School Property
Floodplain
CITY OF BRYANT
WALK BIKE DRIVE
BIKE/PEDESTRIAN PLAN
0
2,000
4,000
Feet
Hurricane Lake
Bethel Middle School
Springhill Elementary
Salem Elementary
Collegeville Elementary
Bryant Schools Main Campus
Hurricane Creek Elementary
Hill Farm Elementary
Potential New School Campus