

City of Central, Louisiana

TRANSPORTATION PLAN



Final Report: Volume II

February 2014

Developed For



Developed By



Contents

SECTION 1: ACCESS MANAGMENT POLICY

SECTION 2: BICYCLE AND PEDESTRIAN PLAN

SECTION 3: TYPICAL SECTIONS

Section 1: City of Central Access Management Policy

Prepared For:



Prepared by



February 2014

CONTENTS

CHAPTER 1: INTRODUCTION	1
1.0 Goal and Purpose	1
1.1 Principles of Access Management.....	1
CHAPTER 2: ACCESS MANAGEMENT CATEGORIES	2
2.0 Roadway Access Categories	2
CHAPTER 3: ACCESS AND DESIGN	5
3.0 Introduction.....	5
3.1 Access Points	5
3.1.1 Connections.....	5
3.1.2 Median Breaks.....	6
3.2 Design Standards.....	7
CHAPTER 4: TRAFFIC IMPACT STUDY REQUIREMENTS.....	13
APPENDIX.....	14

FIGURES

Figure 1: Access Management Categories	4
--	---

TABLES

Table 1: Desirable Separation Distance (Feet) Between Adjacent Connections.....	6
Table 2: Throat Length Requirements.....	9
Table 3: Waiting Vehicle Storage Requirements.....	12

Glossary

LADOTD – Louisiana Department of Transportation and Development

CHAPTER 1: INTRODUCTION

1.0 Goal and Purpose

Access management is about providing access to individual properties while maintaining a safe and effective flow of traffic on the surrounding roadway network. It requires a reasonable balance between the needs of the property owner and the safety of the nearby roadways as the values of “traffic flow” and “direct access” conflict with each other. Naturally, the property owners seek unlimited access to the adjacent road network which increases the risk of crashes on the roadway. Conversely, very limited access is sought to provide safe traffic flow on the city road network which may conflict with providing reasonable access to the adjacent properties.

The goal and purpose of this policy is to set access management standards for the City of Central that will allow reasonable access to the properties while meeting the standards for traffic flow and safety. While developing this policy, it is recognized that no single standard can provide a city-wide definition for reasonable access. Existing uses and rights, street differences, site constraints, future land uses, and many other factors make it impractical to create a one-size-fits-all rule. Each site permit should be examined on its ability to apply the pertinent standards to that site. The standards of this policy constitute best practices. Conforming to the best practices will result in reliable, quick approval. If a site plan does not conform to these standards, approval may still be gained by engaging in discussions with the Public Works Department.

1.1 Principles of Access Management

The American Association of State Highway and Transportation Officials “Green Book”¹ defines the principles of access management as:

- ▶ Classify the road system by the primary function of each roadway
- ▶ Limit direct access to roads with higher functional classification
- ▶ Locate traffic signals to emphasize through traffic movements
- ▶ Locate driveways and major entrances to minimize interference with traffic operations
- ▶ Use curbed medians and locate median openings to manage access movements and minimize conflicts

¹ AASHTO. *A Policy on Geometric Design of Highways and Streets*. 6th Ed. American Association of State Highway and Transportation Officials, Washington, DC: 2011. 2-72. Print.

CHAPTER 2: ACCESS MANAGEMENT CATEGORIES

2.0 Roadway Access Categories

The functional classification of roadway will often be the most important factor to determine its appropriate level of access. Each roadway facility provides separate and distinct traffic service functions. Their designs also vary in accordance to the characteristics of traffic to be served by the facility.

Five levels of access management categories have been defined for streets within the City of Central:

Access Category A: Freeways and Expressways

These roads serve high volumes of traffic traveling long distances. Their function is to provide mobility of through traffic. Access is limited and controlled to reduce interference and facilitate through movements. Access management for this road category is controlled by the LADOTD.

Access Category B: Major Arterials

These streets are of regional importance and are intended to serve high volumes of traffic traveling relatively long distances. This category is intended primarily to serve through traffic and access is limited. Access to state controlled major arterials must be obtained from the LADOTD in consultation with the Director of Public Works. Access to Major Arterials that are not maintained by the LADOTD must be obtained from the Director of Public Works.

Access Category C: Minor Arterials

This category is similar in function to Category B, but operates under lower traffic volumes and speeds, serves trips of shorter distances, and provides a higher degree of property access than Category B.

Access Category D: Collectors

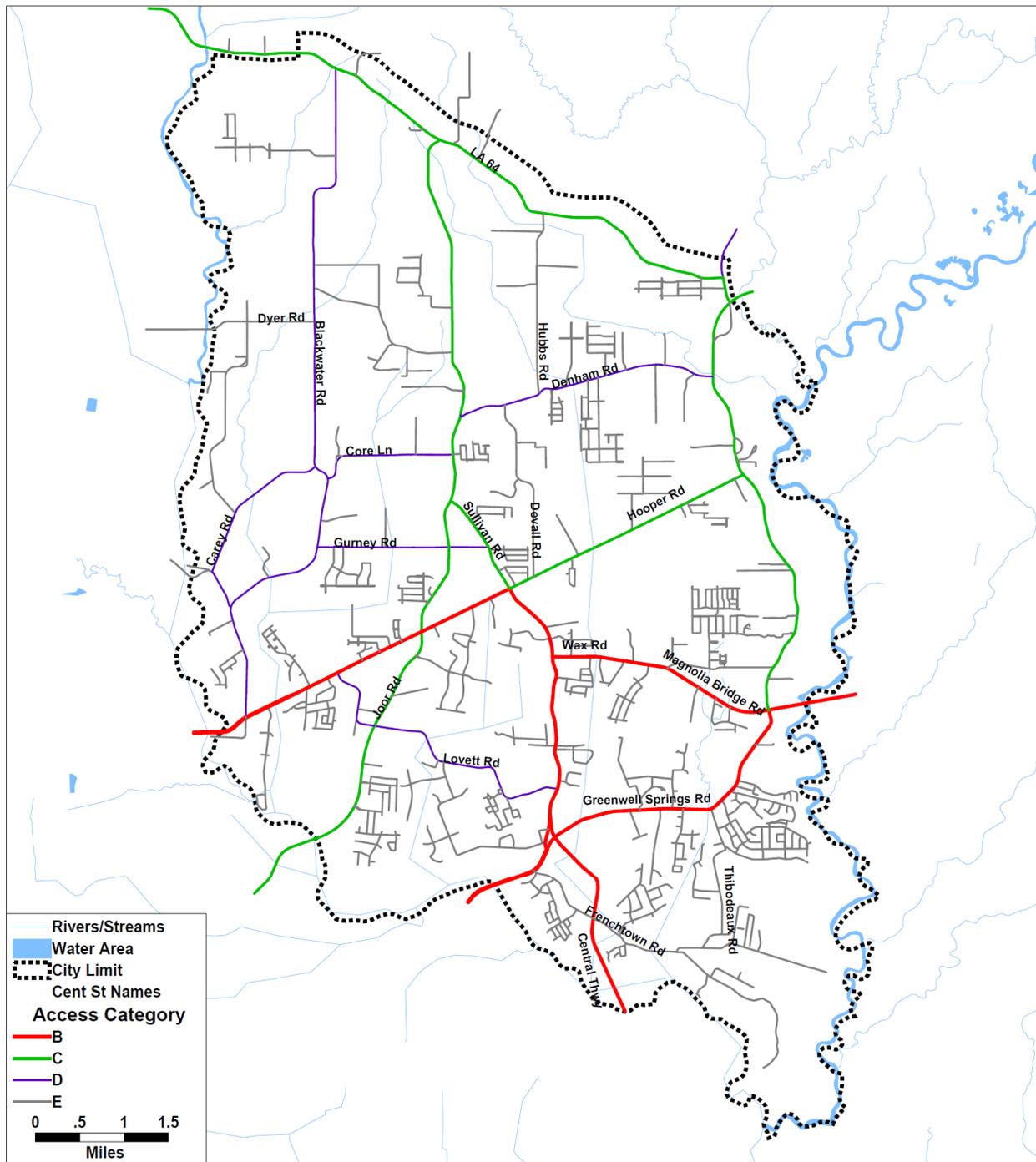
Collectors provide for traffic movement between arterials and local streets and that carry moderate traffic volumes over moderate distances. They provide a mix of the functions of mobility and access, and therefore do not function as well as Arterials or as Local Streets for those purposes, respectively. Category D streets may provide direct access to abutting commercial properties, but streets with higher traffic volumes may have restrictions on direct access for individual residences.

Access Category E: Local

Local streets are intended solely to provide access to abutting properties, carry low traffic volumes, serve short trips, and provide connections to higher category streets.

The access management category of streets within the corporate limits of the City of Central is shown in Figure 1.

Figure 1: Access Management Categories



Source: NSI, City of Central, LADOTD

CHAPTER 3: ACCESS AND DESIGN

3.0 Introduction

Access control is used to regulate access points where vehicles enter or leave a facility and can be classified into three categories:

- Full control of access: Under full control access, priority is given to through traffic and access to the highway is only provided at interchanges with select public roads
- Partial control of access: Under partial control access, priority is given to through traffic on the highway, but some at-grade intersections and private drives may be allowed.
- Driveway and approach regulations: Driveway and approach regulations, to a lesser degree, also control access to a highway.

3.1 Access Points

3.1.1 Connections

Connection points to the existing system must be located in order to minimize the impact they have on through traffic and other street connections. It is important to avoid locating connection points along acceleration or deceleration lanes, tapers at street intersections or interchanges to minimize the potential for vehicular weaving conflicts. When minimum separation distances are less than median opening spacing, connections typically will be limited to right-in, right-out movements. Connection points to Category A, B and C streets shall serve multiple properties, not small or single use trip generators.

Connections to Category A, B and C shall be limited to public or private streets only. No access connections shall be allowed within 1,320 feet of on-ramps or off-ramps to Category A or B facilities. Any deviation from this standard must be approved by the LADOTD. In no case shall the distance be less than 750 feet².

The City would welcome the creation of shared access when a property is subdivided into multiple lots to avoid individual access points. Shared access between adjoining property owners would be

² Table 9-14 of Access Management Manual, Transportation Research Board of National Academies, 2003

considered a single access, thereby eliminating the need for meeting the spacing criteria between those two accesses. Additionally, the City recommends cross access between commercial properties whenever possible to improve safety of the adjacent roadway corridor. Cross access is achieved when property owners agree to allow other parcels to cross their property to access a driveway access point. Cross and shared access reduces the number of driveways, the number of driveway conflict points along the arterial, and helps traffic move smoothly along the roadway.

Access connection spacing distances shown in Table 1 are based upon a synthesis of typical distances used by other jurisdictions. If there is a conflict between the values shown in Table 1 with LADOTD standards for the roadways controlled by LADOTD, then LADOTD values should be used.

Posted Speed	Category A ¹	Category B	Category C ⁴	Category D ^{2,3}	Category E ³
25 mph	N/A	660 ⁴	150	100	50
30 mph	N/A	660 ⁴	330	100	50
35 mph	N/A	660 ⁴	330	125	50
40 mph	N/A	1,320	660	150	N/A
45 mph	2,640	1,320	660	180	N/A
50 mph	2,640	1,320	660	N/A	N/A
55 mph	2,640	1,320	660	N/A	N/A

¹ Applies only to Expressways. No direct access allowed to Freeways.
² Commercial/industrial driveways only. 25' separation required on residential driveways.
³ Distance from an adjoining street. Access is allowed to each property.
⁴ May be limited to right-in, right-out.

3.1.2 Median Breaks

The distance required between median breaks depends upon the category, adjacent land use and level of development of the roadway. If the location is not appropriate for a traffic signal, then plans for closing or restricting the median opening shall be made with the initial construction.

Left turn movements shall not be permitted if a median is already established. If it can be shown that creating a median opening will provide significant operational and safety benefits to the general public and the street would continue to function at the category assigned to it, the Public Works Department may consider a break in the median.

Access Category A: Freeways and Expressways

Freeways have no median breaks and accesses will be interchanges with spacing of no less than two miles. Expressways do provide median breaks, which should be limited to one-half mile spacing. All median openings shall be designed for WB-67.

Access Category B: Major Arterials

Major Arterials allow median breaks every 1/2 mile³ on roadways where a median did not exist prior to the current project. Similarly, allow median breaks every 1/4 mile⁴ on roadways where a median exists. All median openings shall be designed for at least a single unit (SU) truck.

Access Category C: Minor Arterials

Minor Arterials allow median breaks every 1/4 mile.

Access Category D: Collectors

Collector streets that have medians may allow median breaks every block, if appropriate turn lane lengths can be accommodated.

Access Category E: Local

Local streets typically do not have medians unless they are for aesthetic purposes. Median break spacing in these streets are unrestrained, unless safety issues are identified.

3.2 Design Standards

Driveway Width

The maximum width driveway permitted for a residence shall be 30 ft. The width of driveways for commercial establishments shall be governed by the angle at which the driveway intersects the highway. When the angle of intersection is between 45 degrees and 60 degrees, the maximum width shall be 30 ft. When the angle of intersection is between 61 degrees and 90 degrees, the maximum width shall be 35 ft. Wider driveways may be allowed if needed to accommodate truck traffic or

³ For more details refer to LADOTD EDSM No: IV.2.1.4

⁴ For more details refer to LADOTD EDSM No: IV.2.1.4

additional lanes are needed due to high volumes of traffic using the driveway, as approved by the Director of Public Works.

Radii

The permissible radii on driveway returns shall be governed by the type of driveway to be constructed and shall be shown on sketches as per LADOTD standard plan DW-01 and DW-02 (Appendix A). Higher speed or higher volume roads should cause the higher radii values to be used. Larger radii may be used for driveways with regular truck traffic or on high speed roadways if approved by Public Works. The combination of the driveway width and radii should eliminate encroachment of turning vehicles on adjacent lanes. The radius of a commercial driveway should not extend beyond the property line of the parcel being served. In the event this requirement cannot be met due to existing driveway spacing, a shared access may be required.

Angle

Driveways should normally be placed at 90 degree angles to the roadway. For one-way drives, a maximum angle of 45 degrees is suggested. All driveways should be tested with turning templates during design to ensure that the largest vehicles that will be using them can be accommodated. When angled driveways are used, it is important to ensure that vehicles exiting the site will have a good view of oncoming traffic with which they will need to merge.

Grades

The grade of entrance and exit shall slope downward away from the road surface at a rate of not less than one-quarter (1/4) inch in one (1) foot or not more than one (1) inch per foot for a distance of not less than ten (10) feet; provided that when curbing or curb and gutter is removed the entrance and exit shall be constructed and the grade of entrance and exit shall conform to the grade of sidewalks, if any, and a neat junction between the apron of the entrance and exit and the sidewalk shall be made. The curbing shall be returned into the entrance and exit on a radius of not less than 3 ft nor more than 15 ft.

Throat length

Driveway throat length is important for safe and efficient traffic operations on the site and the abutting roadway. The driveway throat needs to be of sufficient length so that vehicles may enter, exit, or circulate on the site without interfering with each other or with through traffic on the abutting street. A sufficient throat length enables drivers entering a site to clear the street intersection before encountering the on-site circulation. Inadequate throat length produces a

complex pattern of closely spaced conflicts, which results in high collision potential and low capacity. Where the on-site parking layout is such that the unparking maneuvers may block the driveway and prevent a vehicle from entering the site, additional throat length may be required.

Table 2 Throat Length Requirements	
Typical Type of Establishment (peak hour vehicles in both directions)	Throat Length
For low traffic volume commercial and industrial access connections (below 150)	20 feet
For medium traffic volume commercial and industrial access connections (150-400)	60 feet
For high volume access connections such as a shopping center entrance (over 400)	Should be determined by the results of a traffic impact study

Providing the required throat length shall generally only be required when accessing a Category A, B or C street. Throat length requirements also may be addressed and modified as a result of a Traffic Impact Study. Throat length may be reduced if sufficient turn lanes exist or multiple exit lanes are available, depending upon site layout.

Vehicles entering the establishment shall have the right-of-way so as not to back traffic onto the adjacent roadway. The owner or owner’s representative shall notify the Public Works and request verification of the grade stakes for the driveway approach and inspection of the work two days before concrete is to be poured. Work completed without prior approval and inspection shall be promptly removed at the installer’s expense if the completed construction is not in accordance with terms of the permit.

Sight distance

Unobstructed sight distances as set forth in Figure 3 of the LADOTD Access Management Policy Manual, December 2013 (Appendix B) shall be provided at all connection points for vehicular and pedestrian safety. Fences, wall signs or other obstructions shall not be placed in the public street right-of-way or in the sight distance triangles, except that chain-link fences free from shrubbery and vines may be placed on private property within sight distance triangles.

When sight distance requirements to a driver's right cannot be met, the need can be eliminated by prohibiting left turns out of the driveway. When sight distance to the driver's left cannot be provided, acceleration lanes can be required to allow right turn movements out of the driveway.

Turn lanes

Turn lanes enhance the safety and efficiency of streets. Right and left turn lanes are required on all designated arterial streets whenever new access points are created. This requirement is for safety and capacity reasons where existing or future roadway speeds or traffic volumes are high, or if there are substantial turning volumes. The purpose of a separate turn lane is to expedite the movement of through traffic, increase the intersection capacity, permit the controlled movement of turning traffic and promote the safety of all traffic.

The turn lane shall be of sufficient length to allow the turning vehicle to leave the through lane within 10 MPH of the posted speed limit, decelerate, and negotiate the turn. Right turn lanes reduce vehicle speeds at the sidewalk crossing, which reduces conflicts and confusion for pedestrians.

Left turn lanes:

- ▶ **Category A: Expressway** Required for all connections.
- ▶ **Category B: Major Arterial** Required where left turns are allowed.
- ▶ **Category C: Minor Arterial** Required where left turns are allowed.
- ▶ **Category D: Collector** Determined based on turning volumes and traffic volumes. Traffic Study required to negate the need for a turn lane.
- ▶ **Category E: Local** Required only at major street or driveway intersections.

Right turn lanes:

- ▶ **Category A: Expressway** Required for all connections.
- ▶ **Category B: Major Arterial** Required for all connections.

- ▶ **Category C: Minor Arterial** Normally required for all connections. If a traffic study proves that the physical conditions or low turning movements negate the need for a right turn lane, a deviation may be requested.

- ▶ **Category D: Collector** Determined based on turning volumes and traffic volumes. Traffic Study required to negate the need for a turn lane.

- ▶ **Category E: Local** Required only at major street or driveway intersections.

Turn lane length shall consist of the deceleration length plus the storage length plus the taper length. The Director of Public Works will determine if physical or other constraints necessitate eliminating all or part of the deceleration length and providing only the storage and taper lengths. When a Traffic Impact Study is provided, lane lengths shall not be less than those recommended in the study and approved by the Director. A turn lane length analysis may be required if a proposed access connection generates more than 100 vehicle trips in the peak hour. If a turn lane is required based on the turn lane warrant analysis and one cannot be provided then the city reserves the right to limit the access to right-in, right-out movements only.

The turn lane deceleration and storage lengths should be in accordance to LADOTD Traffic Impact Policy for New Access Requests on State and US Highways. Deceleration lengths are based on AASHTO stopping distance for the speed assuming a 10 MPH reduction in speed prior to entering the turn lane. Storage length requirements may be reduced by one-half for right turn lanes, with the approval of the Director of Public Works. Accesses with ten percent or more truck traffic will need to use the longer storage requirements. Taper lengths shall comply with LADOTD and/or AASHTO standards.

Internal Circulation

Driveway approach approval will not be granted if they do not provide adequate circulation and waiting vehicle storage for drive-through facilities on the property. On-property waiting vehicle storage requirements for the various types of drive-through facilities are shown in Table 5.

Table 3
Waiting Vehicle Storage Requirements

Type of Use	Minimum Waiting Vehicle Storage
Financial Institution – Electronic Teller	55'
Financial Institution – Personal Teller	100'
Car Wash – Self Service	100' at entrance 20' per bay at exit
Car Wash – Automatic/Conveyor	220' per bay at entrance 22' per bay at exit
Drive-Through Restaurant	120' from menu board
Drive-Through Coffee Shop	
Driver Side Service	100' from menu board
Passenger Side Service	55' from menu board
Drive-Through Pharmacy	55' per lane
Service Stations	
Service Islands	55' per pump lane
Service Bays	20' per bay
Quick Lube/Oil Change	44' per bay
4 or more pump islands side by side 18' apart	30' per lane
Gated Parking Lot Entrance	22' from property line
Garage Unit or Overhead Door (Category C and Above Only)	22' per door

Any other type of use not mentioned in the above table, the waiting vehicle storage requirement approval may still be gained in coordination with the Public Works Department.

Storage requirements are from the midpoint of the service window/order board/fuel pump. Storage for two vehicles must be provided past the pick-up window and before the nearest pedestrian or vehicle crossing point. Required vehicle storage shall not block driveways or required parking stalls and shall not be located in side, front or rear yards where parking stalls are prohibited.

CHAPTER 4: TRAFFIC IMPACT STUDY REQUIREMENTS

Traffic Impact Studies shall follow the requirements of LADOTD traffic impact policy and the Institute of Transportation Engineer's Transportation Impact Analyses for Site Development. **As per LADOTD policy, any development within one quarter mile of a state highway and has the potential to generate 100 vehicle trips or more during peak hour requires a detailed traffic impact study.**

However, if the above criterion is not met with respect to the distance but the proposed development has the potential to generate traffic volumes exceeding 100 vehicle trips during the highest peak hour of the development, a detailed traffic study has to be performed documenting study analysis, conclusions and recommendations and submitted to the Director of Public Works for approval.

The minimum study area and study horizon years should be determined by project type and size in coordination with the Public Works Department. The extent of the study area may be either enlarged or decreased, depending upon special conditions as determined by the Director of Public Works. Additionally, the study should consider Roundabouts as the preferred option for intersection improvements before considering any other type of intersections control.

Both morning and afternoon weekday peak hours should be analyzed unless the proposed project is expected to generate no trips, or a very low number of trips, during either the morning or evening peak periods. If this is the case, a deviation from the requirement to analyze one or both of these periods may be granted.

For developments that generate their peak hours predominantly on weekends, a weekend analysis may be required. All educational facilities should provide a Traffic Impact Study, as well as all requests for access to a Category A or B facility.

The study should recommend adoption of the access plan which provides the safest and most efficient level of service consistent with the purpose, requirements, and design standards of this policy. The recommended access scheme should not aggravate an existing safety problem nor degrade either the existing level of service of the highway significantly.

Appendix

Appendix A

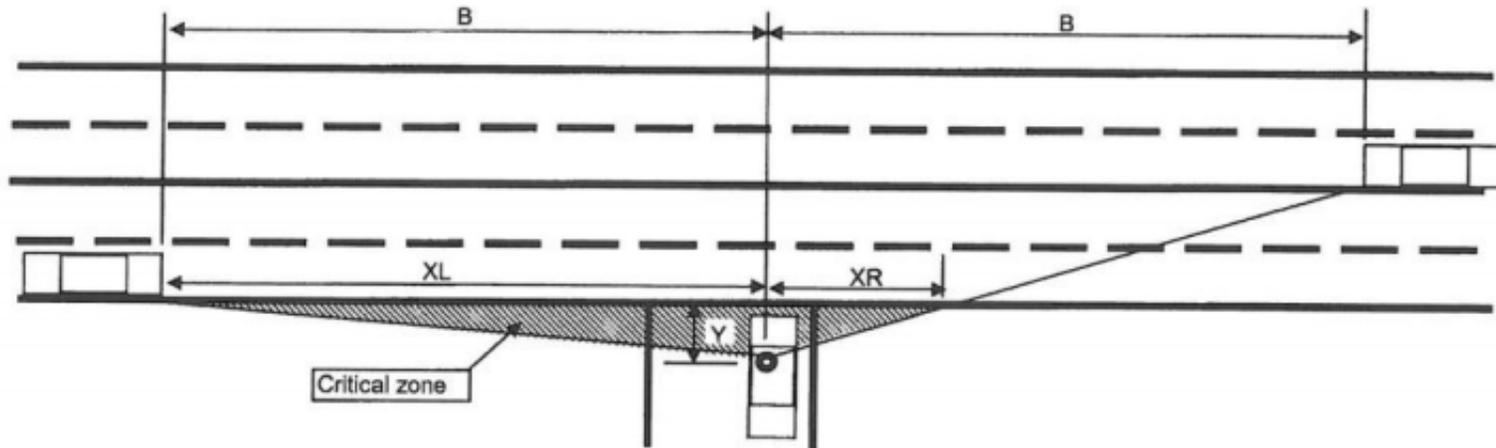
LADOTD Driveway Plans

Appendix B

LADOTD Sight Distance Criteria

CRITICAL SIGHT DISTANCE FOR TRAFFIC ENTERING THE HIGHWAY FROM PRIVATE ACCESS CONNECTIONS

To be used for access connection permits.



Speed, mph	Speed, fps	Offset Y, ft	2-Lane (7.1 sec gap)			4-Lane (7.5 sec gap)			5-Lane (8.0 sec gap)		
			Distance "B"	Length XL	Length XR	Distance "B"	Length XL	Length XR	Distance "B"	Length XL	Length XR
20	29	9	208	208	89	220	220	60	235	235	47
25	37	9	260	260	112	275	275	75	293	293	59
30	44	9	312	312	134	330	330	90	352	352	70
35	51	9	364	364	156	385	385	105	411	411	82
40	59	9	417	417	179	440	440	120	469	469	94
45	66	9	469	469	201	495	495	135	528	528	106
50	73	9	521	521	223	550	550	150	587	587	117
55	81	9	573	573	245	605	605	165	645	645	129
60	88	9	625	625	268	660	660	180	704	704	141
65	95	9	677	677	290	715	715	195	763	763	153

Notes:

The critical zone should be free of obstructions which restrict sight (typically between 1 and 7 feet in height).

Sight distance is based on the Highway Capacity Manual, Chapter 17, stop control on the minor roadways.

The 7.1 second acceptance gap is for passenger vehicles turning left onto a two lane roadway.

The 7.5 second acceptance gap is for passenger vehicles turning left onto a four lane roadway.

An additional one-half second is used for each additional 12 foot lane that is crossed.

The values presented are for tangent passenger vehicles and roadways with little or no horizontal or vertical curvature.

FIGURE 3

SECTION 2: CITY OF CENTRAL BICYCLE AND PEDESTRIAN PLAN

Prepared For:



Prepared by:



February 2014

Contents

CITY OF CENTRAL BICYCLE AND PEDESTRIAN PLAN.....	1
Introduction.....	1
The Process.....	1
Public Involvement.....	2
Inventory and Analysis of Existing Conditions.....	3
Goals and Objectives	13
Recommended Bicycle/Pedestrian Plan.....	15
Facility Design Guidelines.....	19
Education and Outreach Strategies.....	20
Complete Streets	22
Road Diet	23
Management, Operation and Policy Recommendations	26
Implementation Strategy	32
Potential Funding Sources.....	33

Figures

Figure 1: Existing Land Use	4
Figure 2: Roadway Functional Classification	5
Figure 3: Sidewalks and Landmarks.....	6
Figure 4: Proposed Bicycle Facilities Plan.....	17
Figure 5: Proposed Pedestrian Facilities Plan.....	18

City of Central Bicycle and Pedestrian Plan

Introduction

The City of Central, LA has recognized an increased interest in bicycling and walking in recent years that indicates an apparent need for a planning effort to guide the future development of bicycle and pedestrian facilities. This need was further substantiated by the recent Metropolitan Transportation Plan (MTP), Baton Rouge MPO MTP 2037, developed by the Capital Region Planning Commission (CRPC) which stated that successful transportation planning relies on careful consideration of all modes of transportation including pedestrian and bicycle facilities.

This planning effort represents an attempt to provide planning proposals, design and development standards, organization and education/promotional activities related to bicycle and pedestrian facilities in the city of Central. The potential for such facilities within the city has not been fully realized and there is currently no overall direction or means for guiding the development of bicycle and pedestrian facilities and activities.

This plan was designed to give those responsible for making decisions a guide for assuring that bicycle and pedestrian facilities become a viable part of City of Central's transportation and recreational experience. This plan also seeks to preserve and enhance the area's bicycling and pedestrian network and to improve the safety, attractiveness, and overall viability of biking and walking as legitimate transportation alternatives. It seeks to establish policies and guidelines for future bicycle and pedestrian facilities and related amenities within the city of Central.

The Process

The Bicycle and Pedestrian Plan was prepared for the City of Central by a team of consultants from Neel-Schaffer, Inc. The consultant team used input that was gathered from the staff of the City of Central as well as the public. This outreach included public meetings at which the residents of Central were asked to provide their input on the existing transportation system, need for future improvements and transportation system improvement priorities.

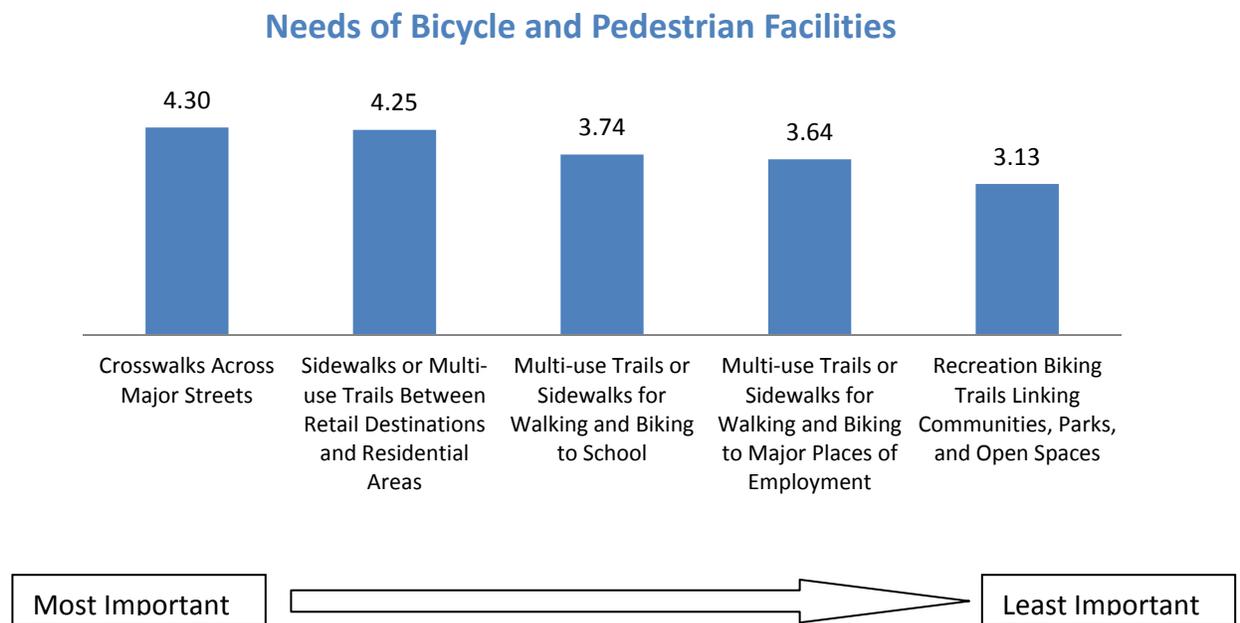
The plan was developed through: the collection of pertinent data related to bicycling and pedestrian activity; an assessment of conditions and opportunities for bicycle and pedestrian facilities; citizen input through a survey made available through public meetings and input and coordination between city departments and local groups.

Public Involvement

Public Involvement is an important part of developing a workable and practical plan that meets the needs of the pedestrian and bicycle public and is considered a critical part of identifying bicycling and pedestrian needs. The public involvement for the City of Central Transportation Plan also forms the basis of the public involvement for this plan as well. The plan development process included public outreach to understand the community thoughts on existing transportation network and needs.

Public Meetings

The outreach included public meetings at which the residents of Central were asked to provide their input on the existing transportation system, need for future improvements, and transportation system improvement priorities. The following chart shows the results of this exercise where citizens were asked to rank the desired improvements to the bicycle and pedestrian facilities on a scale of 1 to 5, with 5 being “Most Important” and 1 being “Least Important”.



When asked how they would spend the transportation dollars on transportation system improvements and needs, the citizens of Central allocated ten percent of funding to multi-use trails while six percent was allocated to having streets that are accessible to everyone.

Inventory and Analysis of Existing Conditions

This is the City of Central's first developed bicycle and pedestrian plan. The only previous mention of bicycle and pedestrian planning for Central would be the plan development encouraged by the Baton Rouge MPO - MTP 2037. However, the MTP only promoted the development of a bicycle and pedestrian plan and did not outline any needs or inventory for the City of Central.

The inventory and analysis of existing conditions includes a wide range of factors that are pertinent to and will form the basis for the preparation of planning proposals for bicycle and pedestrian facilities. These factors include the use of land, the streets system, sidewalks, recreation facilities, schools, major destinations and bicycle/pedestrian facilities.

Land Use

The existing types of land use and pattern of development can significantly influence future planning proposals and policies related to bicycle and pedestrian facilities. Figure 1 shows the existing land use throughout the corporate limits of Central.

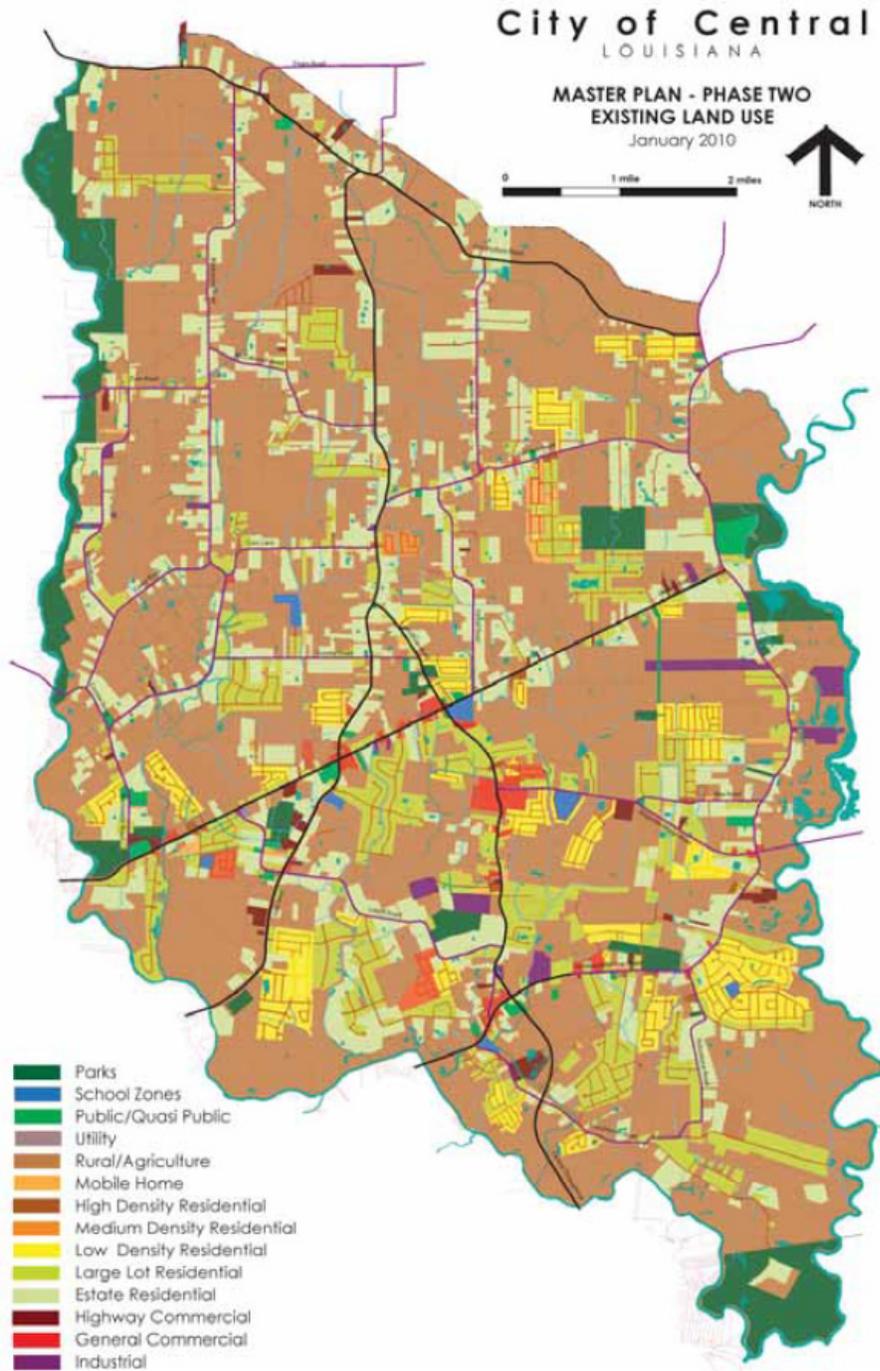
Major Streets

Major streets are important to the development of bicycle and pedestrian facilities as they are the resource that provides connectivity between different parts of the community and major destinations. They also provide the base infrastructure for forming a bicycle/pedestrian network. Accessibility in the city of Central is enhanced by the functionally classified roadways (Figure 2) within the study area.

Existing Bicycle and Pedestrian Facilities

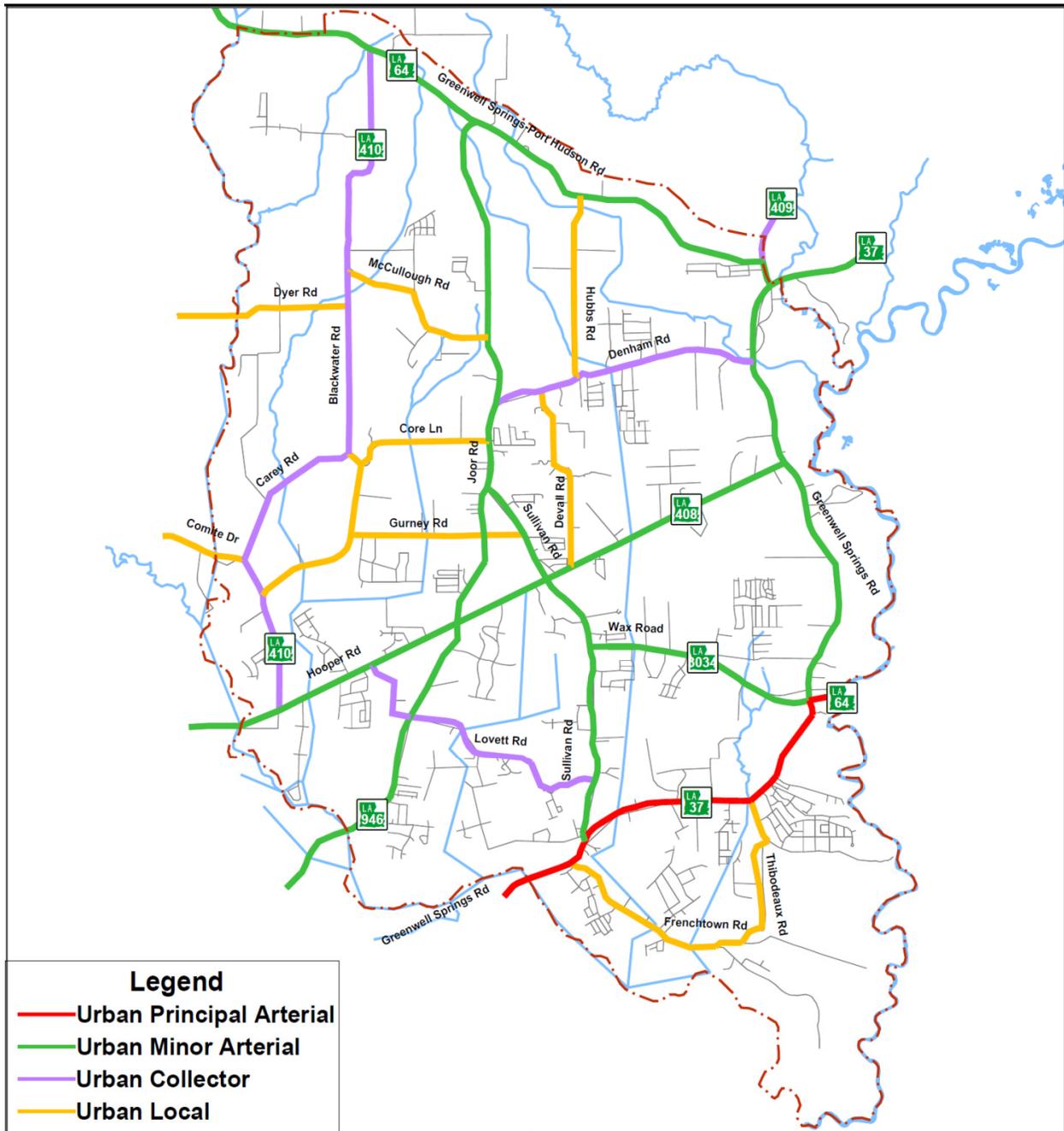
There are no bicycle facilities in the city of Central and very few sidewalks (none of which are located along major roadways), which is a condition that has led to a desire to develop a plan for such facilities. Although limited, this section of the planning effort identifies those facilities that do exist because of their importance in forming the base for comprehensive bicycle and pedestrian facility recommendations. Figure 3 shows the existing sidewalk network within the City of Central.

Figure 1: City of Central Existing Land Use



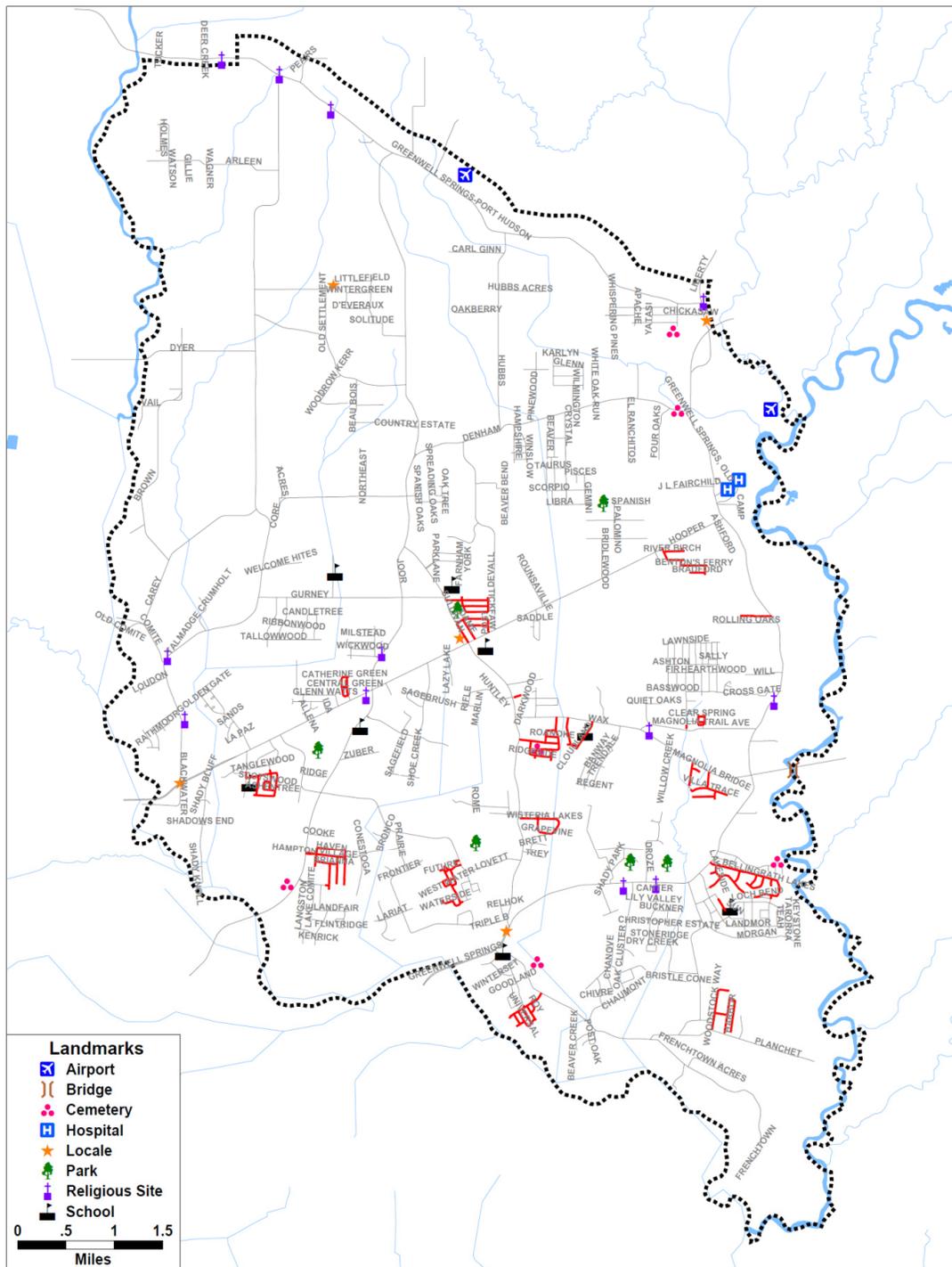
Source: City of Central 2010 Land Use Plan

Figure 2: City of Central Roadway Functional Classification



Source: City of Central Transportation Plan

Figure 3: City of Central Sidewalks and Landmarks



Source: NSI, City of Central

Bicycle Facility Definitions

The Federal Highway Administration's Best Practices Design Guide sets forth the following related definitions of bicycle facilities:

Bicycle facilities: Improvements and provisions made to accommodate or encourage bicycling.

Bicycle: Every vehicle propelled solely by human power upon which any person may ride, having two tandem wheels, except scooters and similar devices.

Bicycle or Bike Lane: A portion of roadway that has been designated by striping, signage and pavement markings for the preferential or exclusive use of bicyclists.

Bicycle Path, Bike Path, or Shared Use Path: A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the street right of way or within an independent right of way. Shared use paths may also be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users.

Bikeway: A generic term for any road, street, path or way, which in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

Shared Roadway: A roadway, which is open to both bicycle and motor vehicle travel. This may be an existing roadway, street with wide curb lanes, or road with paved shoulders.

Trail: A path of travel for recreation and/or transportation within a park, natural environment, or designated corridor that is not classified as a highway, road, or street. For the purposes of this study, bicycle facilities are examined via the following categories: shared roadways, bicycle lanes, bicycle paths and trails, and bicycle racks.

Pedestrian Facility Definitions

The Federal Highway Administration's Best Practices Design Guide sets forth the following related definitions of pedestrian facilities:

Pedestrian: A person who travels on foot or who uses assistive devices, such as a wheelchair, for mobility.

Curb Ramp: A combined ramp and landing to accomplish a change in level at a curb. This element provides street and sidewalk access to pedestrians using wheelchairs.

Ramp: A slope transition between two elevation levels.

Sidewalk: The portion of a highway, road, or street intended for pedestrians.

Shared Use Path: A trail that permits more than one type of user, such as a trail designated for use by both pedestrians and bicyclists.

Trail: A path of travel for recreation and/or transportation within a park, natural environment, or designated corridor that is not classified as a highway, road, or street.

On-Street Walkways

On-street pedestrian facilities consist of sidewalks that have been constructed through the years with no overall plan for connectivity or consideration for priority destinations. There is no real concentration of sidewalk connectivity in the city of Central. Subdivision regulations requirements have increased sidewalks on outlying local streets; however, these sidewalks are contained within each individual development with no connections to major roadways.

Public Facilities & Other Destinations

Public facilities such as parks, schools, community centers, libraries, government offices, and commercial concentrations are potential destinations for bicyclist and walkers. Figure 3 shows these locations along with existing sidewalks in the city of Central. As previously indicated, City of Central has no bicycle facilities, meaning that none of these destinations are accessible via a safe bike ride with proper striping and signage. Therefore, the analysis of accessibility and connectivity will be limited to existing sidewalk access and deficiencies.

Major Facilities with Sidewalks Nearby

Only four facilities within the study area have sidewalks that are alongside them. They are:

- ▶ Tanglewood Elementary School has sidewalks alongside Rustling Oaks Dr and Roundtree Dr. The nearby subdivision is the only connectivity to these sidewalks.
- ▶ Bellingrath Hills Elementary School has a sidewalk alongside Audusson Dr. However, there is no connectivity for this sidewalk to other places or even the local subdivision nearby.
- ▶ Central High School has sidewalks around the entire property except for its frontage with Wax Rd. The nearby subdivision, which forms a loop around the school, is the only connectivity to the school's sidewalks.
- ▶ Youngblood Cemetery has sidewalks leading to it. These sidewalks have full connectivity to the local subdivision.

Needs and Types of Bicyclists

It is important to understand that the needs and preferences of bicyclists vary depending on the skill level of the cyclist and the type of trip the cyclist is taking. For example, bicyclists who bicycle for recreational purposes may prefer scenic, winding, off-street trails. The *AASHTO Guide for the Development of Bicycle Facilities* identifies three classes of bicyclists based on rider ability and level of acceptance to travel in mixed traffic. These classes are as follows:

- ▶ Class A cyclists are experienced riders who typically look for: speed, convenience, and direct travel routes and do not mind traveling with traffic. These riders can travel at the mid to top range of cycling speed and generally prefer on-street travel, especially in relation to multi-use paths.
- ▶ Class B cyclists are occasional riders who are less secure about travel in mixed traffic. These riders have basic skills, typically travel near the middle range of cycling speed and typically prefer to travel along off-road trails or designated bike lanes.
- ▶ Class C cyclists are novice riders, primarily children, who are not likely to ride in mixed traffic. These riders operate at speeds closer to that of pedestrians and typically prefer travel along facilities that are completely separated from traffic.

The following summarizes the needs of both advanced and casual bicyclists.

Advanced Bicycle Riders (Class A Skill Level)

Advanced (Class A) Bicycle Riders Typically Prefer:

- ▶ On-street or bicycle-only facilities as opposed to shared-use paths.
- ▶ Comfortable negotiating streets like a motor vehicle, including vehicle lane occupancy and using left-turn lanes.
- ▶ May prefer a more direct route.
- ▶ Rides on-street with the flow of traffic and avoids riding on sidewalks or on shared-use paths.
- ▶ Rides at speeds up to 20 MPH on flat ground, up to 40 MPH on steep descents.
- ▶ May bicycle longer distances, sometimes more than 100 miles.

User needs that will benefit the advanced bicyclist are a connected network of bike lanes on higher-volume arterials, wider curb lanes and loop detectors at signals. The experienced bicyclist who is primarily interested in exercise will benefit from loop routes leading back to their point of origin.

Casual Bicycle Riders (Class B and Class C Skill Levels)

Casual (Class B and Class C) Bicycle Riders Typically Prefer:

- ▶ Off-street shared-use paths or bike lanes along low-volume, low-speed streets.
- ▶ May have difficulty gauging traffic and may be unfamiliar with the rules of the road. May walk bicycle across intersections.
- ▶ May use a less direct route to avoid arterial roads with heavy traffic volumes.
- ▶ May ride on sidewalks and ride the wrong way on streets and sidewalks.
- ▶ May ride at speeds comparable to walking, or slightly faster than walking.
- ▶ Bicycle for shorter distances: up to 2 miles.

The casual bicyclist will benefit from user needs such as route markers, shared use paths, bike lanes on lower volume streets, traffic calming, and educational programs. Casual bicyclists may also benefit from a connected network of marked routes leading to parks, schools, shopping areas, and other destinations. To encourage youth to ride, routes must be safe enough for their parents to allow them to ride.

Characteristics of Recreational, Utilitarian, and Commuting Trips

For planning purposes, bicycle trips are separated into two trip types: recreational and utilitarian. Recreational trips can range from a 50-mile weekend group ride along rural roads to a family outing, and all levels in between. Utilitarian trips include commuter bicyclists, which are a primary focus of State and Federal bicycle funding, as well as bicyclists going to school, shopping, or running other errands. Utilitarian cyclists include those who choose to live with one less car, as well as those who have no other alternative transportation due to economic reasons. The following list summarizes general characteristics of both recreational and utilitarian bicycle trips.

Recreational Type Trips:

- ▶ Directness of route not as important as visual interest, shade, protection from wind.
- ▶ Loop trips may be preferred to backtracking.
- ▶ Trips may range from under a mile to over 50 miles.
- ▶ Short-term bicycle parking should be provided at recreational sites, parks, trailheads and other activity centers.

- ▶ Varied topography may be desired, depending on the skill level of the cyclist.
- ▶ May be riding in a group.
- ▶ May drive with their bicycles to the starting point of a ride.
- ▶ Trips typically occur on the weekend or on weekdays before morning commute hours or after evening commute hours.
- ▶ Type of facility varies, depending on the skill level of the cyclist.

Utilitarian Type Trips:

- ▶ Directness of route and connected, continuous facilities more important than visual interest, etc.
- ▶ Trips generally travel from residential to recreation, school, institutional, shopping or work areas and back.
- ▶ Trips generally are 1-5 miles in length.
- ▶ Short-term and long-term bicycle parking should be provided at stores, transit stations, schools, workplaces.
- ▶ Flat topography is desired.
- ▶ Often ride alone.
- ▶ Use bicycle as primary transportation mode for the trip; may or may not have access to a car for the trip.
- ▶ Trips typically occur during morning and evening commute hours (commute to school and work). Shopping trips also occur on weekends.
- ▶ Generally use on-street facilities, may use trails if they provide easier access to destinations than on-street facilities.

Recreational bicyclists' needs vary depending on their skill level. Road bicyclists out for a 100-mile weekend ride may prefer well-maintained roads with wide shoulders and few intersections, and few stop signs or stop lights. Casual bicyclists out for a family trip may prefer a quiet shared use path with adjacent parks, benches, and water fountains. Utilitarian bicyclists have needs that are more straightforward.

Commuter Trip Needs:

- ▶ Commuter routes should be direct, continuous, and connected.
- ▶ Protected intersection crossing locations are needed for safe and efficient bicycle commuting.
- ▶ Bicycle commuters must have secure places to store their bicycles at their destinations.

The City of Central's neighborhoods do not have easy bicycle access to employment centers, schools and shopping. The addition of bicycle-friendly on-street connections and trails between residential areas and shopping and commute centers would likely increase the prevalence of bicycle commuting, as well as increase the prevalence of recreational riding.

Summary of Findings

Central has both excellent assets that can contribute to potential bicycle and pedestrian facility improvements and some basic negatives that will require sound planning, especially prioritization of projects, and time to overcome. The negatives are, however, the kind for which feasible, strategic solutions can be proposed and implemented. Following are positives and negatives related to bicycle and pedestrian planning that were identified by the inventory and analysis of existing conditions.

Positives

- ▶ Although this is the City of Central's first attempt to prepare a bicycle and pedestrian plan, it can be done in conjunction with the planning efforts included in the Baton Rouge MPO's MTP 2037.
- ▶ A street system that provides convenient accessibility throughout the City is available through the existing and proposed roadway network which experiences only moderate congestion.
- ▶ Recreational facilities interspersed throughout the City that present resource opportunities for biking and walking facilities.
- ▶ City, parish, and federal public facilities and utilities which generate a continuous flow of people into the city.

Negatives

- ▶ A total lack of designated on-street bicycle lanes in the entire city.
- ▶ A total lack of trails for walking and bicycling.
- ▶ Very few sidewalks, all of which are within the subdivisions and none along major roadways.

- ▶ The absence and/or inadequacies of sidewalk connections to provide access between most school and recreation facilities and the neighborhoods that surround them.

Goals and Objectives

Goals

The primary goal is a sustainable Bicycle and Pedestrian Network and Program that will increase bicycling and walking and improve the safety of bicyclists and walkers in the city of Central.

Related goals include:

- ▶ To encourage the use of bicycling and walking as legitimate modes of transportation.
- ▶ To improve the safety of bicyclists and pedestrians.
- ▶ To educate bicyclists, pedestrians, motorists, law enforcement officers, and others regarding traffic laws and safety measures.
- ▶ To encourage the development of bicycle and pedestrian resources.

Key Elements for Achieving Bicycle and Pedestrian Goals

The following Objectives were identified to assist in attaining the bicycle and pedestrian goals:

- ▶ Development of planning proposals that will encourage implementation of a bicycle and pedestrian network that provides convenient access to various destinations.
- ▶ Creating a successful program to encourage bicycle and walking.
- ▶ Promote high standards of design for the construction of bicycle and pedestrian facilities.
- ▶ Develop policies to incorporate bicycle and pedestrian facilities into transportation improvements by monitoring such improvements to ensure that projects have been scoped to include bicycle and pedestrian facilities, where appropriate.
- ▶ Encourage the creation of appropriate amenities, such as bicycle parking, to increase the convenience of bicycling or walking.
- ▶ Facilitate the publication of maps, such as a bicycle suitability map, that outline and promote the bicycle and pedestrian system, safety, and the appropriate use of available bicycle and pedestrian facilities.

- ▶ Encourage proper maintenance of bicycle and pedestrian infrastructure, including the use of volunteers for this task.
- ▶ Include bicycle and pedestrian facilities as components of the city's capital programs and site review approval processes.
- ▶ Identify safe and appropriate connections between various modes of transportation.
- ▶ Encourage the creation of specific education programs, tailored to children, adults, and motorists outlining the rules for safe travel.
- ▶ Develop a method to educate law enforcement officers to recognize bicycle and pedestrian rules and regulations for proper enforcement of laws to bicycle and pedestrian law offenders, and to motor vehicle offenders that negatively impact bicyclists and pedestrians.
- ▶ Identify necessary bicycle and pedestrian accommodations at tourist and business locations.
- ▶ Develop a method of collecting and updating data on bicycle and pedestrian activity.

Recommended Bicycle/Pedestrian Plan

This Central Bicycle and Pedestrian Plan envisions a comprehensive network of on- and off-street bicycle/pedestrian facilities, which provides convenient access to parks, schools, commercial areas, places of work, and other destinations as well as for recreational and physical fitness purposes. The plan also recommends a structure to develop and maintain bicycle facilities, support bicycle and safety education, and encourage more people to bicycle for utilitarian and recreation reasons.

The plan provides a vision for the future and a rational framework to guide the decisions of those responsible for public policy and improvements. It is designed to meet the needs for bicycle and pedestrian facilities with a variety of recommendations for improving bicycling and walking conditions and for interconnecting projects with key activity destinations.

It is important to recognize that although the plan provides a guide for influencing future development, actual implementation of proposed facilities will be the result of public policy, public roadway and facility improvements, private development decisions and of major importance, funding.

Many of the Bicycle and Pedestrian Plan recommendations can be implemented relatively easily by coordinating improvements with other street and development construction projects. Other recommendations will need to be stand-alone projects.

Proposed Bicycle Facilities Plan

The proposed bicycle facilities plan is shown in Figure 4.

Key features of the proposed bikeway plan are:

- ▶ Connectivity between major destinations is a major goal of the bikeway plan.
- ▶ Provides access to several parts of Central.
- ▶ Creates several loops that allow riders to create several different paths.
- ▶ Bikeway access is provided to most recreation facilities and schools within the city of Central.
- ▶ The proposed bikeways cover nearly 30 miles.
- ▶ Assumes that many of the recommended on-street bicycle lanes can be realized by painting bike lane markings, narrowing existing travel lanes, widening existing pavement to include paved shoulders or by removing existing travel lanes.

- ▶ An initial low cost way to educate motorists and bring attention to bicyclists would be to install “Share-The-Road” signs along roadways at high traffic areas and safety concern areas. All roadways are shared-use with bicyclists, unless prohibited by law.
- ▶ It is the intent of the bikeways plan that facilities should be identified with route signs, pavement markings, etc. to indicate that special accommodations have been made for bicycles.

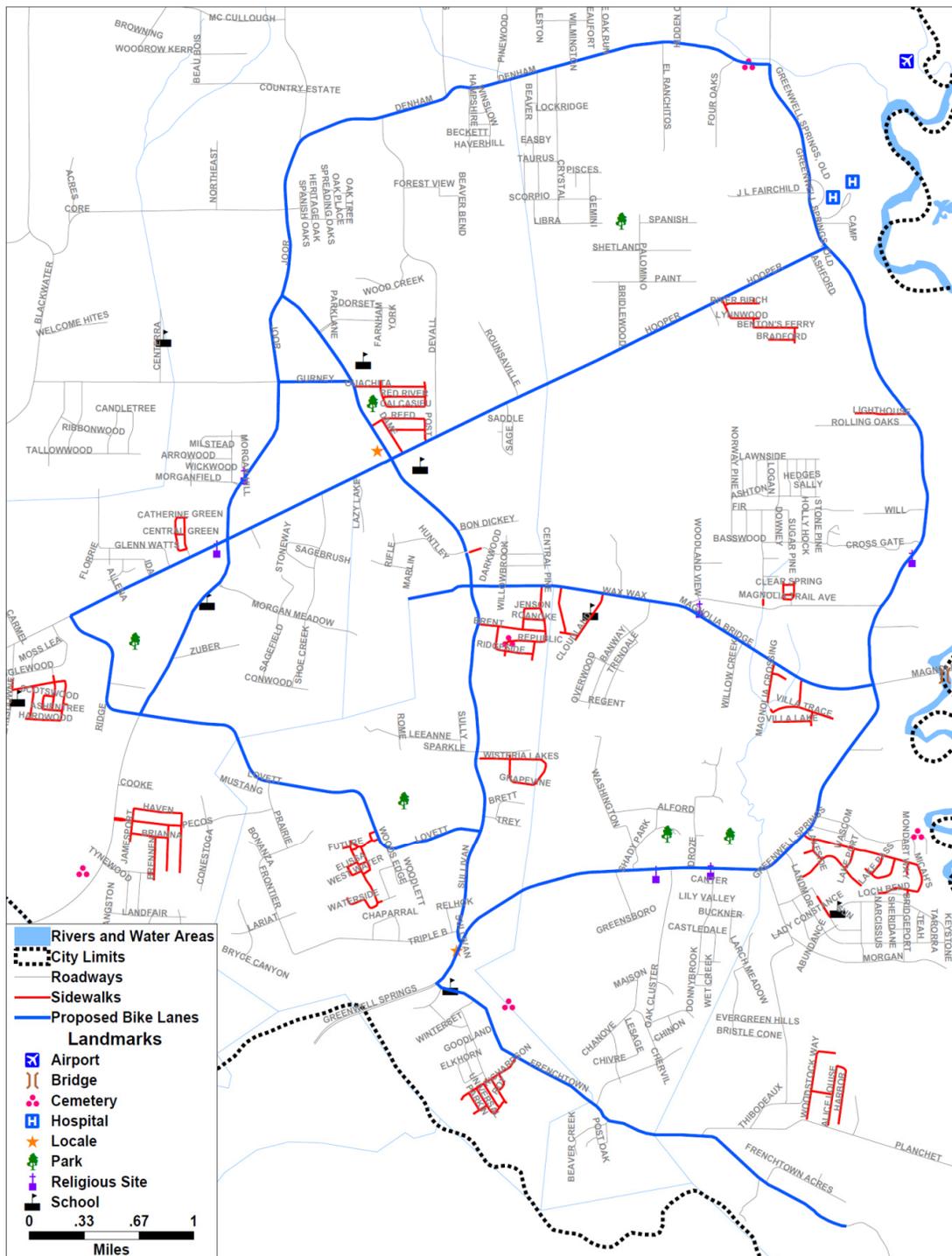
Proposed Pedestrian Facilities Plan

The proposed pedestrian facilities plan is shown in Figure 5.

Key features of the proposed walkway plan are:

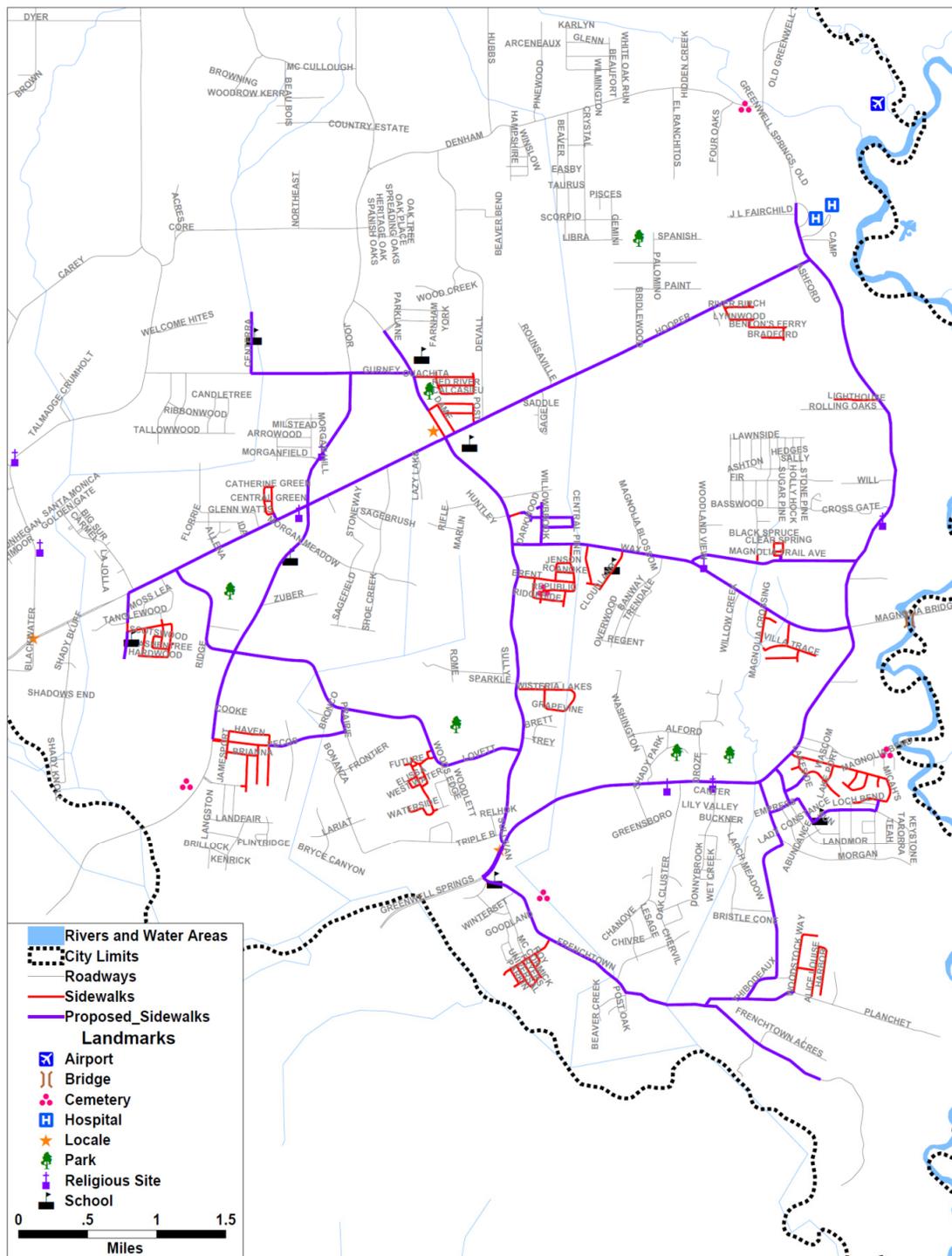
- ▶ A major goal of the walkway improvements is connectivity between potential destinations.
- ▶ Sidewalks should be provided on both sides of the roadway.
- ▶ Commercial developments shall install sidewalks (minimum width: 5 ft.) in front of their development and connect to adjacent sidewalks where possible.
- ▶ Plan provides for walkways in the vicinity of all schools and recreation facilities.
- ▶ The plan also provides coverage to connect the existing sidewalks within the city of Central.
- ▶ Plan envisions that all existing walkways will be brought up to standard by the City.
- ▶ Plan envisions that all walkways and crossings will be compliant with ADA requirements through the construction of new facilities or improvements to existing facilities.
- ▶ The plan proposes nearly 30 miles of new walkways to be combined with the 20 miles of existing walkways.

Figure 4: City of Central Proposed Bicycle Facilities Plan



Source: NSI, City of Central

Figure 5: City of Central Proposed Pedestrian Facilities Plan



Source: NSI, City of Central

Facility Design Guidelines

The City of Central will need to develop guidelines to serve as the basis for reviewing development plans and making decisions for design elements.

The design guidelines should be developed in accordance with the Manual on Uniform Traffic Control Devices and the following ASSHTO documents: Guide for the Planning, Design and Operation of Bicycle Facilities; Guide for the Development of Pedestrian Facilities; and A Policy on the Geometric Design of Highways and Streets. Using the previously listed documents, the City of Central should be able to develop effective guidelines tailored to the City's needs.

The guide for the development of bicycle facilities is described by AASHTO as follows:

“The guide is designed to provide information on the development of facilities to enhance and encourage safe bicycle travel. The majority of bicycling will take place on ordinary roads with no dedicated space for bicyclists. Bicyclists can be expected to ride on almost all roadways as well as separated shared use paths and even sidewalks, where permitted to meet special conditions. This guide provides information to help accommodate bicycle traffic in most riding environments. It is not intended to set forth strict standards, but, rather, to present sound guidelines that will be valuable in attaining good design sensitive to the needs of both bicyclists and other highway users.”

The pedestrian guide is described by AASHTO as follows:

“The purpose of this guide is to provide guidance on the planning, design, and operation of pedestrian facilities along streets and highways. Specifically, the guide focuses on identifying effective measures for accommodating pedestrians on public rights-of-way. Appropriate methods for accommodating pedestrians, which vary among roadway and facility types, are described in this guide. The primary audiences for this manual are planners, roadway designers, and transportation engineers, whether at the state or local level, the majority of whom make decisions on a daily basis that affect pedestrians. This guide also recognizes the profound effect that land use planning and site design have on pedestrian mobility and addresses these topics as well.”

Education and Outreach Strategies

Existing Bicycle Education Programs

While no formal bicycle education programs currently exist in the city of Central, The League of American Bicyclists (LAB) is an active organization that provides information, maps, and safety education. The organization has developed a wide array of educational safety programs and educational seminars to help develop local programs. This information is continuously updated by the LAB, on their website that can be accessed for the most current educational materials available at:

www.bikeleague.org/programs/education

Education and Encouragement Strategies

As with any community activity, public support and involvement will be critical to the successful implementation of an active bicycle and pedestrian program. To this end, the following strategies are proposed.

- ▶ Designate a bicycle/pedestrian coordinator.
- ▶ Create a school education/encouragement program addressing all of the 5-E's of the Safe Routes to School Program (SRTS):
 - Encouragement - uses events and contests to entice students, teachers, parents and the community to try walking and biking. This will require coordination and cooperation between the City, the School Board and individual schools to undertake such events as walk and bike day promotions, contests and activities that encourage biking and walking to school and incentives to students for participation in SRTS activities.
 - Education - teaches students and the community important safety skills and launches neighborhood safety campaign. This program will involve teachers, planners, engineers and law enforcement and could involve bicycle and walking presentations, safety training, preparation of maps showing biking and walking routes between schools and neighborhoods and driver safety programs.
 - Engineering - focuses on creating physical improvements to the infrastructure surrounding schools, reducing speeds and establishing safer crosswalks and pathways. The City's planning and public works staff would assume responsible roles in assuring proper design and construction.

- Enforcement - uses law enforcement to strengthen neighborhood roadway safety concerns and activities. Activities might include increased patrols, special traffic direction during biking and walking events and crossing guard programs.
- Evaluation - measures project activities to assure that they remain on time, on target and in demand. Parent surveys could be an adequate way to measure the program.
- ▶ In addition, to the SRTS program, pursue education and outreach programs designed to promote bicycling and walking by explaining existing resources and future proposals. The program could focus on drivers, current and potential cyclists and pedestrians, students, children and families, school personnel, and employees.
- ▶ Establish a Saturday ride to engage residents of all ages by closing motorized travel on a group of streets to enable people to bike, walk and run in the streets without automobile traffic. Streets could be selected to create a loop ride linking neighborhoods with a popular destination. Many cities have similar events as a way to increase bicycling and walking, promote healthy activity and enhance community involvement.
- ▶ Develop and promote programs to emphasize the need for bicycle and pedestrian safety in the city of Central. Education, design and enforcement are major considerations for bicycle and pedestrian safety. The safety program should address critical components for making roadways safer such as helmet use, training children to ride bicycles safely, need for reflective material at night and an overall awareness of roadway dangers by bicyclists, pedestrians and motorists.
- ▶ Conduct periodic surveys to monitor bicycling and walking activity and issues.

Safety

A sense of safety and security are very important to a successful increase in biking and walking. Proper safety revolves around design, interaction between motorized and non-motorized users, education and enforcement. Following are some actions that will help achieve a level of safety and security for bicyclists and pedestrians:

- ▶ Increase public awareness of traffic rules for bicyclists, pedestrians, and motorists through educational programs.
- ▶ Develop a “Share the Road” campaign.
- ▶ Request that bicycle and pedestrian safety information be included in driver tests and be distributed with driver license renewals.

- ▶ Ensure that city regulations require standards for safe and accessible pedestrian and bicycle facilities.
- ▶ Design and construct all facilities to meet standards established by the American Association of State Highway Transportation Officials.
- ▶ Provide pedestrian friendly street lighting.
- ▶ Make sure that the police department is fully aware of bicycle and pedestrian traffic laws.
- ▶ Strictly enforce traffic laws in high bicycle and pedestrian activity areas such as schools and recreation areas.
- ▶ Maintain proper maintenance of all streets, sidewalks and trails.
- ▶ Provide information to inform property owners of sidewalk maintenance responsibilities.
- ▶ Maintain crosswalk striping at the same frequency as roadway striping.
- ▶ Develop a program of traffic calming.

Complete Streets

The following principles regarding complete streets are provided as guidance from the National Complete Streets Coalition:

- ▶ Complete streets are designed and operated to enable safe access users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street.
- ▶ Creating complete streets means changing the policies and practices of transportation planning and construction.
- ▶ A Complete Streets policy ensures that the entire right-of-way is routinely designed and operated to enable safe access for all users.
- ▶ Transportation agencies must ensure that all road projects result in a complete street appropriate to local context and needs.

The National Complete Street Coalition has identified ten elements of a comprehensive complete streets policy. They are:

- ▶ VISION: Includes a vision of how and why the community wants to complete its streets.

- ▶ SPECIFIES ALL USERS: Specifies that ‘all users’ includes pedestrians, bicyclists and transit passengers of all ages and abilities, as well as trucks, buses, emergency vehicles and automobiles.
- ▶ ALL AGENCIES AND ALL ROADS: Is understood by all those responsible for transportation to cover all roads.
- ▶ ALL PROJECTS: Applies to both new and retrofit projects, including design, planning, maintenance and operations for the entire right-of-way.
- ▶ EXCEPTIONS: Makes any exceptions specific and sets a clear procedure that requires high-level approval of exceptions.
- ▶ DESIGN CRITERIA: Directs the use of the latest and best design criteria and guidelines while recognizing the need for flexibility in balancing user needs.
- ▶ CONTEXT SENSITIVE: Directs that Complete Streets solutions will complement the context of the community.
- ▶ PERFORMANCE MEASURES: Establishes performance standards with measurable outcomes.
- ▶ IMPLEMENTATION: Includes specific next steps for implementation of the policy.

The City of Central will need to develop a Complete Streets policy of its own in order to fully implement the principles listed above. However, these principles and the LADOTD Complete Streets Policy (Appendix A) should be used in conjunction with this plan until a Complete Streets policy has been fully developed.

Road Diet

Road diet is a reconfiguration of existing roadway right-of-way that reduces the number of traffic lanes to better serve bicycles, pedestrians, and transit while continuing to maintain adequate accommodation for motor vehicles. This is accomplished by creating center-turn lanes, on-street parking, bike lanes, transit lanes, or a combination of these type facilities. It is a relatively inexpensive means of reallocating the same space in a manner that benefits all modes of transportation: motorists, bicyclists, and pedestrians.

Functional Improvements

Road diet conversion may potentially create space within an existing right-of-way for:

- ▶ Bicycle lanes;

- ▶ New and/or wider sidewalks for pedestrians;
- ▶ On-street parking;
- ▶ Street furniture (e.g., streetscape patios);
- ▶ Landscaping buffers between the sidewalk and travel way;
- ▶ Turn-outs at transit stops; and/or
- ▶ Transit stop amenities such as shelters and benches.

Appropriate Conditions for Road Diet

As a general rule, under average daily traffic (ADT) conditions, road diets have minimal effects on vehicle capacity as two-way left-turn lanes move left-turning vehicles out of the main traffic lane. However, road diet in above average daily traffic conditions (approximately 20,000 vehicles or above) will likely increase traffic congestion.

Road diet improvements should be considered as potentially desirable given the following traffic conditions:

- ▶ Might be feasible and works best with moderate volumes of 10,000 to 20,000 ADT.
- ▶ Highly likely to be feasible with ADT of under 10,000.

Road diet improvements might be considered as potentially beneficial given the following:

- ▶ Existing 4-lane roadway with an inadequate lane width of less than 12 feet.
- ▶ Existing development that has created a high number of turning movements.
- ▶ When traffic accidents is higher than the average for roadways with a similar classification.
- ▶ The need to implement bike lane recommendations.
- ▶ When traffic calming is needed because of safety issues.
- ▶ A need exists for on-street parking.
- ▶ Additional or wider sidewalks are needed and pedestrian safety is an issue.

The cost of implementing a road diet can vary widely depending on the treatments used in reallocating the existing right-of-way such as painted or raised median, the degree of streetscaping and landscaping enhancements, color treatment of bike lanes and crosswalks and other activities incorporated into the project such as transit stops, intersection turnouts, utility relocation.

Road Diet Benefits

Following is a brief summary of the benefits that can be realized from road diet conversions.

Motor Vehicle Safety

The *Highway Safety Manual* indicates that converting a 4-lane undivided road to a 3-lane road (two lanes with a center turn lane) reduces crashes by approximately 29 percent. Reasons for this includes the removal of left-turn movements from the through lanes, which reduces head-on left turn and rear end accidents; less lanes slow motorists speeds to desired levels; one traffic lane each direction eliminates lane changing and side swipe accidents. A road diet project in Athens, Georgia decreased total crashes by 53 percent.

Traffic Calming

Road diet improvements such as fewer lanes, medians, on-street parking, and turn outs create a traffic calming effect that benefits all modes of transportation: vehicles, bicycles, and pedestrians. These changes eliminate the merge and weave movements that occur on four-lane roadways and results in all vehicles travelling at about the same speed. A Vancouver, Washington road diet project decreased vehicle speeds by 18 percent. In Clear Lake, Iowa aggressive speeding was decreased by 52 percent and vehicles over the 45 mph limits was decreased by 32 percent.

Improved Traffic Flow

Case studies have shown that implementing road diet improvements can actually improve traffic, especially on streets with numerous curb cuts which create excessive left turn situations. On roadways where average daily traffic is feasible for road diet improvements, there is a minimal effect on vehicle capacity primarily because left turning vehicles are moved into a common turning lane. Case studies have shown no significant changes in traffic volumes and no traffic diversion impacts. Also, reducing the number of vehicle travel lanes in the same direction eliminates lane changes and weaving, which improves vehicle flow along the corridor. On existing streets with lanes that are too narrow the ability to improve lane width to standard 12 foot wide lanes provides improve traffic flow.

Bicycle Facilities

Road diet improvements are an important tool for creating first class bike lanes. Removal of a traffic lane can provide room for bike lanes on the outside of the remaining travel lane. The addition of a bike lane to a street with road diet improvements creates space dedicated exclusively to bicyclists, makes drivers more cognizant of bicyclists and can encourage more bicycle use. It provides a greatly increased attractive environment for bicyclists. Road diet is a simple, relatively low cost way to create bicycle facilities for the community.

Pedestrian Facilities

Road diet is also an important tool for creating improved pedestrian facilities through the removal of traffic lanes thereby providing room for sidewalks and/or wider sidewalks. Pedestrian benefits include reduced motor vehicle speeds, reduced crossing distance, medians to break crossing and possible sidewalk buffer from travel lanes through parking, bike lanes or landscaping. Of all the benefits to pedestrians, easier, safer street crossing is a major factor in encouraging pedestrian activity including walking for exercise purposes. As is true for biking, road diet provides a much more attractive environment for walkers.

Parking

Some commercial areas are in need of on-street parking. Where feasible, the eliminated travel lane can be used to accommodate on-street parking, such as in shopping areas, commercial corridors, school areas and near churches. On-street parking serves two purposes, it provides needed parking spaces and it serves as a buffer between pedestrians and moving traffic.

Other Benefits

Road diet offers the potential to improve the attractiveness and livability of a community through streetscape and landscape improvements in medians and intersection turnouts. This combined with safety traffic conditions, more pleasant driving experiences, increased mobility and accessibility for bicyclists and pedestrians improves the overall quality of life. Road diets also make streets more pleasant for the people who live along them, lowering street noise, discouraging speeding, and making their yards safer. Also, commercial areas benefit through slower traffic, more on-street parking and pedestrian activity.

Management, Operation and Policy Recommendations

Proper management and maintenance are crucial to the long-term success of bicycle and pedestrian facilities and the continued use of such facilities. Along with the development of a

pedestrian and bicycle network, Central should develop an ongoing management program which ensures that facilities are maintained in good condition. Equally important will be the development and adoption of policies which support the continued development of a pedestrian and bicycle-friendly community.

Operational Considerations

Sidewalks require little in the way of operational policies; however, on-street bicycle facilities are governed by State traffic law. The following operational considerations should be adopted and efforts made to familiarize them to bicyclists and pedestrians:

- ▶ On-street bicycle and pedestrian facilities use public right-of-way and are open at all times. During periods of construction or road closures, clear provision should be made to accommodate pedestrians and bicycles. After hours lighting, where provided, should be designed to adequately meet pedestrian and bicycle needs, and be properly maintained.
- ▶ Off-street facilities should be open from dawn to dusk, unless other hours are specifically designated. Off-road trails will not be lit, and should be closed after dark. Use of these facilities after dark is unlikely to be sufficient to maintain adequate trail safety, or to justify extended security patrolling. Where feasible, parking lots at trail heads should be gated and locked when the facility is closed. Should after-hours demand increase in the future, this policy could be revisited.
- ▶ Off-street trails are open only for non-motorized transportation except limited access is provided for emergency and maintenance vehicles.
- ▶ Shared-use trails are only suitable for non-motorized modes of transportation. The Bicycle and Pedestrian Plan recommends off-street shared-use facilities for several locations. Physical barriers to discourage motorized trail use have been incorporated into the design standards. Pavement design and barriers should be designed to accommodate occasional access by maintenance vehicles and/or emergency vehicle access, where appropriate.
- ▶ Trail user rules should be adopted and promoted. Design standards have been developed to maximize safety and security benefits, and to minimize user conflicts on trails, especially shared-use trails. In addition, it will be critical to ensure that trail users follow certain basic rules in order to permit safe use by all trail users. User rules, which should be clearly posted and publicized may include:
 - Stay to the right except when passing.
 - Yield when entering and crossing a trail.

- No pets permitted on trails.
- Park only in designated areas.
- No motorized vehicles.
- No destruction of vegetation.
- Clear, easy to read signage stating time period in which trails are open to the public.
- Alcoholic beverages, weapons, fireworks and fires prohibited.
- ▶ Provide adequate warning of risk to ensure adequate user safety. Type and location of needed individual warning signs should be determined during design.
- ▶ Emergency procedures should be established for off-street pedestrian and bicycle facilities. While current emergency procedures will generally be sufficient to respond to on-street incidents, the Central Police, Recreation, and Fire Departments should be consulted to ensure adequate emergency procedures are in place for off-street facilities. Considerations include CPR training for park personnel, emergency vehicle access, the need for patrolling, and the possible need for call boxes.
- ▶ Traffic law enforcement should explicitly address laws relating to bicycle and pedestrians. Existing traffic law already establishes basic protocol for pedestrians and bicycles in on-street environments. Often these laws are not fully understood, either by cyclists and pedestrians or by motorists. User education, accompanied by the strategic use of warnings or enforcement action, should be offered to ensure that existing laws are obeyed. The most critical areas to focus include:
 - Bicycles riding the wrong way, against traffic or ignoring traffic control devices.
 - Bicyclists riding at night without lights.
 - Pedestrians failing to yield to motorist in roadways.
 - Motorists failing to yield to pedestrians in crosswalks or failing to yield to bicycles at intersections.
 - Motorists speeding on local roads or ignoring traffic control devices.

Maintenance

Once developed, pedestrian and bicycle facilities will require on-going maintenance. Proper maintenance can contribute significantly to residents' perception of the facilities and significantly encourage use. Furthermore, in many instances facility maintenance is essential to maintain safety. An un-swept bicycle lane or wide shoulder, for example, is a direct hazard; as can be badly cracked sidewalk pavement. Maintenance procedures should include periodic inspection, voluntary notification of problems by users, and a mechanism for addressing hazardous conditions in a timely manner.

- ▶ Clearly identify city departments responsible for facility maintenance. Off-street facilities should be managed and maintained by the Leisure Services Department. On-street facilities by the Public Works Department or adjacent property owners.
- ▶ Establish routine maintenance practices. Maintenance needs will vary by facility type, but should include the following:
 - Litter and debris removal. On-road bikeways, sidewalks, and trails all require regular cleaning and sweeping. Particular attention should be paid to sweeping the shoulder and edge of pavement on designated bike lanes, since these areas often accumulate litter and debris, creating a hazard for cyclists.
 - Emptying trash receptacles. Public trash receptacles, whether adjacent to sidewalks or trails, need to be emptied regularly to avoid littering problems.
 - Trim and maintain vegetation in trail shoulders and landscape strips. Properly maintained vegetation can prevent pavement deterioration, and will ensure that safe sight distances are preserved.
 - Remove graffiti and make minor facility repairs as needed. Graffiti removal and minor repairs should be effected as quickly as possible to deter additional vandalism.
- ▶ Establish periodic facility inspection and occasional maintenance practices. In addition to the above routine maintenance, facilities should be subject to periodic inspection and, as needed, occasional maintenance or facility repair. The following practices should be adopted:
 - Inspect pavement surfaces regularly. Urgent repairs should be completed promptly. Major repair and replacement should be infrequent, and should be scheduled as needed.
 - Inspect bridges, underpasses and other structures carefully to ensure that they remain in safe condition.

- Drainage systems should be inspected seasonally to ensure that they remain functioning and unblocked. This applies equally to trail drainage and to street drainage.
 - Light fixtures, where provided, should be periodically cleaned and inspected. Where necessary, bulbs should be changed to ensure that safe levels of illumination are maintained.
 - Signs and markings should be periodically inspected, to ensure that they are in good condition and remain legible. Signs that are missing or in poor condition should be replaced promptly.
- ▶ Develop public reporting system for maintenance needs or safety concerns. Often, facility users will notice problems with trail, sidewalk or bicycle facilities before a scheduled inspection or routine maintenance occurs. A reporting system should be developed, whereby facility users can report issues and concerns to the appropriate city department. The same forum could allow residents or users to request additional facilities or facility modifications; this would give the City ongoing input into the future development of its pedestrian and bicycle facilities and program.
 - ▶ A name and phone number should be provided at all trail heads and at other convenient public locations, particularly those linked into the network. Suitable locations might include the library, the recreation center, and bicycle or sports shops.

Supportive Policies

As new development occurs an opportunity is presented to incorporate pedestrian and bicycle considerations in an effective and cost-efficient manner compared to retrofit projects. The overall size and value of the facility network will be considerably enhanced if facilities are provided in public-private partnership, with residents, developers, and the City all contributing to the network development. The intent of these policies is to ensure the continued consideration of pedestrian and bicycle facilities in the city of Central.

- ▶ Incorporate pedestrian and bicycle facilities in new roadway design. As a new street is planned and designed consideration should be given to the inclusion of pedestrian and bicycle facilities. At a minimum, pedestrian and bicycle facilities shown on these plans should be provided, although the detailed layout and facility specification has been left to the design phase. Any additional new roadways, even if not specifically included in the Bicycle and Pedestrian Plan, should be considered for pedestrian and bicycle facilities in keeping with the overall concepts of the plan.
- ▶ Incorporate pedestrian and bicycle facilities in major roadway repair/replacement or redesign projects. As existing roads and intersections are repaired, repaved, or reconfigured, pedestrian

and bicycle facilities should be incorporated wherever feasible. As with new roadways, the Bicycle and Pedestrian Plan should be consulted to determine the significance of the individual roadway within the city. Facilities included in the plan should be incorporated into the roadway re-design. For roadways not included in the plan, consideration should still be given to the provision of pedestrian and/or bicycle facilities, wherever these facilities might complement or enhance the overall bicycle and pedestrian network.

- ▶ Educate residents particularly children, about the benefits of walking and bicycling as well as basic safety training. Walking and bicycling can be extremely safe, pleasant activities if conducted properly. As levels of activity increase, it becomes increasingly important to follow certain basic safety precautions and rules of common courtesy. Specific educational actions should include:
 - Work with other area agencies to provide bicycle safety training to school-age children, and to actively participate in other regional educational initiatives.
 - Target schools, church groups, and athletic centers to distribute literature about the benefits of walking and bicycling; available and planned facilities; key safety messages; special events flyers; and other relevant messages.
 - Clarify with motorists, pedestrians, cyclists and law enforcement officials the expectations in terms of traffic and pedestrian rules, and enforcement policies. Activities which become or are expected to become problematic (e.g. cyclists failing to obey traffic laws; motorists failing to yield to pedestrians at crosswalks) should be the focus of target outreach efforts, followed by enforcement activity as appropriate.
 - Identify City of Central Pedestrian/Bicycle Coordinator to administer overall program and coordinate responsibilities of various departments. The development, management, and implementation of facilities and programs recommended in the Bicycle and Pedestrian Plan will be the responsibility of several City departments. A city pedestrian/bicycle coordinator would provide a single point of contact for the public, and would help ensure that all aspects of this plan are implemented in a coordinated, complementary fashion.
- ▶ Establish an ongoing public participation strategy.
- ▶ As individual projects are identified and brought forward, the immediate neighborhoods and affected institutions (such as schools, churches and retail centers) should be consulted for input in the facility design process.

Implementation Strategy

Implementation of the plan will include a local funding commitment, acquiring funding through grants, the inclusion of bicycle and pedestrian recommendation into city policies and regulations, coordination with all future transportation projects and the designation of city staff responsibilities.

Plan Prioritization

The City of Central is committed to implementing the proposed Bicycle and Pedestrian Plan; however, because of the large scope of the recommendations included in the plan, all proposed activities cannot be carried out immediately. A priority of the plan should be to develop a flexible sequence of actions that can be successfully implemented through a planned, systematic approach which takes into account need, priority, and financing. In this manner, the recommendations can be successfully realized in an incremental manner over a period of years. Successful implementation will require a coordinated effort between departments and agencies of the City of Central as well as an ability to respond to Federal and State grant opportunities.

It is important to recognize that the planning proposals are a guide and there will be, and should be, flexibility in their implementation. Therefore, individual projects and their priority may be modified to take advantage of funding opportunities and roadway improvement projects.

Priorities other than specific bike and walkway projects include the following ongoing initiatives:

- ▶ Designate a staff member to be responsible for managing and promoting the City's bicycle and pedestrian program.
- ▶ Prepare design drawings and specifications for individual improvements in coordination with implementation priorities.
- ▶ Actively seek funding, on a continuous basis, for implementation of the recommended bicycle and pedestrian improvements.
- ▶ Coordination of transportation projects and roadway improvements to incorporate bicycle and sidewalk projects into public works project. For example, re-striping a street for bike lanes when it is repaved regardless of the proposed bicycle and pedestrian recommendations priorities.
- ▶ Be prepared for quick action to integrate bicycle and pedestrian proposals when a fast-track roadway improvement project develops on short notice.

Potential Funding Sources

Adequate financing is the key ingredient for carrying out most planning recommendations. Assistance available through grants can provide a substantial portion of the funds required to implement the improvements recommended by the plan. The effective utilization of grant funds will likely be the difference in determining the feasibility of undertaking individual components of the plan and the overall, long-term success of the Bicycle and Pedestrian Program.

Grants alone, however, will not be sufficient to meet all needs and must be accompanied by a substantial commitment of local resources. A balanced combination of financing from the various funding sources identified in this report will help assure the success of Central's bicycle and pedestrian facilities without placing an undue burden on the local budget and disrupting the quality of services provided to other portions of the city.

Following is a discussion of some programs that the City of Central should consider and continuously monitor for funding opportunities.

Federal and State

Federal and State grant programs are a potential source of financial assistance and can, if wisely used, assist in the implementation of planning proposals. There are a number of State and Federal financial assistance programs potentially available to aid Central with funding for projects that cannot be undertaken entirely with local funds. The future of Federal grant funds in the current cost cutting, balanced budget environment, however, is uncertain. In addition, the city is likely to obtain only limited amounts of grant assistance through existing programs and needs to carefully plan grant applications and match grant programs to specific needs and improvements.

According to the Federal Highway Administration (FHWA), Federal surface transportation law provides tremendous flexibility to States and MPOs to fund bicycle and pedestrian improvements from a wide variety of programs. Virtually all the major transportation funding programs can be used for bicycle and pedestrian-related projects. The FHWA encourages states and MPOs to include bicycle and pedestrian improvements as an incidental part of larger projects, and to review and use the most appropriate funding source for a particular project and not rely primarily on the Transportation Enhancement activities. Many bicycle and pedestrian projects are more suitable for funding under the Congestion Mitigation and Air Quality Improvement Program (CMAQ), Surface Transportation Program, or one of the other described programs.

Community Development Block Grant

Sidewalks, road improvements, commercial revitalization and neighborhood revitalization are eligible activities for United States Department of Housing and Urban Development Community Development Block Grant Programs (CDBG) funds. These are activities that would lend themselves to the incorporation of proposed bicycle and pedestrian recommendations. However, whether or not and the extent such funds will be received each year and in what amount is indeterminate. In addition, CDBG funds support a variety of continuing programs and projects in the City and, therefore, may not be available and/or limited for expenditure on bicycle and pedestrian proposals.

Transportation Enhancement Fund

Three of the Transportation Enhancement programs eligible activities relate specifically to bicycle and pedestrian transportation. They are:

- ▶ Provision of facilities for bicyclists and pedestrians;
- ▶ Provision of safety and educational activities for pedestrians and bicyclists; and
- ▶ Preservation of abandoned railroad corridors (including conversion and use for pedestrian or bicycle trails).

TE funds need not be located on the Federal-aid Highway System and may include non-construction activities. Transportation Enhancement funding requires a 20 percent local match and engineering and consulting fees must be paid with local monies. For more information on the TE program visit:

www.enhancements.org.

Land and Water Conservation Fund (L&WCF)

The Land and Water Conservation Fund (LWCF) consist of Federal monies, which are provided through the National Park Service. This program is a primary source of funding for the acquisition and development of outdoor recreation areas and facilities. The LWCF program can be used to acquire and construct new park sites and recreation facilities, to upgrade existing recreation facilities, and to acquire and improve passive recreation areas such as open space or trail facilities. Grants are competitively awarded on a 50-50 matching basis with a maximum grant limit of \$50,000. This funding source can assist with implementing off-street walking and biking facilities and should be considered by the City. However, the program has provided little or no funding in recent years.

Safe Routes to School Program

The Safe Routes to School (SRTS) Program provides funding for projects and programs that facilitate walking and bicycling to school. It is designed to enable and encourage children in grades K-8, including those with disabilities, to walk and bicycle to school and to make walking and bicycling to school safer and more appealing.

Recreation Trails Program

The Recreational Trails Program (RTP) was created to assist in acquiring, developing, or improving trail and trail-related resources. The maximum grant amount that can be applied for is: \$50,000 for non-motorized single use project and \$100,000 for a non-motorized diverse use project and with a 20% local match requirement that can include in-kind and donations. Applications may also be made for educational projects. Only one application may be submitted by an applicant; however, an application may contain multiple sites and the non-federal matching share may exceed the minimum required to satisfy the federal matching requirement. Active RTP or Land and Water Conservation Fund (LWCF) grants must be closed prior to submission of a new application. Applications may be submitted for the following activities:

- ▶ Development of urban trail linkages near homes and workplaces. This category includes trail linkages to schools, parks, and existing trails.
- ▶ Maintenance of existing recreational trails.
- ▶ Restoration of areas damaged by usage of recreational trails.
- ▶ Development of trail-side and trail-head facilities that meet goals identified by the National Recreational Trails Advisory Committee. This includes trail components or associated facilities which serve the purpose and safe use of the recreational trail and may include but are not limited to the following:
 - Drainage
 - Crossings
 - Stabilization
 - Parking
 - Signage
 - Controls
 - Shelters

- Water, Sanitary, and Access Facilities
 - ▶ Provision of features which facilitate the access and use of trails by persons with disabilities.
 - ▶ Acquisition of easements for trails, or for corridors identified in a state trail plan.
 - ▶ Acquisition of fee simple title to property from a willing seller.
 - ▶ Construction of new trails on state, county, municipal, or private lands, where a recreational need for such construction is shown.
 - ▶ Purchase of trail maintenance equipment.

Funding Sources: Federal Highway Administration/MPO

Funding sources from the Federal Highway Administration are potentially available through the Baton Rouge MPO. These sources are authorized in the Moving Ahead for Progress in the 21st Century bill (MAP-21). In addition to the typical transportation facilities, the bill provides funds for bicycle and pedestrian projects. The MPO is responsible for allocating certain funds at the metropolitan level such as CMAQ and Surface Transportation Program Attributable.

CMAQ assists areas designated as nonattainment or maintenance under the Clean Air Act Amendments of 1990 to achieve and maintain healthful levels of air quality by funding transportation projects and programs. Central is part of the Baton Rouge Metropolitan Area, which has been designated a nonattainment area for air quality (Ozone).

Eligible activities set out by the Act include transportation control measures including:

- ▶ Limiting portions of the road surface or sections of a metropolitan area to the use of non-motorized vehicles.
- ▶ Employer participation in programs to encourage bicycling.
- ▶ Programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists in both public and private places.

The Federal Highway Administration's Guidance on the CMAQ program identifies:

- ▶ Construction of bicycle and pedestrian facilities.
- ▶ Non-construction projects related to safe bicycle use.

- ▶ Establishment and funding of bicycle/pedestrian coordinator positions for the promoting and facilitating the increased use of non-motorized modes of transportation. This includes public education, promotional, and safety programs for using such facilities.

Nationwide, the CMAQ program has funded numerous bicycle and pedestrian improvements including bicycle parking, bicycle racks on buses, sidewalks, trails, and promotional programs such as bike-to-work events. CMAQ funds have also been used to fund bicycle and pedestrian coordinator positions at the local level.

National Highway System

Bicycle and pedestrian facilities within National Highway System (NHS) corridors are eligible activities for NHS funds. Funding is possible for bike lane, shoulder, and sidewalk improvements on major arterial roads that are part of the National Highway System, and bicycle and/or pedestrian bridges and tunnels that cross NHS facilities.

Highway Bridge Replacement and Rehabilitation Program

Where a highway bridge deck is being replaced or rehabilitated with Federal financial participation and bicyclists are permitted to operate at each end of such bridge, the safe accommodation of bicyclists can be provided at reasonable cost as part of such replacement or rehabilitation. Bicycle and pedestrian improvements on bridges are usually carried out as an incidental part of a larger replacement or rehabilitation project and funds can be used to provide a range of on-street, sidewalk, and trail facilities depending on the appropriate design for the bridge and the location.

Surface Transportation Program

Bicycle and pedestrian improvements are eligible activities under the Surface Transportation Program (STP). This covers a wide variety of projects such as on-road facilities, off-road trails, sidewalks, crosswalks, bicycle and pedestrian signals, parking, and other ancillary facilities. The modification of sidewalks to comply with the requirements of the Americans with Disabilities Act is an eligible activity.

As an exception to the general rule described above, STP-funded bicycle and pedestrian facilities may be located on local and collector roads which are not part of the Federal-aid Highway System. In addition, bicycle-related non-construction projects, such as maps, coordinator positions, and encouragement programs, are eligible for STP funds.

STP funds are eligible to be spent on a wide variety of improvements for bicycling and walking including, but not limited to, on- and off-road facilities, bicycle parking, planning studies, local

bicycle and pedestrian coordinator positions, spot improvement programs, sidewalks, crosswalks, and traffic calming projects. As the category of funding with probably the broadest eligibility, the STP should be considered as a source of funds for both independent and incidental bicycle and pedestrian projects, as well as non-construction projects.

Highway Safety Improvement Program

Highway Safety Improvement Program (HSIP) funds can be used for pedestrian and bicycle safety improvements on any public road or publicly owned bicycle or pedestrian pathway or trail.

People for Bikes

People for Bikes is a private organization funded by and representing the bicycle industry, whose mission is, "Putting more people on bikes more often through the implementation of Transportation Enhancement." To that end, People for Bikes awards grants of up to \$10,000 each to projects that seek Transportation Enhancement funding for bicycle facilities. People for Bikes looks for grant seekers, groups, or communities for which a grant can provide financial support. People for Bikes grants have been used for concept plans, design, outreach, and preliminary engineering, as well as local match contributions. The grant application, guide and other information can be viewed at:

www.peopleforbikes.org.

Local Funding

Many, if not all, of the plans recommended public activities and improvements will require some type of local financial assistance to implement. In order for these monies to be utilized there would have to be a surplus of funds sufficient to be appropriated for this purpose in any given fiscal year as with any other public project or program. The same funding sources listed in the City of Central Transportation Plan under the local funding section can be used for the Bike and Pedestrian Plan.

Appendix

Appendix A

LADOTD Complete Streets Policy



LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT COMPLETE STREETS POLICY



This policy will create a comprehensive, integrated, connected transportation network for Louisiana that balances access, mobility, health and safety needs of motorists, transit users, bicyclists, and pedestrians of all ages and abilities, which includes users of wheelchairs and mobility aids. It ensures a fully integrated transportation system, by planning, funding, designing, constructing, managing, and maintaining a complete and multi-modal network that achieves and sustains mobility, while encouraging and safely accommodating pedestrians, bicyclists, and transit users.

The Louisiana Department of Transportation and Development (DOTD) will provide the leadership to implement this policy on all transportation projects that involve federal or state funding or approval. DOTD recognizes the need for interdisciplinary coordination to effectively develop, operate, and maintain bicycle and pedestrian networks. DOTD will work with Metropolitan Planning Organizations (MPOs), transit agencies, parishes, municipalities and other stakeholders to do the same. This includes early coordination to identify whether a reconstruction or new construction project will impact a route identified on a local plan. DOTD will offer internal and external training opportunities and other resource tools in the following areas: engineering, education, enforcement, encouragement, and evaluation.

Provisions for all users will be integrated into the project development process for the entirety of all projects through design features, using Context Sensitive Solutions (CSS).

- On all new and reconstruction roadway projects that serve adjacent areas with existing or reasonably foreseeable future development or transit service, DOTD will plan, fund, and design sidewalks and other pedestrian facilities. The appropriate facility type will be determined by the context of the roadway.
- On all new and reconstruction roadway projects, DOTD will provide bicycle accommodations appropriate to the context of the roadway - in urban and suburban areas, bicycle lanes are the preferred bikeway facility type on arterials and collectors. The provision of a paved shoulder of sufficient width, a shared use trail, or a marked shared lane may also suffice, depending on context.

All projects shall consider the impact that improvements will have on safety for all users and make all reasonable attempts to mitigate negative impacts on non-motorized modes. Restricting non-motorized access should not be considered as an appropriate strategy with the exception of those limited access facilities where pedestrians and bicyclists are prohibited. DOTD will strive to ensure projects do not become barriers to pedestrians, bicyclists, and transit users by providing appropriate safe crossings, providing corridor continuity, and ensuring transportation projects comply with the current accessibility guidelines.

There are conditions where it is generally inappropriate to provide bicycle and pedestrian facilities. These instances include:

1. Facilities, such as Interstates, where bicyclists and pedestrians are prohibited by law from using the roadway. In this instance, a greater effort may be necessary to accommodate bicyclists and pedestrians elsewhere within the same transportation corridor.
2. The cost of providing bicycle and pedestrian facilities would be excessively disproportionate to the need or probable use. Excessively disproportionate is defined as exceeding twenty percent (20%) of the cost of the project.

3. Other factors where there is a demonstrated absence of need or prudence. For example, in rural areas or undeveloped areas where future development is not anticipated, sidewalks and designated bikeways will generally not be provided.
4. On projects that are preservation only, DOTD will only consider improvements that do not require right-of-way acquisition, utility relocation, or major construction to provide bicycle or pedestrian accommodations, such as relocating or enclosing roadside drainage. Retrofits such as narrowing lanes, restriping and other means of providing improved bicycle and pedestrian access shall be considered on preservation projects. When an identified need or candidate requires right-of-way acquisition, utility relocation, or major construction, DOTD will work with local government to identify funding for the identified need as a separate project.
5. Maintenance for sidewalks and bicycle paths outside the limits of the curb or shoulder will be the responsibility of the local jurisdiction. Maintenance agreements will be required as a provision of the entire project.

Exceptions for not accommodating bicyclists, pedestrians and transit users in accordance with this policy will require the approval of the DOTD Chief Engineer. For exceptions on Federal-aid highway projects, concurrence from the Federal Highway Administration (FHWA) must also be obtained. For exceptions in an urbanized area, concurrence from the MPO must also be obtained.

When an MPO or local jurisdiction is not in agreement with DOTD's accommodation for bicyclists or pedestrians, they can introduce a formal appeal by means of a resolution adopted by the local governing body or board. The resolution must be submitted to the Chief Engineer for review and consideration prior to the final design approval.

Facilities will be designed and constructed in accordance with current applicable laws and regulations, using best practices and guidance from the following, but not limited to: DOTD guidelines and manuals, American Association of State Highway and Transportation Officials (AASHTO) publications, the Manual on Uniform Traffic Control Devices (MUTCD), the Americans with Disabilities Act Accessibility Guidelines (ADAAG) and the Public Rights-of-Ways Accessibility Guidelines (PROWAG).

DOTD recognizes that a well-planned and designed transportation system that is responsive to its context and meets the needs of its users is the result of thoughtful planning and engineering. DOTD further recognizes the need to provide a framework for evaluation and a targeted strategy for the implementation steps identified. To this end, DOTD will work with a diverse group of stakeholders, including transportation professionals, advocates, and others, as appropriate, to continue to support and steer the implementation efforts both internal and external to DOTD.



Sherri H. LeBas, P.E.

Secretary

Department of Transportation and Development

State of Louisiana

Date: 7/18/2010

**SECTION 3:
CITY OF CENTRAL
TYPICAL SECTIONS**

Prepared For:



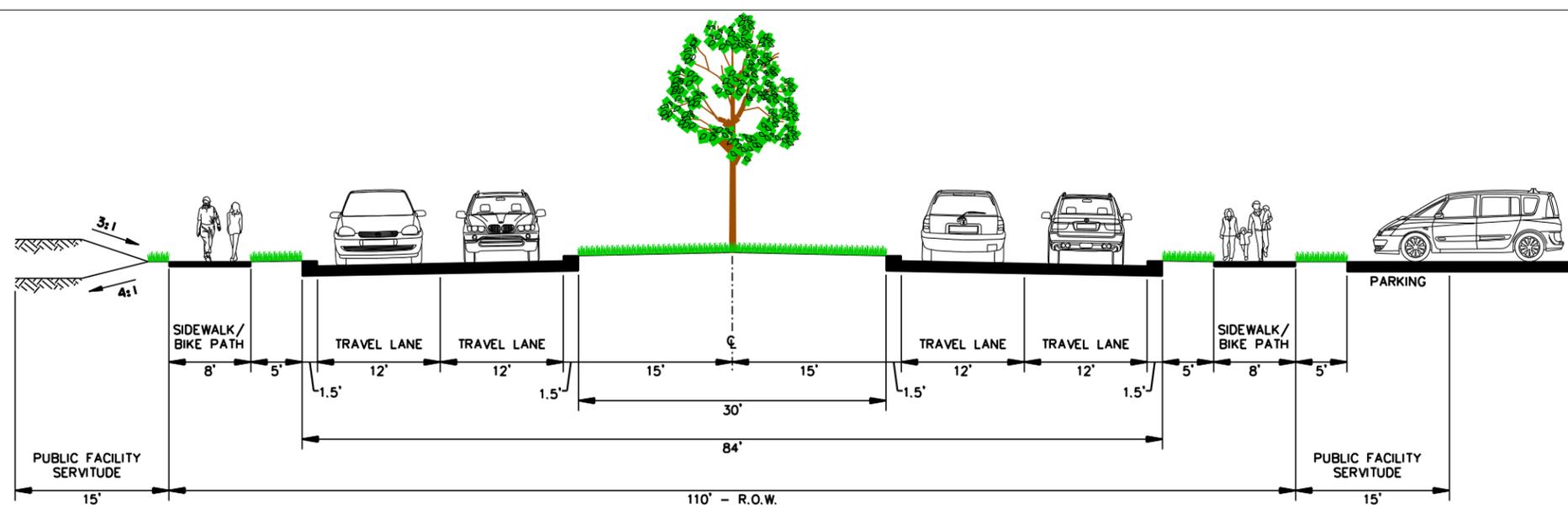
Prepared by:



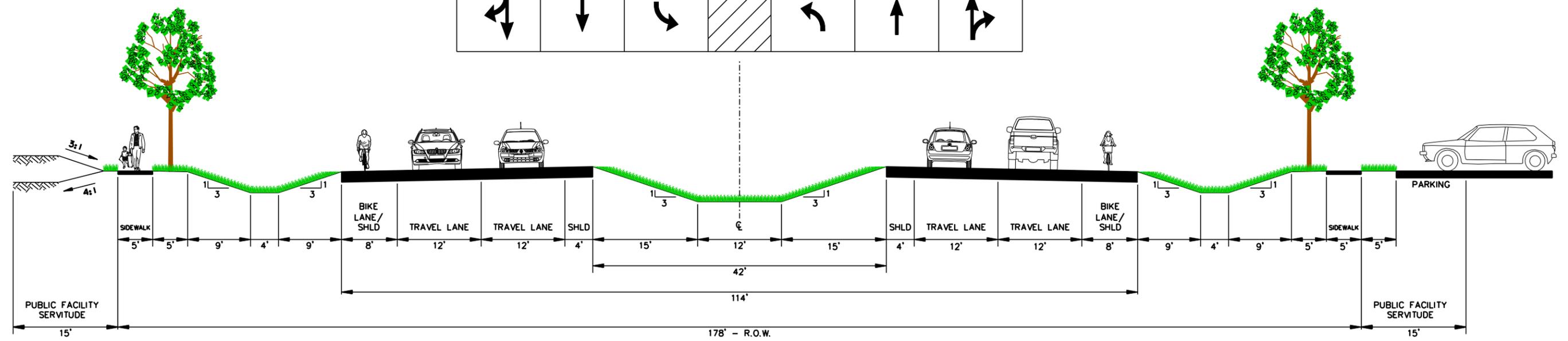
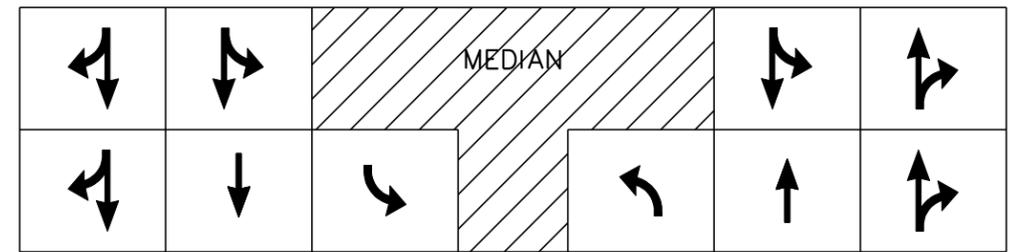
February 2014

NOTE:
 TYPES OF EASEMENTS USED FOR TRANSPORTING OR TRANSMITTING ARE AS LISTED BELOW BUT ARE NOT LIMITED TO:

- INFORMATION (DATA, VOICE, IMAGES, AND/OR TEXT)
- GASES
- ELECTRICITY
- POTABLE WATER
- STORM WATER
- SEWERAGE
- HEAT ENERGY
- ELECTRO-MECHANICAL ENERGY
- DISPOSED SUBSTANCE OR FLUIDS
- COMMODITIES
- ENERGY SOURCES



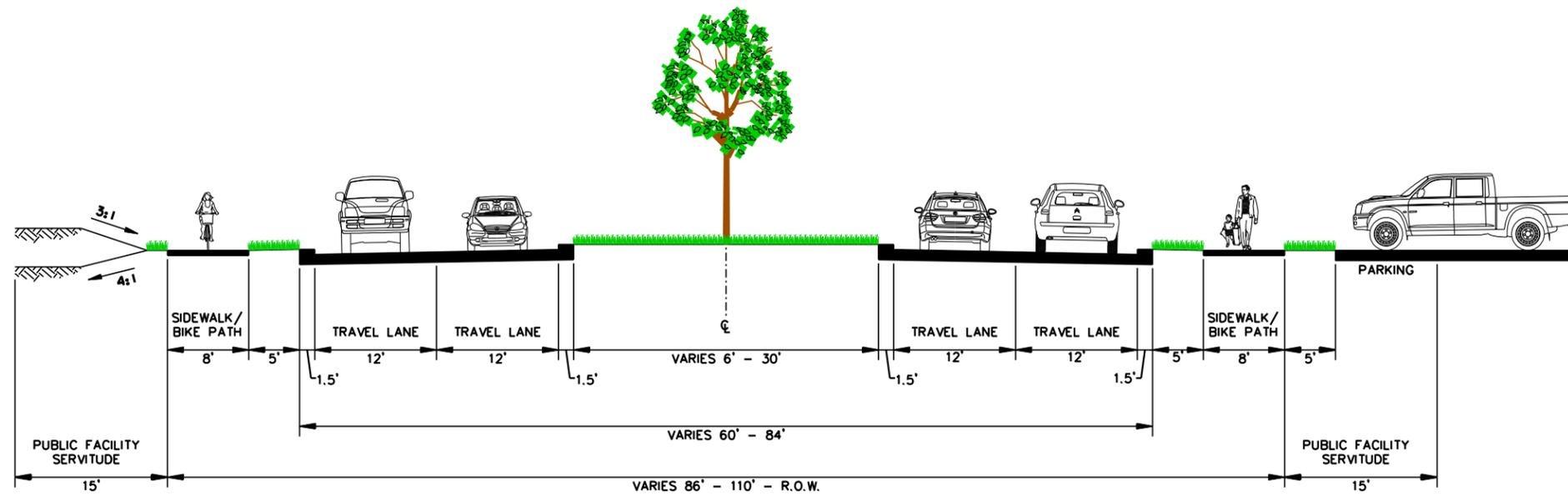
(MjA4LD-CG) MAJOR ARTERIAL – FOUR LANE DIVIDED ROADWAY WITH CURB AND GUTTER DESIGN – MID-BLOCK CROSS SECTION



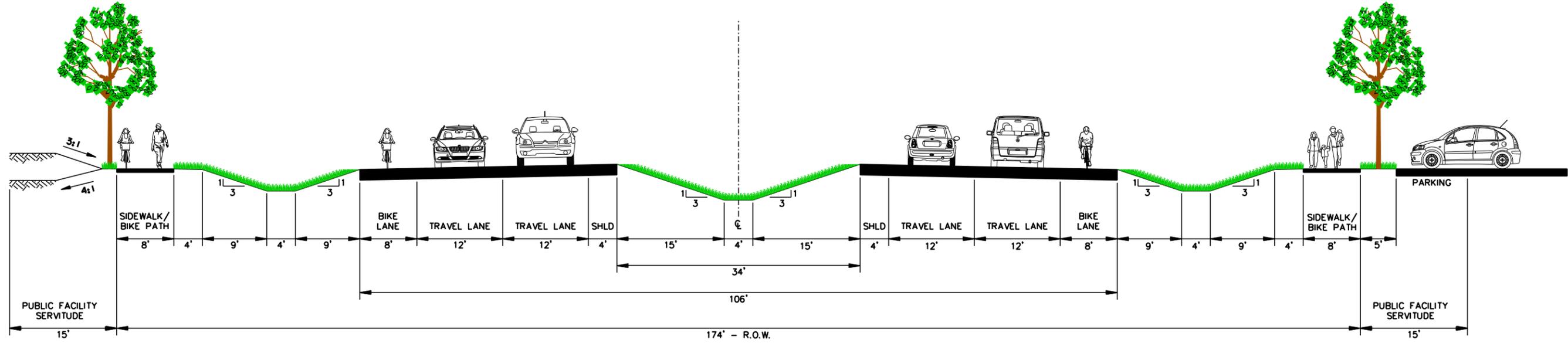
(MjA4LD-OD) MAJOR ARTERIAL – FOUR LANE DIVIDED ROADWAY WITH OPEN DITCH DESIGN – MID-BLOCK CROSS SECTION

NOTE:
 TYPES OF EASEMENTS USED FOR TRANSPORTING OR TRANSMITTING ARE AS LISTED BELOW BUT ARE NOT LIMITED TO:

- INFORMATION (DATA, VOICE, IMAGES, AND/OR TEXT)
- GASES
- ELECTRICITY
- POTABLE WATER
- STORM WATER
- SEWERAGE
- HEAT ENERGY
- ELECTRO-MECHANICAL ENERGY
- DISPOSED SUBSTANCE OR FLUIDS
- COMMODITIES
- ENERGY SOURCES



(MnA4LD-CG) MINOR ARTERIAL – FOUR LANE DIVIDED ROADWAY WITH CURB AND GUTTER DESIGN – MID-BLOCK CROSS SECTION



(MnA4LD-OD) MINOR ARTERIAL – FOUR LANE DIVIDED ROADWAY WITH OPEN DITCH DESIGN – MID-BLOCK CROSS SECTION

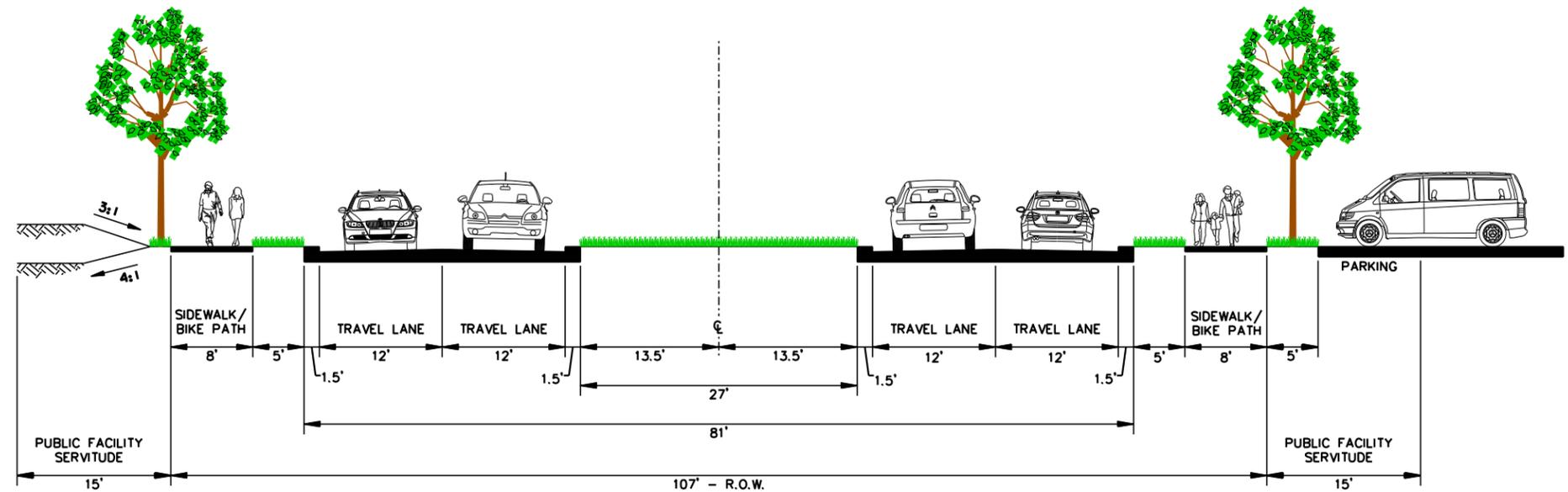
NEEL-SCHAFFER
Solutions you can build upon

CITY OF CENTRAL
 MINOR ARTERIAL - FOUR LANE DIVIDED ROADWAY

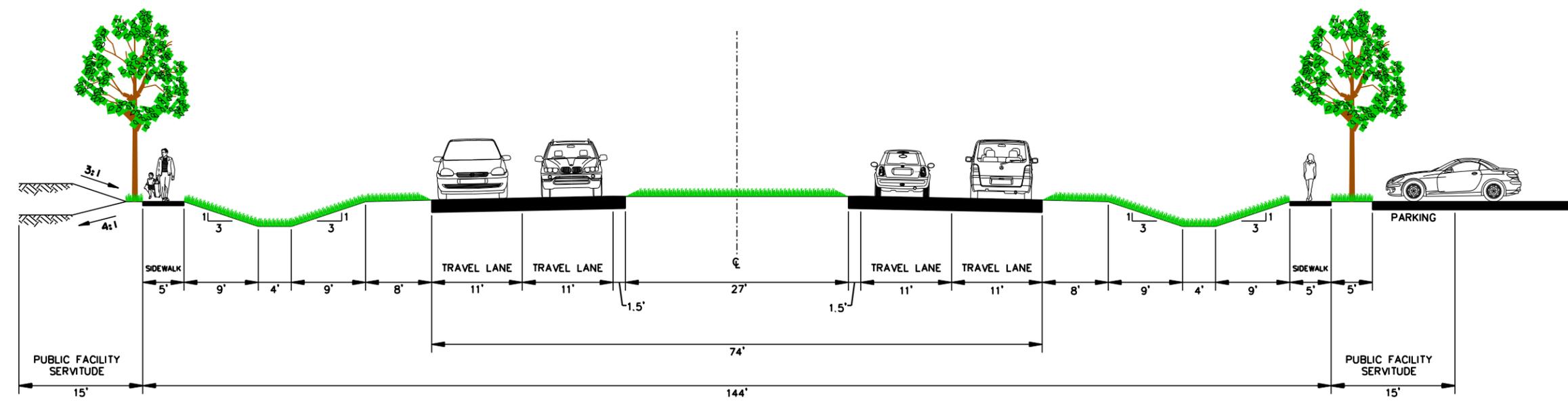
TYPICAL SECTIONS	1/16/14	SHEET 2 OF 8
------------------	---------	--------------

NOTE:
 TYPES OF EASEMENTS USED FOR TRANSPORTING OR TRANSMITTING ARE AS LISTED BELOW BUT ARE NOT LIMITED TO:

- INFORMATION (DATA, VOICE, IMAGES, AND/OR TEXT)
- GASES
- ELECTRICITY
- POTABLE WATER
- STORM WATER
- SEWERAGE
- HEAT ENERGY
- ELECTRO-MECHANICAL ENERGY
- DISPOSED SUBSTANCE OR FLUIDS
- COMMODITIES
- ENERGY SOURCES



(MjC4LD-CG) MAJOR COLLECTOR – FOUR LANE DIVIDED ROADWAY WITH CURB AND GUTTER DESIGN – MID-BLOCK CROSS SECTION

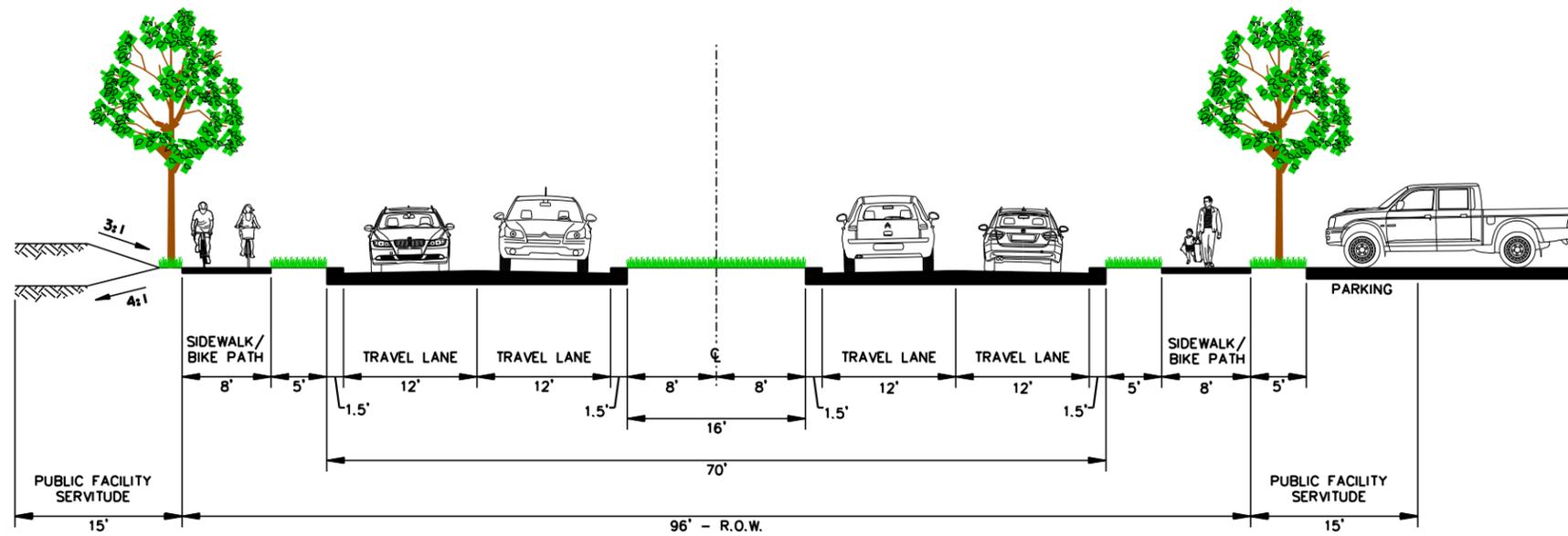


(MjC4LD-OD) MAJOR COLLECTOR – FOUR LANE DIVIDED ROADWAY WITH OPEN DITCH DESIGN – MID-BLOCK CROSS SECTION

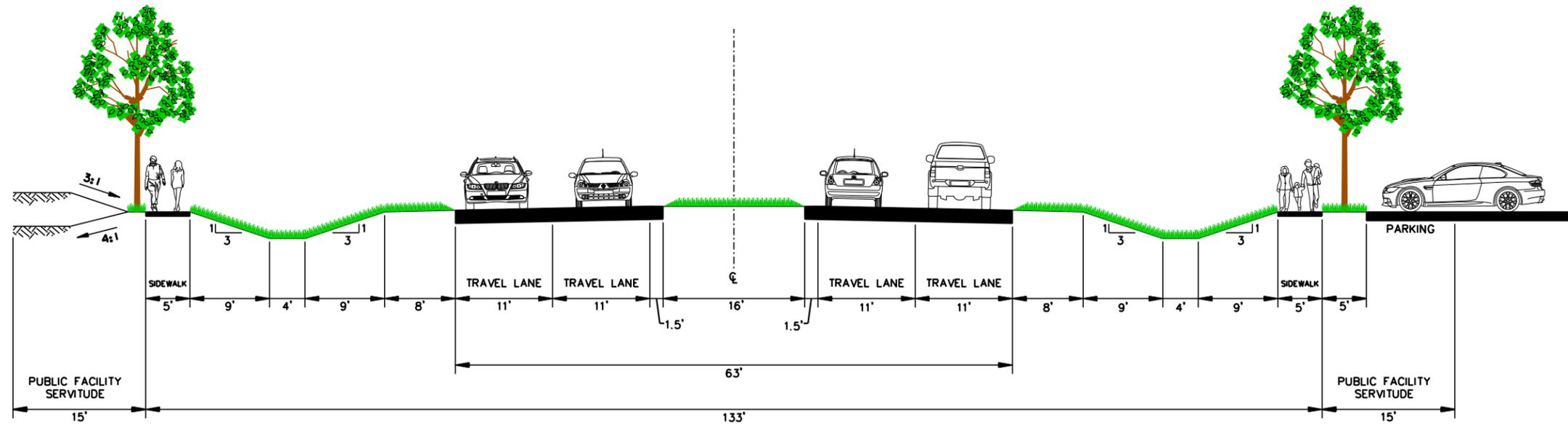
 NEEL-SCHAFFER <i>Solutions you can build upon</i>	CITY OF CENTRAL		
	MAJOR COLLECTOR - FOUR LANE DIVIDED ROADWAY		
	TYPICAL SECTIONS	1/16/14	SHEET 3 OF 8

NOTE:
 TYPES OF EASEMENTS USED FOR TRANSPORTING OR TRANSMITTING ARE AS LISTED BELOW BUT ARE NOT LIMITED TO:

- INFORMATION (DATA, VOICE, IMAGES, AND/OR TEXT)
- GASES
- ELECTRICITY
- POTABLE WATER
- STORM WATER
- SEWERAGE
- HEAT ENERGY
- ELECTRO-MECHANICAL ENERGY
- DISPOSED SUBSTANCE OR FLUIDS
- COMMODITIES
- ENERGY SOURCES



(MnC4LD-CG) MINOR COLLECTOR – FOUR LANE DIVIDED ROADWAY
 WITH CURB AND GUTTER DESIGN – MID-BLOCK CROSS SECTION



(MnC4LD-OD) MINOR COLLECTOR – FOUR LANE DIVIDED ROADWAY
 WITH OPEN DITCH DESIGN – MID-BLOCK CROSS SECTION



CITY OF CENTRAL

MINOR COLLECTOR - FOUR LANE DIVIDED ROADWAY

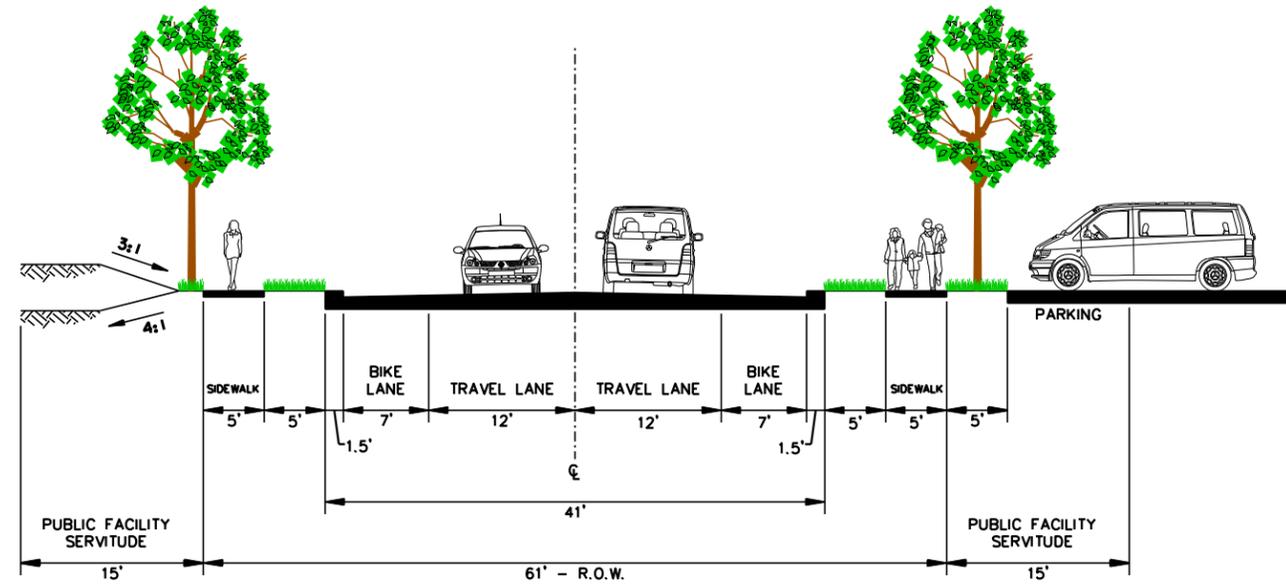
TYPICAL SECTIONS

1/16/14

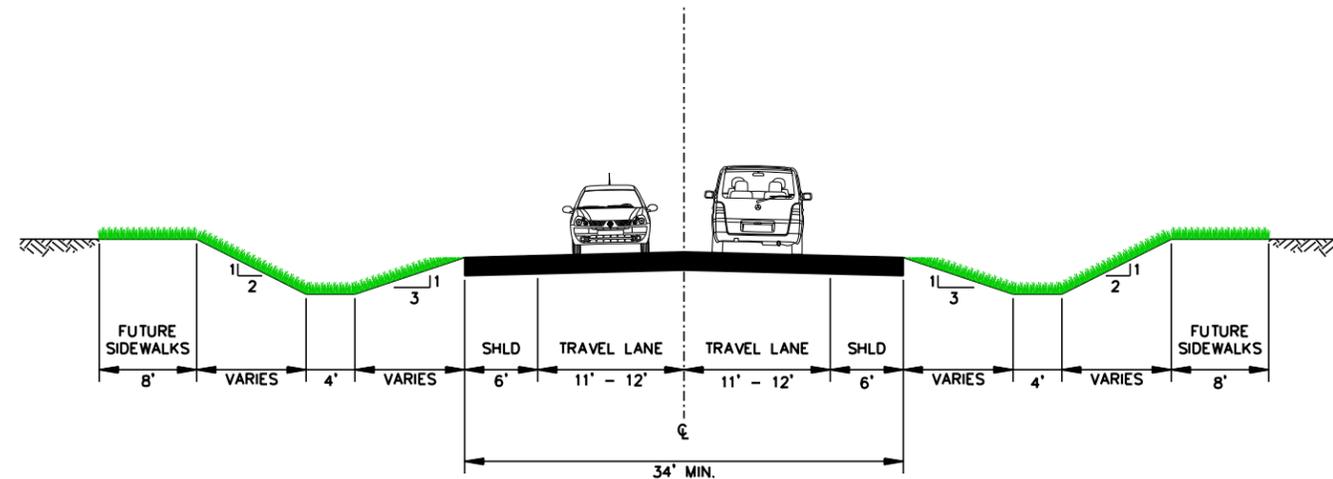
SHEET 4 OF 8

NOTE:
 TYPES OF EASEMENTS USED FOR TRANSPORTING OR TRANSMITTING ARE AS LISTED BELOW BUT ARE NOT LIMITED TO:

- INFORMATION (DATA, VOICE, IMAGES, AND/OR TEXT)
- GASES
- ELECTRICITY
- POTABLE WATER
- STORM WATER
- SEWERAGE
- HEAT ENERGY
- ELECTRO-MECHANICAL ENERGY
- DISPOSED SUBSTANCE OR FLUIDS
- COMMODITIES
- ENERGY SOURCES



(MnC2UD-CG) MINOR COLLECTOR – TWO OR THREE LANE UNDIVIDED ROADWAY WITH CURB AND GUTTER DESIGN – MID-BLOCK CROSS SECTION



(RL-1) RURAL LOCAL – TWO LANE UNDIVIDED ROADWAY WITH OPEN DITCH DESIGN – MID-BLOCK CROSS SECTION



CITY OF CENTRAL

MINOR COLLECTOR/RURAL LOCAL - TWO LANE UNDIVIDED ROADWAY

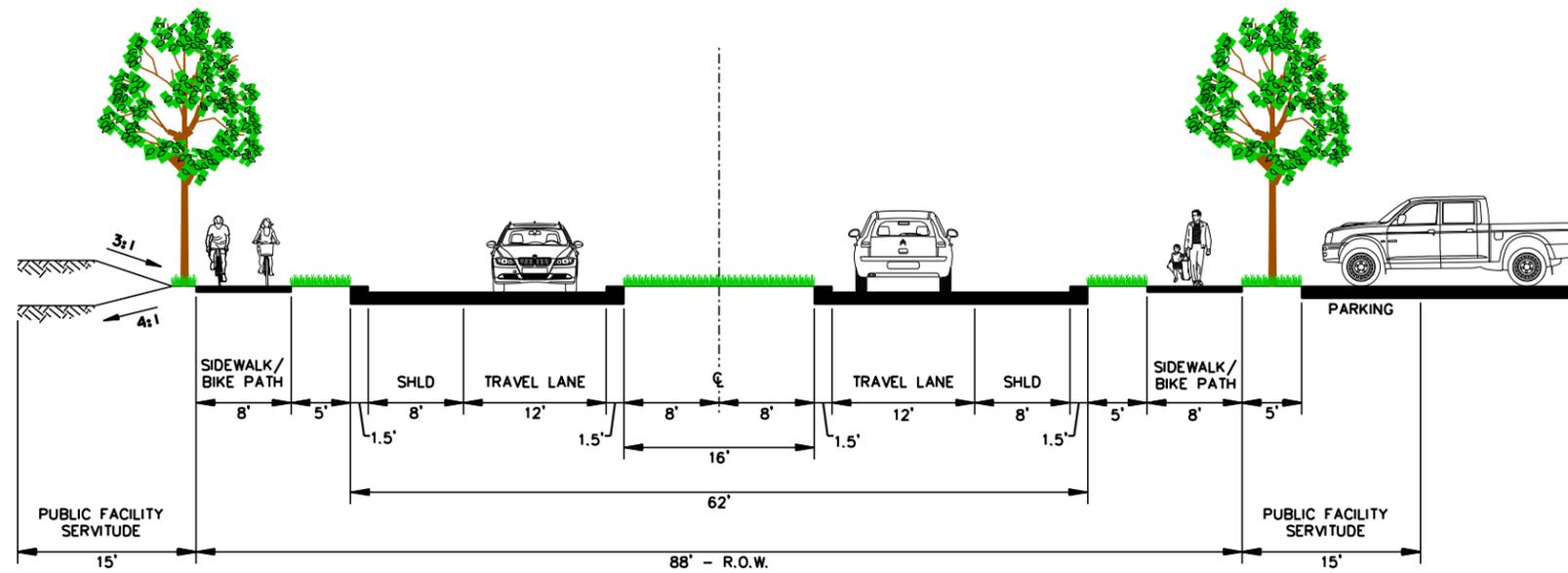
TYPICAL SECTIONS

1/16/14

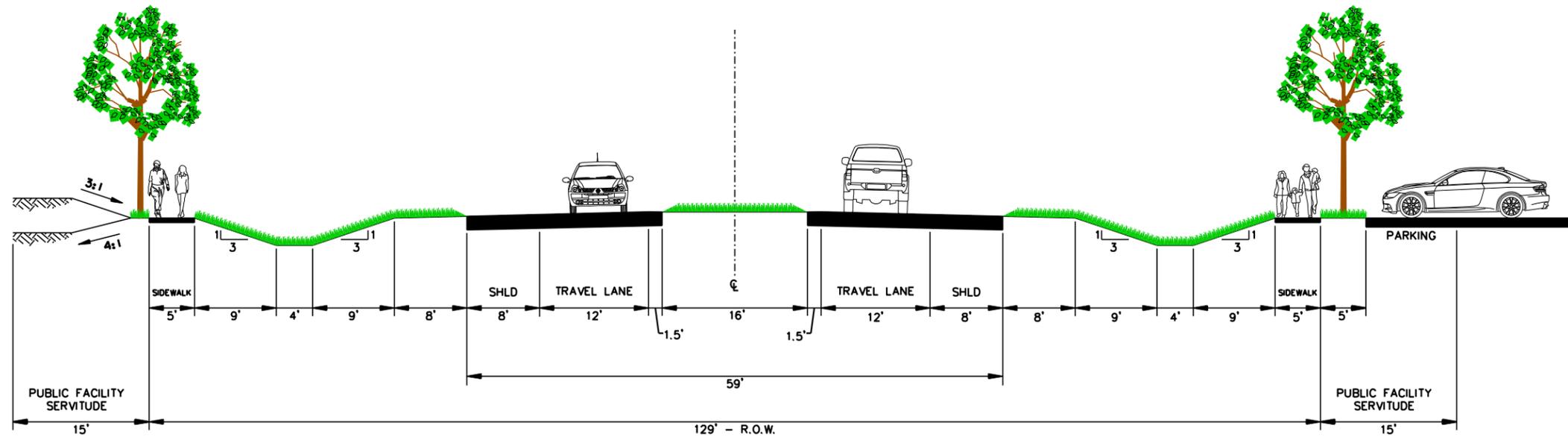
SHEET 5 OF 8

NOTE:
 TYPES OF EASEMENTS USED FOR TRANSPORTING OR TRANSMITTING ARE AS LISTED BELOW BUT ARE NOT LIMITED TO:

- INFORMATION (DATA, VOICE, IMAGES, AND/OR TEXT)
- GASES
- ELECTRICITY
- POTABLE WATER
- STORM WATER
- SEWERAGE
- HEAT ENERGY
- ELECTRO-MECHANICAL ENERGY
- DISPOSED SUBSTANCE OR FLUIDS
- COMMODITIES
- ENERGY SOURCES



(MnC2LD-CG) MINOR COLLECTOR – TWO LANE DIVIDED ROADWAY
 WITH CURB AND GUTTER DESIGN – MID-BLOCK CROSS SECTION



(MnC2LD-OD) MINOR COLLECTOR – TWO LANE DIVIDED ROADWAY
 WITH OPEN DITCH DESIGN – MID-BLOCK CROSS SECTION



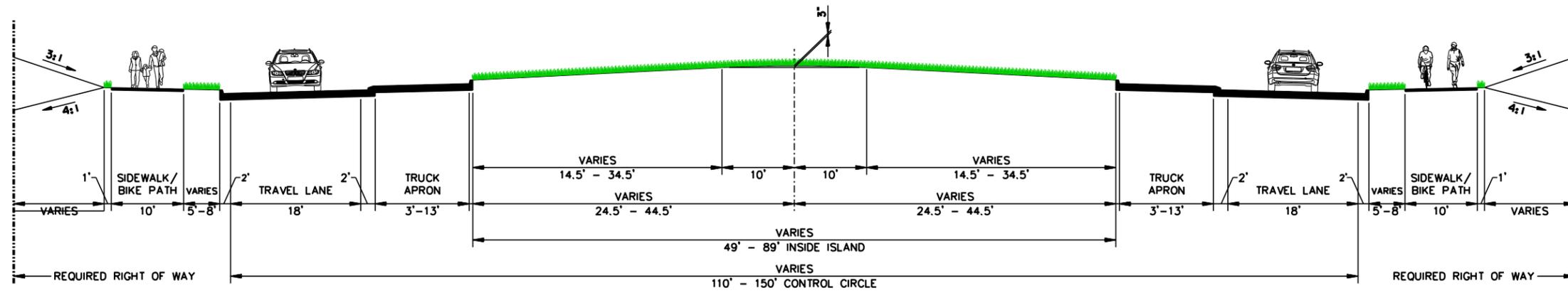
CITY OF CENTRAL

MINOR COLLECTOR - TWO LANE DIVIDED ROADWAY

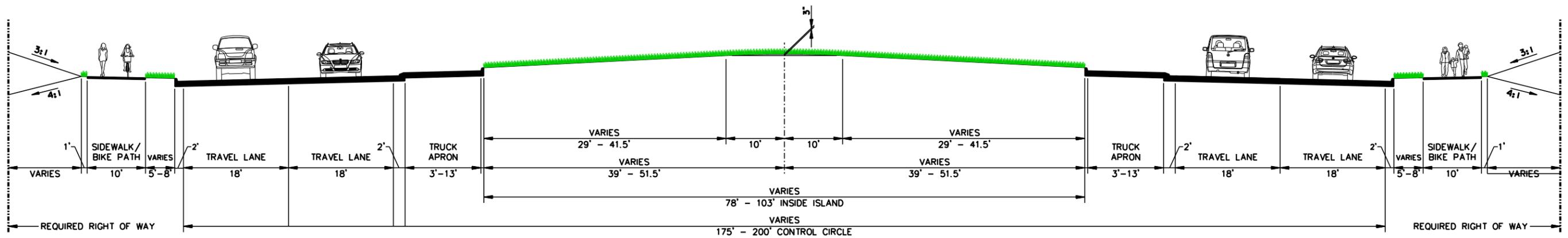
TYPICAL SECTIONS

1/16/14

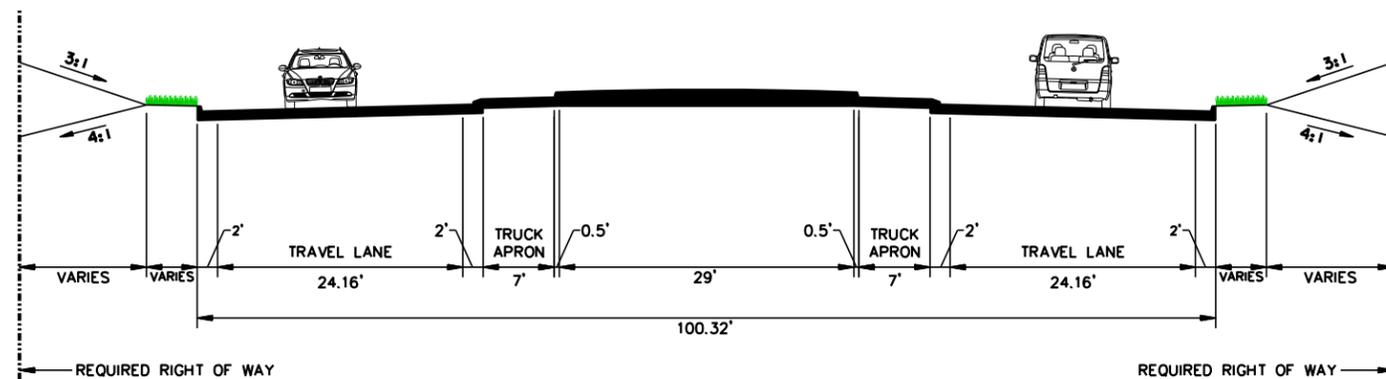
SHEET 6 OF 8



SINGLE LANE ROUNDABOUT



MULTILANE ROUNDABOUT



RESIDENTIAL ROUNDABOUT

NOTE:
 TYPES OF EASEMENTS USED FOR TRANSPORTING OR TRANSMITTING ARE AS LISTED BELOW BUT ARE NOT LIMITED TO:

- INFORMATION (DATA, VOICE, IMAGES, AND/OR TEXT)
- GASES
- ELECTRICITY
- POTABLE WATER
- STORM WATER
- SEWERAGE
- HEAT ENERGY
- ELECTRO-MECHANICAL ENERGY
- DISPOSED SUBSTANCE OR FLUIDS
- COMMODITIES
- ENERGY SOURCES



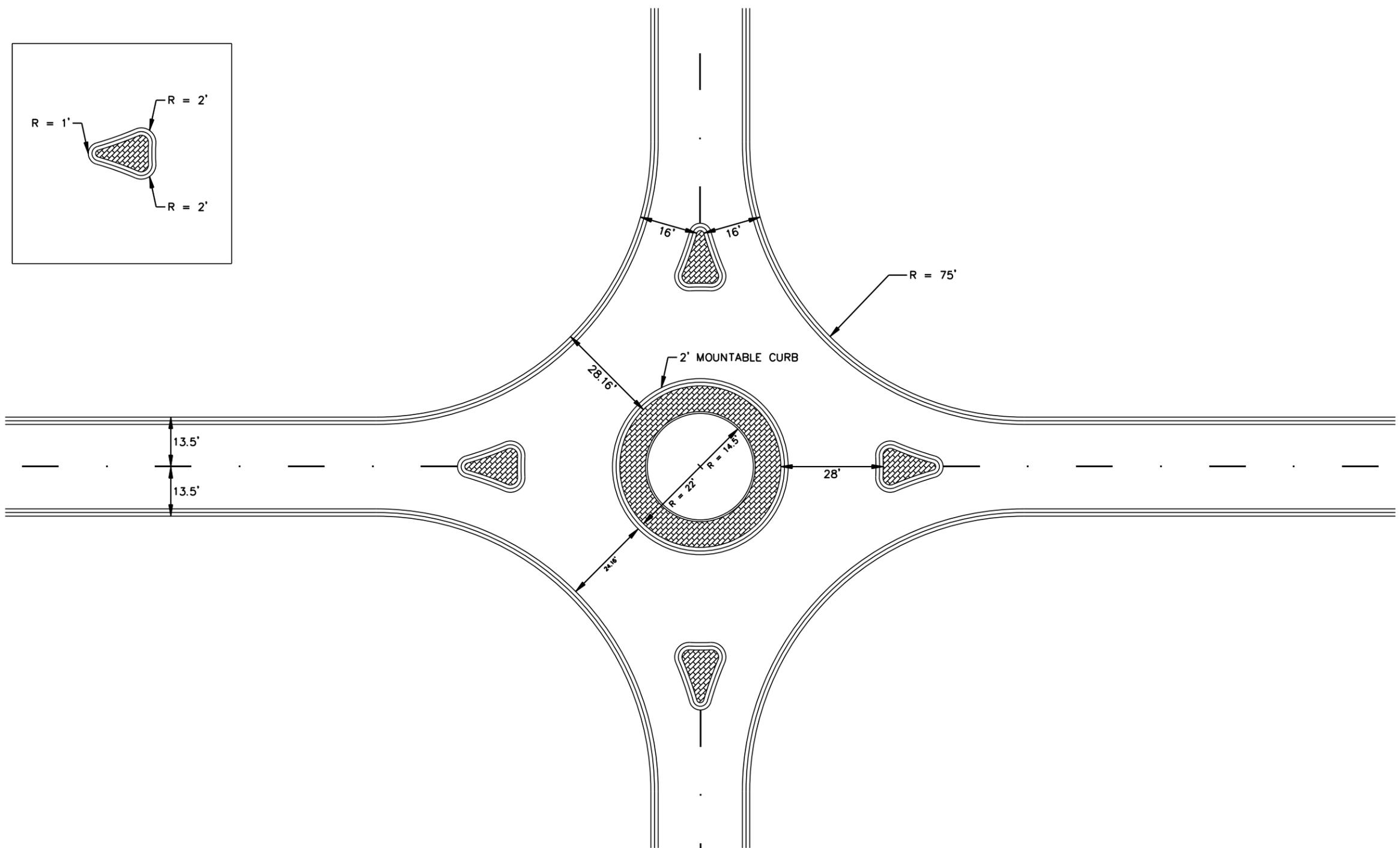
CITY OF CENTRAL

SINGLE/MULTILANE ROUNDABOUT

TYPICAL SECTIONS

1/23/14

SHEET 7 OF 8



CONCEPTUAL NEIGHBORHOOD ROUNDABOUT:
 FOR INFORMATIONAL PURPOSES ONLY. REFER TO TYPICAL
 SECTION ON SHEET 7 OF 8.



CITY OF CENTRAL

RESIDENTIAL SINGLE LANE ROUNDABOUT

PLAN VIEW LAYOUT

1/23/14

SHEET 8 OF 8

Prepared By



314 Audubon Blvd,

Lafayette, LA 70503