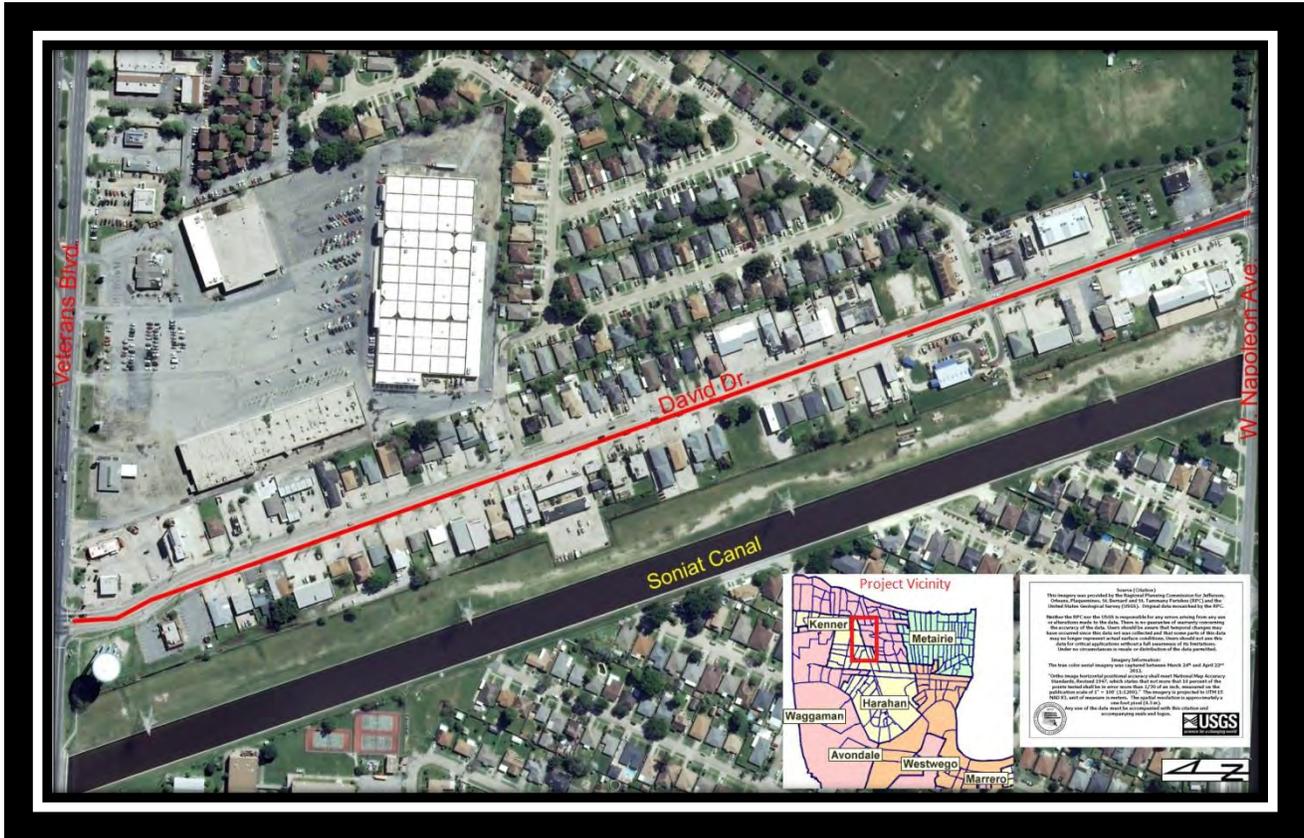


STAGE 0 FEASIBILITY STUDY



Access Management David Drive Corridor Jefferson Parish June 2014



Prepared For:
Regional Planning Commission for
Jefferson, Orleans, Plaquemines,
St. Bernard, St. Tammany, and
Tangipahoa Parishes
(RPC Task A-6.14; FY-14 UPWP)



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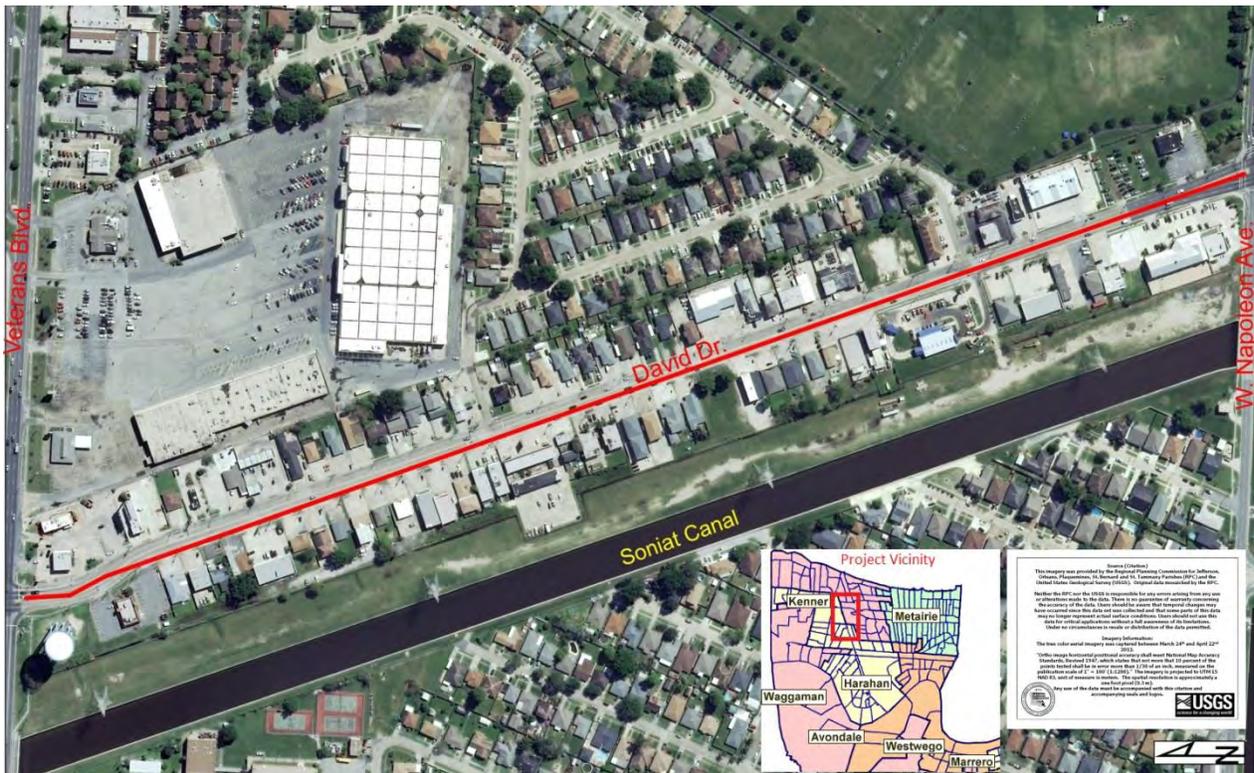


Executive Summary

Project Overview

The Regional Planning Commission (RPC) in coordination with Jefferson Parish (JP) has contracted Digital Engineering (DE) in association with Royal Engineers & Consultants, Inc (RE) and Dana Brown & Associates (DBA) to perform a Stage 0 Access Management study, including a Stage 0 Environmental Checklist and a Stage 0 Preliminary Scope and Budget Checklist, to examine transportation mobility and safety problems along the David Dr. corridor, specifically between Veterans Blvd. and W. Napoleon Ave. The corridor has four 12 foot lanes (two in each direction) and is approximately 3,300 feet or .62 miles in length. The geographic scope is the area bounded by Veterans Blvd (north), Airline Dr. (south), Soniat canal. (west), and a few hundred feet east of David Dr. and parallel from north to south (east) in Metairie, Jefferson Parish, LA. A complete streets concept was also evaluated for this corridor.

Access management is a strategy to reduce the number of conflict points on streets, thereby increasing both capacity and safety. It is applied primarily where there is continuous retail and commercial development along a road, where the tendency is for each site to have its own driveway access points.



Three comprehensive conceptual design alternatives have been developed for the David Dr. corridor including plan layouts, typical sections, visual renderings, traffic control and calming features, and bicycle/pedestrian improvements. The three alternatives were developed in a collaborative effort of the Project Management Committee (PMC) with members from the RPC, Jefferson Parish President John Young's office, Jefferson Parish District 4 Councilman Ben Zahn's office, Jefferson Parish District 2 Councilman Paul Johnston's office, Jefferson Parish Departments of Planning and Public Works, and the Louisiana Department of Transportation and Development (LADOTD). The three alternatives are presented in detail in Section 4.0 Proposed Corridor Improvements and contain the following information:



- Access management design principles
- Complete streets approach (improvements to roadway, pedestrian, and bicycle facilities).
- Bicycle lanes and pedestrian sidewalks improvements on David Dr. or on a separate facility.
- Additional u-turn features along David Dr.
- Vehicular travel lane widths along David Dr.
- Linkages to existing proposed or existing bikeways, greenways, and sharrows between Veterans Blvd. and W. Napoleon Ave., including Lafreniere Park.

Project Description (full scope of work descriptions can be found in Section 1.0 Introduction)

The scope of work for the Stage 0 Feasibility Study for the David Dr. corridor includes the following:

- | | |
|---|--|
| ✓ Site Investigation | ✓ Establish Project Management Committee (PMC) |
| ✓ Concept Development and Evaluation | ✓ Present final recommendations based on design review |
| ✓ Collection of Utilities and Environmental Information | ✓ Draft and Final Reports |
| ✓ Plan Sheets and Typical Roadway Sections | |

Background

In January, 2003, the RPC completed a Comprehensive Land Use and Transportation Plan for Jefferson Parish. This study identified a number of action measures to improve transportation mobility, access to regional employment centers, and opportunities for transit oriented development throughout Jefferson Parish. One of the corridors identified for improved coordination of land use and transportation investments was David Dr. between Airline Drive/US 61 and Veterans Boulevard. The Plan called for enhancements to existing development patterns focusing upon pedestrian-oriented development and transit as well as overall traffic safety in the corridor.

Facilitating the bicycle and pedestrian needs of the area is considered since this route also functions as a planned commuter bicycle connection. As detailed in the Jefferson Parish Bicycle Master Plan, Veterans Blvd. recommends both a side path and a bicycle lane, W. Napoleon Ave. requires a bicycle lane, and David Dr. with a sharrow connecting them. The David Dr. Stage 0 study will also review traffic counts and crash data in the area and identify traffic calming and access management improvements which can be developed and implemented to enhance the overall safety and connectivity of adjacent neighborhoods and parks.

The PMC asked the study team to place emphasis on the section of David Dr. in between Veterans Blvd. and W. Napoleon Ave. The reasoning for emphasis in this section is due to the near continuous driveway cuts along David Dr., the absence managed and protected left turns, and the character of the land uses.

Data Collection Analysis (full information can be found in Section 2.0 Data Collection)

The study team collected data and information related to the David Dr. Stage 0 study area from various sources including the RPC, Jefferson Parish, and LADOTD. Several meetings for the purposes of developing the existing conditions analysis and the conceptual designs were conducted between the RPC and the study team (DE, RE, DBA). The study team made numerous field visits to the project site for data collection and site analysis.

Existing Conditions

David Dr. from Veterans Blvd to W. Napoleon Ave. (3,300 feet/.62 miles) has a posted speed limit of 35 MPH. The corridor has an apparent right-of-way measuring approximately 70 feet according to an as-built drawing received from Jefferson Parish Engineering Department and aerial data determination. The existing section of David Dr. from Veterans Blvd. to W. Napoleon Ave. has two 12 foot wide vehicular



travel lanes in each direction, separated by a double striped median in the center. The corridor is narrow due to the existing right-of-way width, but the roadway is in generally good condition, as shown in figure ES.1. In figures ES.2 and ES.3 the area behind the back of the curb on the both sides of the street is lined with utility poles. The sidewalk conditions along this section of the corridor vary and are generally poor (figure ES.2). Access management along this section of the David Dr. corridor is not existent, as there is no raised median separating north and south bound traffic and driveway cuts typically run the length of the roadway as shown in figures ES.4 and ES.5.



Figure ES.1



Figure ES.2



Figure ES.3



Figure ES.4



Figure ES.5

Traffic & Turning Counts

As part of the data collection effort for this report and to determine the volume of traffic along the David Dr. corridor, a 7-day/24-hour vehicle classification counts was conducted by Digital Engineering from January 9 - 16, 2014 at approximately 3113 David Dr. The David Dr. 24-hour counts identified a weekly average of 10,121 vehicles northbound and 11,164 vehicles southbound.

Crash Data Analysis

While crashes that result in fatalities and severe injuries receive the most attention, crashes that result in minor injuries and property damage also have significant economic impacts. For public agencies a diversion of economic resources into repairs and increased traffic congestion are negative consequences to the types of crashes that occur along the David Dr. corridor. A review of RPC and Jefferson Parish Sheriff's Office crash data from 2010 to 2012 and a total of 251 conflicts along David Dr. were attributed to multiple access points, lack of raised median, and existing geometric design and access management at the intersections within the corridor.

Of the two hundred fifty one (251) vehicle crashes two hundred forty five (245) involved two or more vehicles (98%). The majority of crashes are caused by the three following types: rear end – 149 (59%), sideswipe – 39 (16%), and angle – 33 (13%). These types of crashes are typical to a facility that has poor access management. When access points are reduced and ingress/egress locations are more clearly defined crashes of this type are typically reduced.

The intersections of David Dr. at York St. and Trenton St. accounted for one hundred thirty three (133) of the two hundred fifty one (251) crashes (53%). Typical vehicle/vehicle conflicts in these two locations are rear ends and angle crashes. As drivers attempt to make an unprotected left turn at either intersection they



are either hit by oncoming opposing traffic (angle) or are rear ended by stopping short thinking they could make it across.

Property Ownership

The David Dr. right-of-way is approximately 70' wide. To provide for service and delivery vehicles (Single-Unit Truck - SU) u-turns along the corridor some property will need to be acquired. Jefferson Parish will need to determine exact right-of-way acquisition in subsequent phases of David Dr. reconstruction.

Environmental Conditions (full information can be found in Section 3.0 Environmental Conditions)

The study team used the LA DOTD Stage 0 Environmental Checklist to perform the following environmental reviews. All environmental conditions are clear and the project can move into a Categorical Exclusion document.

- | | |
|----------------------------------|--------------------------------|
| ✓ Surrounding Community Elements | ✓ Louisiana Scenic Rivers Act |
| ✓ Wetlands Inventory | ✓ Significant Trees |
| ✓ Native American Tribal Lands | ✓ Navigable Waterways |
| ✓ Section 4(f) Issues | ✓ Hazardous Materials |
| ✓ Endangered Species | ✓ Environmental Justice Issues |

Proposed Corridor Improvements (full information can be found in Section 4.0 Proposed Corridor Improvements) The conceptual design alternatives considered access management and a complete streets approach of streets that are safer, more livable, and welcoming to everyone. The design team considered the following:

- ✓ Access Management Design Principles
- ✓ Roadway Design Guidelines and Necessary Safety Improvements
- ✓ Complete Streets Policy
- ✓ Proposed Bicycle and Pedestrian Improvements
- ✓ Conceptual Streetscape Design
- ✓ Proposed Options and Typical Sections
 - Option A: Expansion within Right-of-Way (preferred alternative figure ES.6 below)
 - Utilize the majority of the 70' available right-of-way
 - Design for a 14' wide raised landscaped median
 - Four 11' wide vehicular travel lanes
 - A separated 10' multi-use path along Soniat Canal
 - Option B: Couplet
 - Complete redesigning of David Dr. from Veterans Blvd. to W. Napoleon Ave.
 - Separated north and south bound traffic (David Dr. west side properties would be thru-lots)
 - Two-way 10' bicycle lane
 - Option C: Bypass
 - Realigned David Dr.
 - Two 11.5' north bound thru lanes
 - A 14' raised median
 - One 12' south bound vehicular travel lane for local traffic
 - Two 12' south bound lanes (utilizing property in between Soniat Canal and rear of properties)
 - 8' bicycle lane (along Soniat Canal)



Option A: Expansion within Right-of-Way

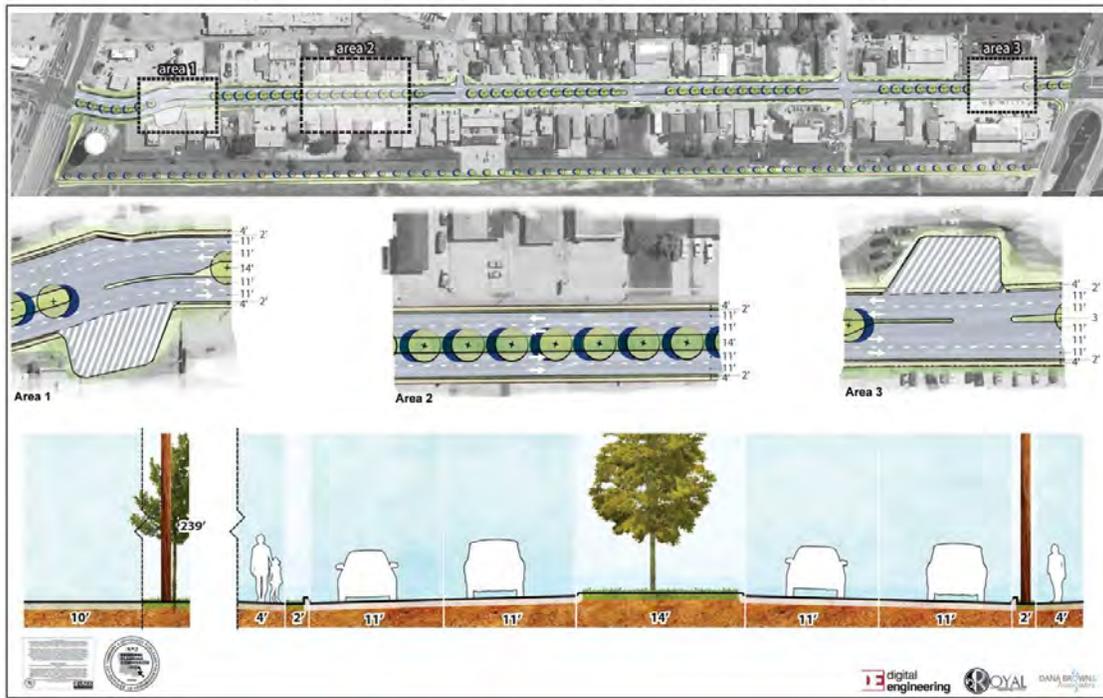


Figure ES.6

Conclusion

The implementation of any of the proposed alternatives will have a positive impact on the efficiency and safety of the corridor, the surrounding neighborhood, and throughout Jefferson Parish. The addition of a dedicated bicycle lane along the Soniat Canal that connects to the existing and proposed Jefferson Parish bicycle network will provide a linkage to Lafreniere Park, a valuable community asset. The project offers residents of Jefferson Parish and surrounding communities alternative transportation choices, access to recreation facilities and exercise, and expanded public access to the surrounding areas through modal means other than motorized vehicles. The realignment of David Dr. for all alternatives, in relation to the managed access, will provide a safer designed corridor. In addition, no environmental impacts were discovered to impede the project.

The construction of a complete streets concept will require a financial commitment from Jefferson Parish Government and other public entities that may contribute to this project. A consensus among the stakeholders, including Jefferson Parish officials, and the PMC expressed strong support for the project to move forward. The preferred alternative is Option A: Expansion within Right-of-Way. The preferred option realigns David Dr. with a 14' raised median to provide for a safer and managed access corridor with a dedicated bicycle lane. The opinion of probable project costs is estimated for Option A: Expansion within Right-of-Way at \$5.0 million. Option B: Couplet is not recommended to be considered as an alternative by the PMC moving forward as its estimated cost is \$9.5 million, would need extensive property acquisition, and could potentially have negative business impacts, such as decreased site visibility. Option C: Bypass was eliminated from consideration after the conceptual plan was presented to the PMC and the discussion of the atypical design. All of the options are detailed further in Section 4. In summary, Option A is the preferred alternative. Multiple funding possibilities are available for funding the David Dr. Option A alternative including General Fund expenditures and Urban Systems (STP>200K) funds which are expected to be used for this project.



Presented in figure ES.7 below is a matrix of the design concepts relative to the two options carried forward, their overall cost, and the No-Build Option (existing conditions of the corridor and any recommended improvements from other studies).

Design Concept	Option A: Expansion within Right- of-Way	Option B: Couplet	No-Build Option (Existing Conditions)
Redesigned David Dr. (divided median)	✓		
Realigned David Dr.		✓	
Protected left turns (passenger cars only)	✓		
Protected left turns (signalized intersections)		✓	
Truck Accessible Turns (all intersections)		✓	
Managed access		✓	
Increased parking options		✓	
12' vehicular travel lanes		✓	✓
11' vehicular travel lanes	✓		
10' dedicated bicycle lane	✓	✓	
Shared vehicular/bicycle lane (sharrow)			✓
6' sidewalk		✓	
4' sidewalk	✓		✓
17' landscaping buffer		✓	
3' landscaping buffer			✓
2' landscaping buffer	✓		
Property acquisition required	✓	✓	
Utility relocation (Entergy)	✓		
Linkage to proposed bike lane @ Veterans	✓	✓	
Linkage to proposed bike lane @ W. Napoleon	✓	✓	
Total Construction cost (w/20% contingency and 15% professional services)	\$5,060,000	\$9,545,000	N/A

Figure ES.7



1.0 Introduction

1.1 Project Overview

The Regional Planning Commission for Jefferson, Orleans, Plaquemines, St. Bernard, St. Tammany and Tangipahoa Parishes (RPC) in coordination with Jefferson Parish (JP) has contracted Digital Engineering (DE) in association with Royal Engineers & Consultants (RE) and Dana Brown & Associates (DBA) to perform a Stage 0 Access Management Study, including a Stage 0 Environmental Checklist and a Stage 0 Preliminary Scope and Budget Checklist. The purpose of this study is to develop and evaluate the potential for improving David Drive as a multi-modal complete streets corridor. Emphasis was placed on increasing safety for all modes of transportation, including for bicyclists and pedestrians, and opportunities for sidewalk and landscaping enhancements. The study team also examined the potential use of the adjacent electrical transmission line right-of-way which is located behind businesses on the west side of the corridor for a new local collector street with potential for parking, transit, and bicycle and pedestrian facilities. A complete streets concept was also evaluated for this corridor.

Three comprehensive conceptual design alternatives have been developed for the David Dr. corridor including plan layouts, typical sections, visual renderings, traffic control and calming features, and bicycle and pedestrian improvements. The three alternatives were developed in a collaborative effort of the Project Management Committee (PMC) which included members representing the RPC, Jefferson Parish President's office, Jefferson Parish Districts 2 and 4 Councilmen Johnston and Zahn offices, respectively, Jefferson Parish Departments of Planning and Public Works, and the Louisiana Department of Transportation and Development. The three alternatives are presented in detail in *Section 4.0 Proposed Corridor Improvements*, and the following topics were evaluated for each:

- Complete streets approach (improvements to roadway, pedestrian and bicycle facilities, and vehicular parking).
- Bicycle lanes and pedestrian sidewalks improvements on David Dr. or on a separate facility.
- Additional u-turn features along David Dr.
- Vehicular travel lane widths along David Dr.
- Access management features along the corridor.
- Linkages to existing proposed or existing bikeways, greenways, and sharrows between Veterans Blvd. and W. Napoleon Ave., including Lafreniere Park.

1.2 Project Description

The scope of work for the Stage 0 Access Management Study for the David Dr. corridor in Jefferson Parish, LA includes the following tasks:

- Project Management Committee (PMC) – Assist the RPC in establishing and supporting a PMC to guide the technical work effort and to review the proposed concepts. The PMC includes members of the RPC, Jefferson Parish Planning and Engineering Departments, Louisiana Department of Transportation and Development District 02 personnel, and representatives from Jefferson Parish Council Districts 2 and 4 and Parish President's office.
- Existing and Proposed Land Use and Existing Utility Locations – Collect data during the corridor site visits including land use, traffic counts, level of service, parking, traffic signal and signage information, utility types and vendors, and cultural resources. Work with the RPC and Jefferson Parish Department of Engineering to identify utility types,



ownership, and location within the corridor. Potential environmental constraints or other issues were identified that could influence the concept's feasibility, timing, and cost.

- Conceptual Planning and Design – In addition to typical roadway development and evaluation, a complete streets concept consisting of urban design, landscaping, and traffic operational improvements were integrated to improve the safety for users of all modes of transportation, as well as for fostering traffic calming, safe and attractive pedestrian crosswalks, bicycle accommodations, and other amenities. It is the intention to create the David Dr. corridor between Veterans Blvd. and W. Napoleon Ave. to be more visually appealing, safer, and more bicycle and pedestrian friendly.
- Plan Sheets and Typical Sections - Prepare conceptual plan sheets and typical sections of the proposed improvements.
- Opinion of Probable Cost - Develop quantities and cost estimates for each considered alternative, recommend project phasing, and identify potential funding sources for project implementation.
- Present final recommendations based on design review.
- Draft and Final Reports - Upon review and approval of the draft submission, the Final Stage 0 Feasibility Study Report will be provided to the RPC and the PMC members.

1.3 Background

In January 2003, the RPC completed a Comprehensive Land Use and Transportation Plan for Jefferson Parish. This study identified a number of action measures to improve transportation mobility, access to regional employment centers, and opportunities for transit oriented development throughout Jefferson Parish. One of the corridors identified for improved coordination of land use and transportation investments was David Dr. between Airline Drive/US 61 and Veterans Boulevard. The Plan called for enhancements to existing development patterns focusing upon pedestrian-oriented development and transit as well as overall traffic safety in the corridor. David Dr. between Airline Dr. (US 61) and Veterans Blvd. consists of three distinct roadway cross-sections: 4-lane undivided between Airline Dr. and W. Metairie Ave.; 4-lane median divided in the residential section between W. Metairie Ave. and W. Napoleon Ave.; and 4-lane undivided in the commercial strip between W. Napoleon Ave. and Veterans Blvd. Roadway improvements are needed in portions of this corridor to provide for access management while considering the complete streets concept for this corridor. Facilitating the bicycle and pedestrian needs of the area is considered since this route also functions as a planned commuter bicycle connection. As detailed in the Jefferson Parish Bicycle Master Plan, Veterans Blvd. requires both a side path and a bicycle lane, W. Napoleon Ave. recommends a bicycle lane, and David Dr. with a sharrows connecting them.

Using a complete streets concept, this evaluation will include options to improve the overall functionality and appearance of the corridor through improvements in landscaping, bicycle and pedestrian facilities, and roadway rehabilitation. The David Dr. Stage 0 study will also review traffic counts and crash data in the area and identify traffic calming and access management improvements which can be developed and implemented to enhance the overall safety and connectivity of adjacent neighborhoods and parks.

The PMC asked the study team to place emphasis on the section of David Dr. in between Veterans Blvd. and W. Napoleon Ave. The reasoning for emphasis in this section is due to the near continuous driveway cuts along David Dr., the absence managed and protected left turns, and the character of the land uses.



2.0 Data Collection

2.1 Overview of Data Collection Effort

The study team collected data and information related to the David Dr. Stage 0 study area from various sources including the RPC, Jefferson Parish, and LA DOTD. The RPC provided relevant studies, complete streets guides, and technical information needed to develop the geo-referenced aerial mapping, and conceptual designs. Jefferson Parish provided Geographic Information Systems (GIS) data including, land use, zoning, and utilities along this corridor, as well as an as-built plan from the original construction documents as seen in figure 2.1 below. LA DOTD provided the stage 0 environmental checklist and preliminary scope and budget forms. LA DOTD also provided instructions and information related to completing the forms and landscaping guidelines.

Several meetings for the purposes of developing the existing conditions analysis and the conceptual designs were conducted between the RPC and the study team (DE, RE, DBA). The study team made numerous field visits to the project site for data collection and site analysis. The data collection visits included collecting traffic data for Average Daily Traffic (ADT) and level of service; these are further discussed in *Section 2.3 Traffic and Level of Service Analysis*. As a result of these meetings and investigations, the team was able to prepare an existing conditions inventory that included updated land use per parcel, traffic volumes, parking, traffic signal and signage information, utility types and vendors, and cultural resources. This information concerning the environmental investigations is included in *Section 3.0 Environmental Conditions*.

2.2 Existing Conditions and Typical Roadway Sections

David Dr. from Veterans Blvd. to W. Napoleon Ave. (3,300 feet/.62 miles) has a posted speed limit of 35 MPH. The corridor has an apparent right-of-way measuring approximately 70 feet according to an as-built drawing received from Jefferson Parish Engineering Department and aerial data determination. The existing right-of-way for the David Dr. corridor from Veterans Blvd. to W. Napoleon Ave. can be seen in figure 2.1 presented as a section (at left first line 70' R/W). After visiting the site and reviewing the aerial photography, the team concluded that no buildings along the David Dr. corridor were encroaching into the right-of-way. However, parking for some structures may encroach into the right-of-way and will need to be determined and accounted for in future design phases. The utility poles in the right-of-way will need to be addressed in future design stages. Further information concerning the utility poles can be found in *Section 2.5 Utilities*.

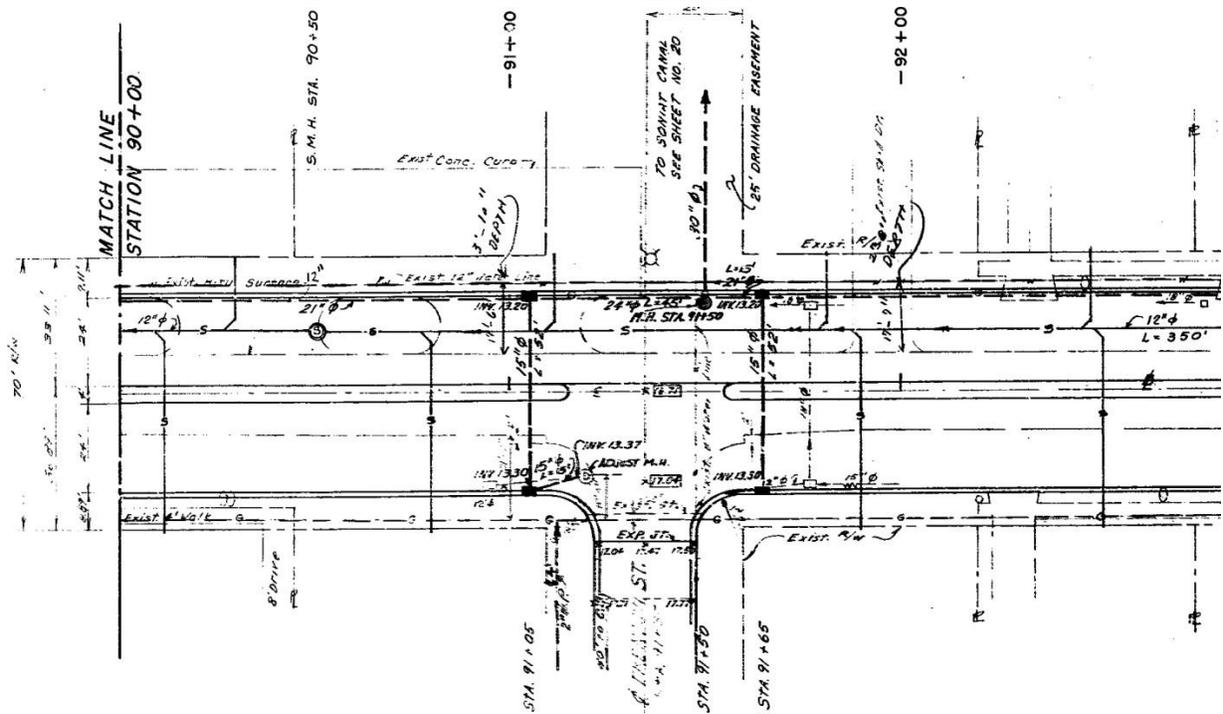


Figure 2.1: David Dr. as built drawing (Foster & Associates, 1968)

In June of 2003 Entergy Corp. donated the property along the Soniat Canal from Interstate 10 to Airline Dr. A section of the property donated is seen in figure 2.2 below.

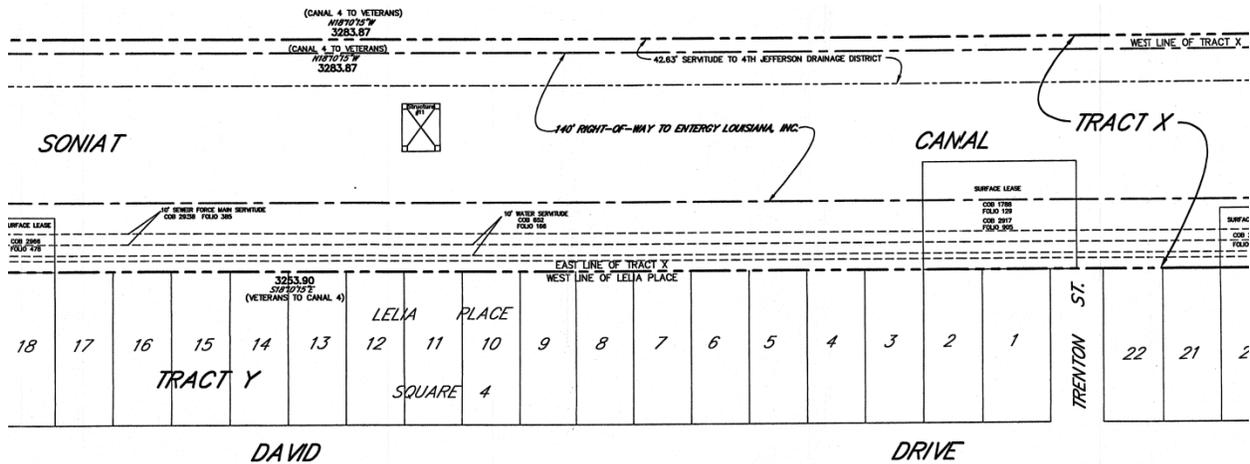


Figure 2.2: Property donated by Entergy to Jefferson Parish (Landmark Surveying, Inc. 2003)

Upon review of the aerial imagery provided by the RPC and confirmed in the review of the 2003 Landmark survey a parking lot appears to encroach into the Jefferson Parish owned property along the Soniat Canal (adjacent to Trenton Ave.). It appears that multiple properties along the west side of David Dr. may have surface leases in place along the rear of their respective properties. The encroachment will not impede any conceptual designs or construction based on the alternatives, the parking lot can be viewed in figure 2.3 below.

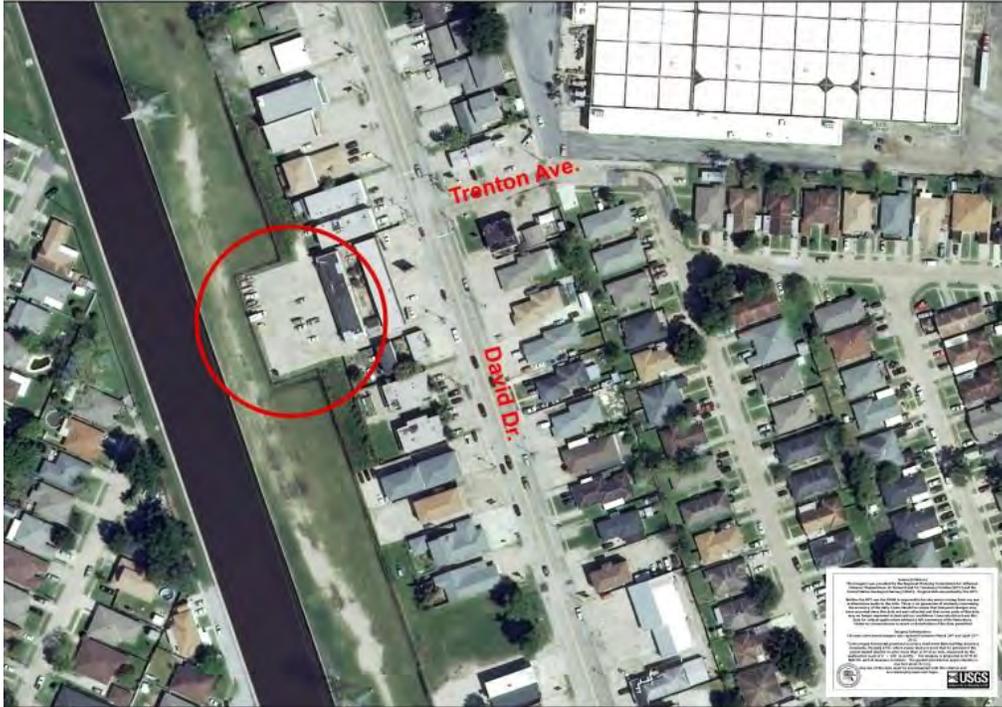


Figure 2.3: Parking encroachment into parish property

The existing section of David Dr. from Veterans Blvd. to W. Napoleon Ave. has two 12 foot wide vehicular travel lanes in each direction, separated by a double striped median in the center, as shown in figure 2.4 below. No parking stalls, parallel or perpendicular, exist along the corridor from Veterans Blvd. to W. Napoleon Ave. The existing right-of-way along this portion of the corridor is approximately 70’.



Figure 2.4: David Dr. (looking from Veterans Blvd. south to W. Napoleon Ave. 1/17/2014)

In figure 2.5 below, the corridor is narrow due to the existing right-of-way width, but the roadway is in generally good condition. The area behind the back of the curb on the both sides of the street is lined with utility poles. The sidewalk conditions along the corridor vary and in this picture are presented as poor. Access management along this section of the David Dr. corridor is not existent. David Dr. along this portion of the corridor has no raised median separating north and south bound traffic and driveway cuts typically run the length of the roadway. The picture below is the east side of David Dr. north of Trenton Ave. looking south to W. Napoleon Ave.



Figure 2.5: Existing corridor conditions (David Dr. at Veterans Blvd. 1/17/2014)

One particular safety concern to note is the absence of a raised median along this section of the corridor. As vehicular traffic travels both north and south bound along David Dr., a vehicle can attempt to make a left turn at any point to access a business or residence on the opposite side. Figure 2.6 below shows a vehicle attempting to turn left in front of opposing traveling traffic.



Figure 2.6: David Dr. (turning vehicle traveling north 6/2/2014)

The character of the existing corridor is further diminished due to poor access management, poor utility pole placement, and dense business signage as shown in figure 2.7 below.

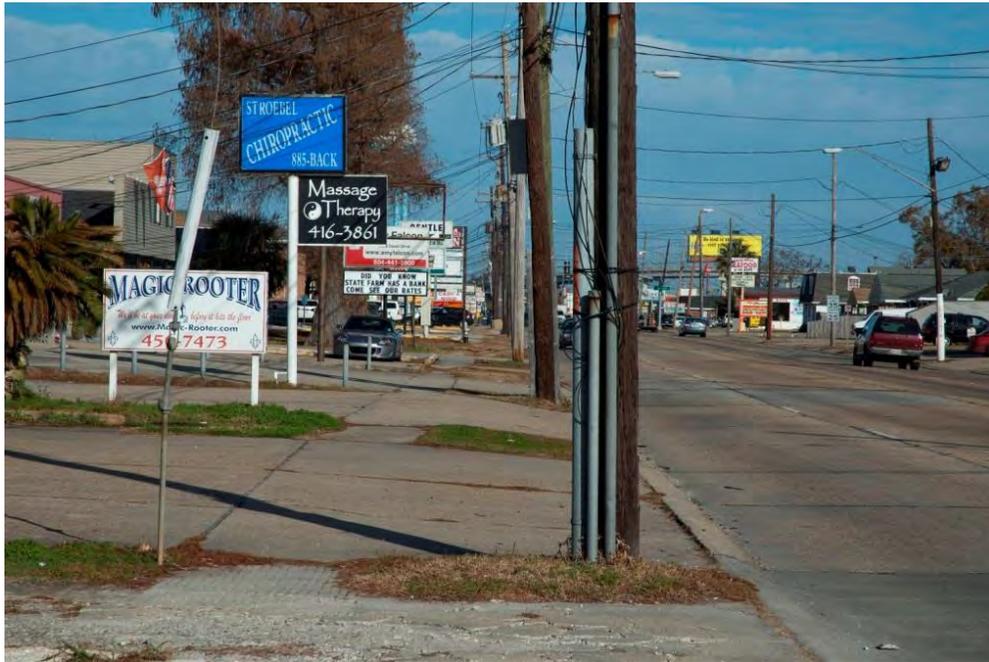


Figure 2.7: Existing buffer zone (David Dr. at York St. 1/17/2014)

David Dr. from W. Napoleon Ave. to W. Metairie Ave. (4,100 feet/.77 miles) has a wider right-of-way, approximately 90'. This section has managed access due to a tree lined raised median with protected left and u-turns. This section of David Dr. is primarily single family residential. The roadway and sidewalk are in good condition. Figure 2.8 shows the existing section of the corridor.



Figure 2.8: David Dr. (W. Napoleon Ave. to W. Metairie Ave. 6/3/2014)

David Dr. from W. Metairie Ave. to Airline Dr. (2,600 feet/.5 miles) is similar to the Veterans Blvd. to W. Napoleon Ave. section in that the right-of-way is approximately 70' wide with no raised median, as shown in figure 2.9 below. Because of the majority public/government administrative land use activities along the east side of David Dr. there is not a high volume of vehicles traveling north that need to cross opposing south bound traffic to access the property along in the east side. In fact, on the east side of



David Dr. in this section, only approximately six (6) driveway cuts - some closed to the general public - exist.



Figure 2.9: David Dr. (W. Metairie Ave. to Airline Dr. 6/3/2014)

2.3 Traffic Counts, Level of Service, and Crash Data

As part of the data collection effort for this report and to determine the volume of traffic along the David Dr. corridor, a 7-day/24-hour vehicle classification count was conducted by Digital Engineering from January 9 - 16, 2014 at approximately 3113 David Dr. Traffic count data on David Dr. just south of W. Napoleon Ave. and just north of Saints Dr. was provided to the study team by Jefferson Parish, and the counts were taken in 2012, as seen in figure 2.10 below.



Figure 2.10: Traffic count locations and average daily traffic (ADT)



Our 24-hour traffic counts are stated in table 2.1 below. Table 2.2 below shows peak hour counts for David Dr. near Veterans Blvd. All of the aggregate traffic count data collected is located in Appendix C.

David Dr. Average Daily Traffic Counts				
Survey Periods	Northbound		Southbound	
	Volume	%H.V.	Volume	%H.V.
1/9/2014 - 1/10/2014	11184	5.75%	11986	5.16%
1/10/2014 - 1/11/2014	11416	5.08%	11503	4.93%
1/11/2014 - 1/12/2014	8284	4.67%	9299	4.52%
1/12/2014 - 1/13/2014	8439	5.13%	10220	6.01%
1/13/2014 - 1/14/2014	10395	6.65%	11404	5.04%
1/14/2014 - 1/15/2014	10576	6.54%	11792	5.29%
1/15/2014 - 1/16/2014	10552	6.97%	11946	5.04%
Total Survey	70846		78150	
Weekly Average	10121	5.87%	11164	5.14%

Table: 2.1: 24-hour traffic counts shown as average daily traffic (ADT) and percent heavy volume.

A peak hour is a part of the day during which traffic volume and congestion on roads is at its highest. Normally, this happens twice a day, once in the morning and once in the evening, the times during when the most people commute. Peak hour traffic for David Dr. occurs at 11AM and 4PM as shown in table 2.2 peak hour counts below.

Time of Day	Travel Direction	Vehicle Counts
11:00 AM	North	947
11:00 AM	South	777
4:00 PM	North	898
4:00 PM	South	776

Table: 2.2: Peak hour counts.

Level of Service (LOS) is defined as a qualitative measure used to relate the quality of traffic service. LOS is used to analyze roads by categorizing traffic flow and assigning quality levels of traffic based on performance measure like speed, density, etc. For this study a LOS analysis was conducted utilizing the two-lane module of the Highway Capacity Software (HCS+) developed by the University of Florida. From this analysis, the LOS of David Dr. was calculated to be a C and is shown in table 2.3 below. According to the Highway Capacity Manual, a LOS C is categorized as a stable flow, where a driver's ability to maneuver through lanes is noticeably restricted and lane changes require more driver awareness.

Level of Service and Other Performance Measures		
Level of service, LOS		C
Volume to capacity ratio, v/c		0.30
Peak 15-min vehicle-miles of travel, VMT15	164	veh-mi
Peak-hour vehicle-miles of travel, VMT60	624	veh-mi
Peak 15-min total travel time, TT15	5.3	veh-h

Table 2.3: David Dr. Level of Service

Digital Engineering conducted a crash data analysis along David Dr. from Veterans Blvd. to W. Napoleon Ave. Accident data was provided by the Regional Planning Commission and the Jefferson Parish Sheriff's Office. While crashes that result in fatalities and severe injuries receive the most attention, crashes that result in minor injuries and property damage also have significant economic impacts. For public agencies a diversion of economic resources into repairs and increased traffic congestion are negative consequences to the types of crashes that occur along the David Dr. corridor. A review of crash data from January 2010 to December 2012 was conducted. It was determined travel safety along the



David Dr. corridor is an issue and is due primarily to the following: unprotected left and u-turns, nearly continuous driveway access, absence of a raised median, and inadequate bicycle and pedestrian facilities.

Upon review of three years of crash data, a total of two hundred fifty one (251) vehicle/vehicle crashes occurred along the David Dr. corridor in between Veterans Blvd. and W. Napoleon Ave. The incidents were reviewed for crash type, number of vehicles, injuries, and impairment. The crash data per year is presented in table 2.4 and is also presented in aggregate format in the appendix.

Number of Conflicts Along David Dr. Corridor (Veterans Blvd. to W. Napoleon Ave.)	
Year	Number of Conflicts
2010	76
2011	94
2012	81
Total	251

Table 2.4: Total Conflicts (Source: RPC)

Of the two hundred fifty one (251) vehicle crashes, two hundred forty five (245, 98%) involved two or more vehicles, and the remaining six (6, 2%) involved one vehicle. The majority of crashes are caused by the three following types: rear end – 149 (59%), sideswipe – 39 (16%), and angle – 33 (13%). These types of crashes are presented in table 2.5. These types of crashes are typical to a facility that has poor access management. A rear end crash is typically caused by the vehicle in the rear following too close but often a contributing factor is the vehicle in the front is looking for a particular business and abruptly stops when the destination is located. Along David Dr. where access is not managed, this type of driver behavior is typical because it is not known or clear which driveway to access. It is a similar situation for sideswipes and angle crashes, particularly when a driver suddenly makes a left turn across two lanes of oncoming traffic. When access points are reduced and ingress/egress locations are more clearly defined, crashes of this type are typically reduced. In this time frame, there were also a number of vehicle/bicycle conflicts - 3 in 2011 and 1 in 2012.

Types of Conflicts Along David Dr. Corridor (Veterans Blvd. to W. Napoleon Ave.)	
Type	Number of Conflicts
Rear End	149
Sideswipe	39
Angle	33
Three Major Types/Total	221/251

Table 2.5: Type of Conflict (Source: RPC)

The intersections of David Dr. at York St. and Trenton St. accounted for one hundred thirty three (133, 53%) of the two hundred fifty one (251) crashes. The vehicle shown in figure 2.11 below is traveling south bound on David Dr. attempting to make an unprotected left turn onto Trenton St. in front of oncoming traffic. Typical vehicle/vehicle conflicts in these two locations are rear ends and angle crashes. As drivers attempt to make an unprotected left turn at either intersection they are either hit by oncoming opposing traffic (angle) or are rear ended by stopping short thinking they could make it across.

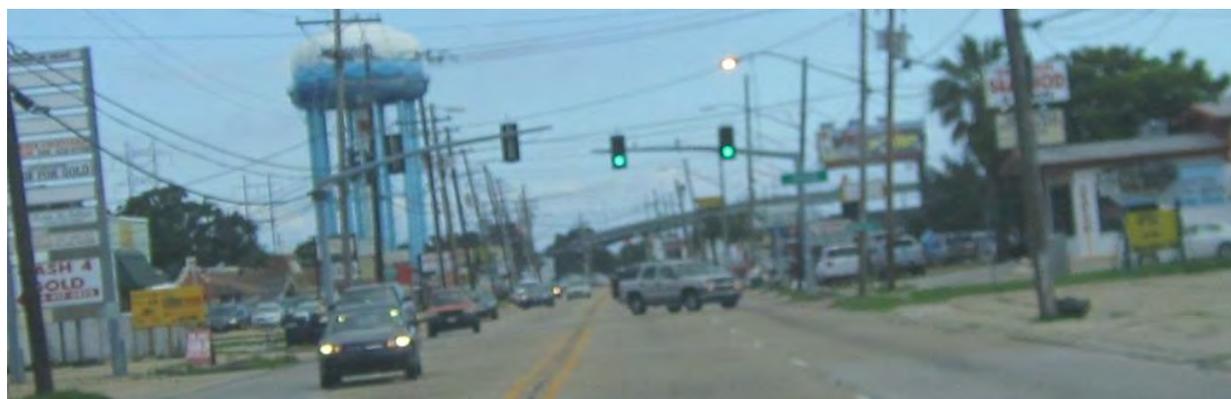


Figure 2.11: David Dr. @ Trenton St. left turning vehicles (6/4/2014)



Significant differences in daylight/nighttime crash data occurs along the David Dr. corridor. Of the two hundred fifty one (251) total conflicts two hundred one (201, 80%) occurred during the daylight hours, as shown in table 2.6. Two hundred forty eight (248,99%) of the total vehicle conflicts were not alcohol related.

Year	Number of Daylight Conflicts
2010	65
2011	71
2012	65
Daylight Conflicts/Total	201/251

Table 2.6: Conflicts in daylight hours (Source: RPC)

Travel safety is clearly an issue in the David Dr. corridor from Veterans Blvd. to W. Napoleon Ave. Transportation planning and traffic operations engineering along David Dr. will lead to facility improvements, efficiency, and safety for all users, which is why the team thoroughly incorporated these concepts into the development of the three alternatives. The accident modification factors (AMFs) addressed were traffic calming, access management, intersection safety improvements, bike/pedestrian safety, landscape buffers, and pavement markings. The safety benefits of the conceptual design alternatives are estimated to decrease the number of crashes based on the integration of AMFs. The safety improvements to the facility incorporated guidelines from Federal Highway Administration (FHWA), American Association of State Highway and Transportation Officials (AASHTO), Americans with Disabilities Act (ADA), and National Cooperative Highway Research Program (NCHRP) Series 500.

2.4 Land Use, Zoning, and Census Information

Existing zoning (figure 2.12) and land uses (figure 2.13) for the David Dr. corridor generally consists of the following:

- Section 1: Veterans Blvd. to W. Napoleon Ave.
 - Land Uses: single and multi-family residential, commercial (predominate), social/institutional/infrastructure, and leisure activities.
 - Zoning: C1 (predominate use) and C2.
 - Commercial Parkway Overlay Zone (CPZ): David Dr. at Veterans Blvd.
- Section 2: W. Napoleon Ave. to W. Metairie Ave.
 - Land Use: single family residential activity.
 - Zoning: R1-A (predominate use), GO2, and C1.
- Section 3: W. Metairie Ave. to Airline Dr.
 - Land Use: Social/institutional/infrastructure and commercial activities.
 - Zoning: M1 (entire west side) and C2 (entire east side).
 - Commercial Parkway Overlay Zone (CPZ): David Dr. from approximately Saints Dr. to Airline Dr.

In January and February of 2014 the study team catalogued each parcel of David Dr. from Veterans Blvd. to Airline Dr. to document any changes in land use using the Land Based Classification Standard (LBCS) coding. The LBCS primary activity parcel update for section 1 of David Dr. generally remained shopping, business, or trade (Activity Dimension 2000), social, institutional, or infrastructure related (Activity Dimension 4000), and some scattered residential (Activity Dimension 1000) uses but many the function dimensions changed. Section 2 of the David Dr. corridor remained consistent with a vast majority of residential activity and function uses. The west side of section 3 remained primarily social, institutional, or infrastructure related activities due to Jefferson Parish’s governmental agencies buildings. The east side of section 3 generally remained shopping, business, or trade and required only a few function dimension updates.



The David Dr. corridor section 1 consists of a 4-lane roadway that travels from Veterans Blvd. to W. Napoleon Ave. The existing alignment creates numerous access management problems and dangerous turning conditions. Sidewalks exist along the corridor in varying conditions and are typically within the driveways that generally exist as a continuous curb cut on both the east and west sides of David Dr. The proliferation of access points and lack of adequate protected left turns for a heavily commercial area have significantly reduced the safety and efficiency of David Dr. A Commercial Parkway Overlay Zone (CPZ) exists on both Veterans Blvd. and Airline Dr. at David Dr. The purpose of the Commercial Parkway Overlay Zone (CPZ) is to superimpose an overlay zone utilizing landscape and buffer standards to enhance the general quality of commercial and office development or structures located on arterial streets or collectors; by providing buffers to neighboring residences and other commercial uses; increase public safety by guiding traffic; by decreasing the amount of paved area; and by coordinating green space and signage in commercial and office areas (Jefferson Parish Code of Ordinances Chapter 40 Article XXVI). The CPZ designation could be potentially used along David Dr. should the Planning Department find it necessary to review the corridors status.

David Drive Stage 0 - Current Zoning

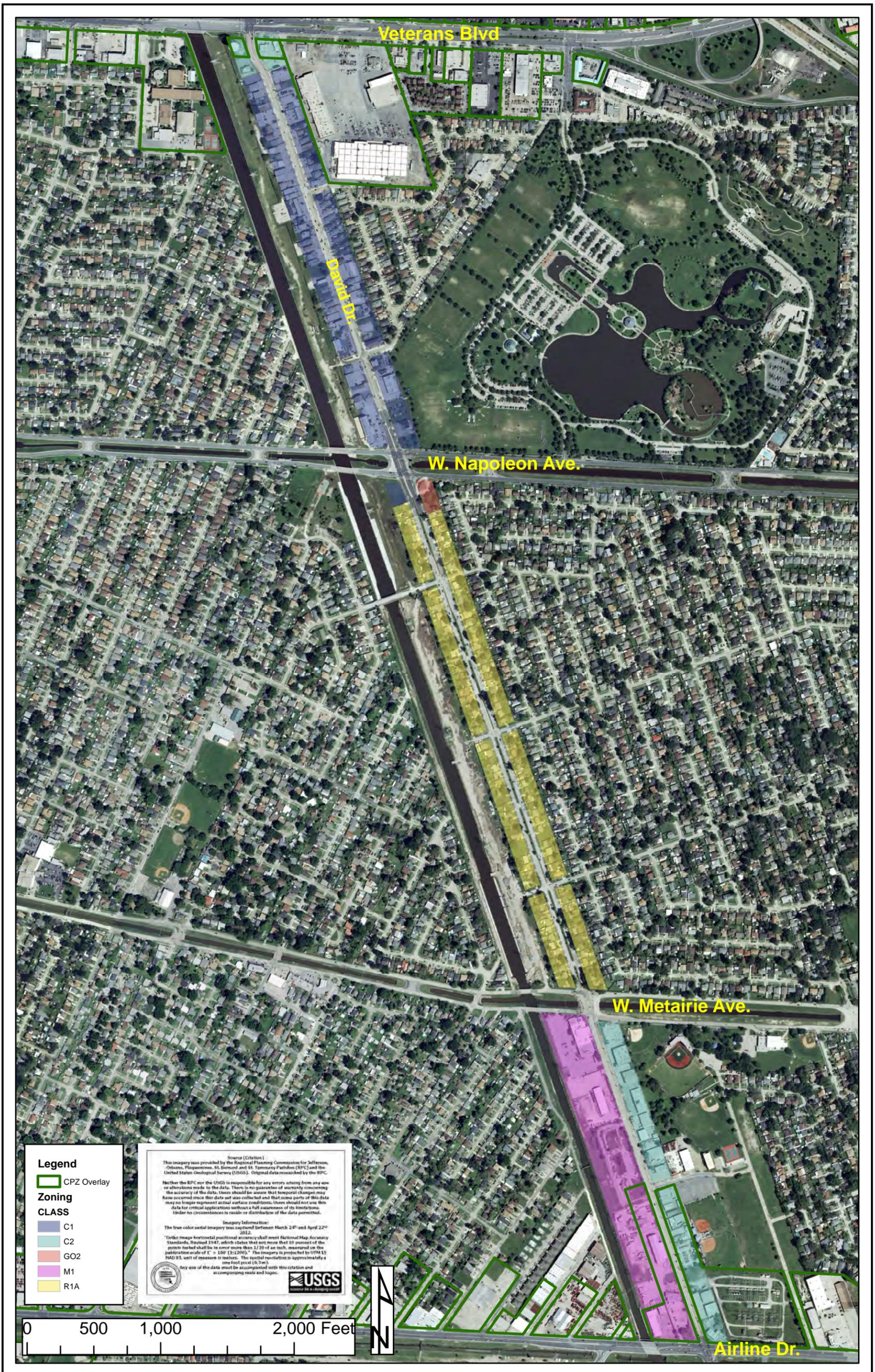


Figure 2.12: David Dr. current zoning (Data source: Jefferson Parish GIS Department, 2014)

David Drive Stage 0 - Land Use by Primary Activity

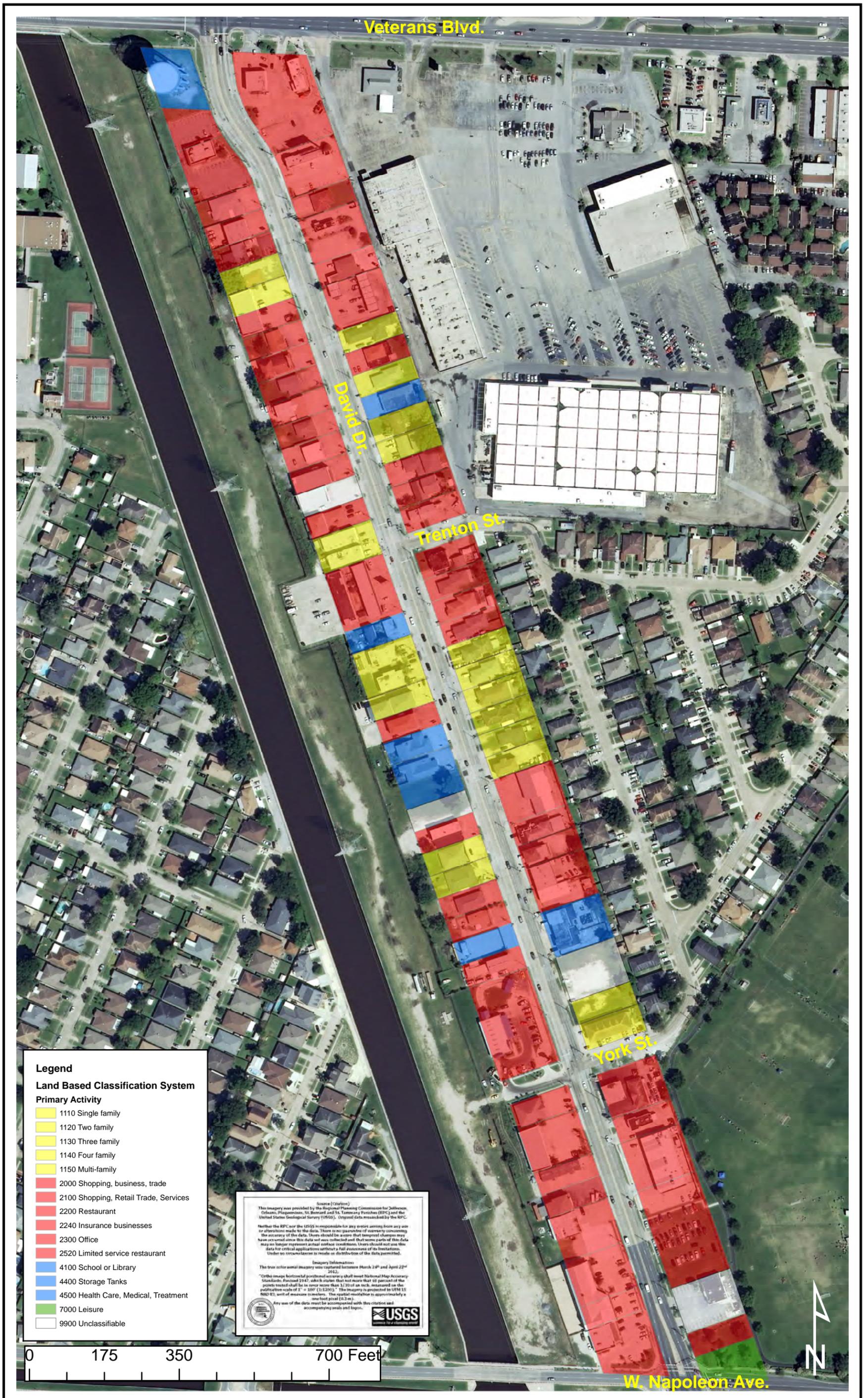


Figure 2.13: David Dr. current land use (Data source: Jefferson Parish GIS Department and Digital Engineering, 2014)



U.S. Census Tract 216, this study area, contains 3,240 housing units and a 2012 population estimate of 6,240. Figure 2.14 shows the boundaries for the tract: Veterans Blvd (north), Soniat Canal (west), W. Napoleon Ave. (south), and Harvard Ave. (east).



Figure 2.14: Census tracts 216. (Source: U.S. Census Bureau, June 2014)

2.5 Utilities

The study team identified the following utilities along the David Dr. corridor. The utility placement is shown in figure 2.15.

- Drainage Utilities
- Sewer Utilities
- Water Utilities

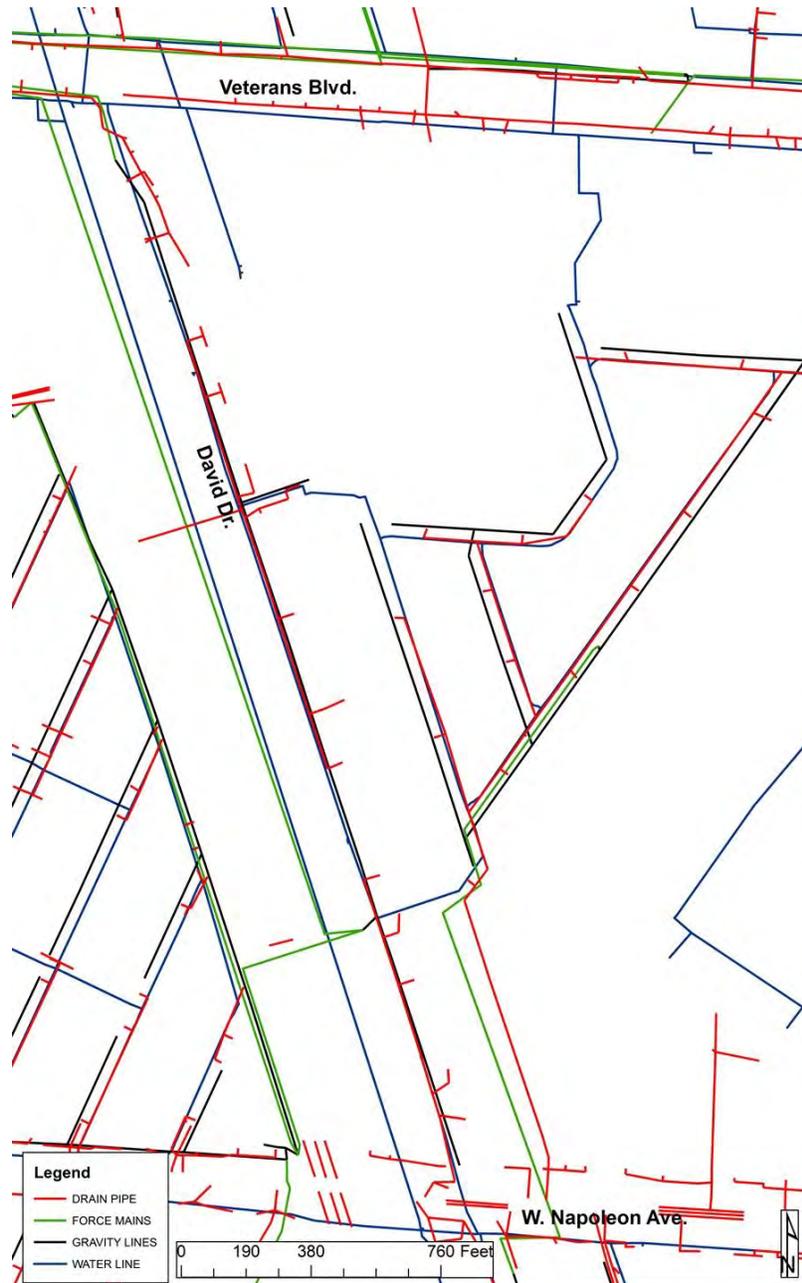


Figure 2.15: Utilities along David Dr. corridor (source: Jefferson Parish GIS, 2014)

The study team also worked extensively with Entergy Corp. in regards to the utility poles, distribution lines that parallel David Dr., and utility lines that transect (from west to east) David Dr. shown in figure



2.16 below. It was determined that Entergy’s utility poles are in the Jefferson Parish right-of-way and the two should work together to find an economical solution to move them back a few feet from the current positions to allow for expansion. In addition, the layout of the electrical distribution lines could be altered for aesthetics. The current utility poles are the “T” type pole where the electrical lines are horizontally placed. The poles can be changed to the “I” type where transmission lines are placed vertically. Entergy also noted that many of the perpendicular utility lines could be eliminated. There is a cost associated with these improvements and it is noted in *Section 5: Opinion of Probable Cost*. Jefferson Parish should engage in dialogue with Entergy Corp. on the most cost efficient way to move the poles. At the time of the utility pole and line removal/replacement, all other utility providers with lines on the poles would be required to “clean-up” their respective lines. As seen in figure 2.17 below for the David Dr. corridor section in between W. Napoleon Ave. and W. Metairie Ave., there are fewer transmission lines that cross David Dr. and the trees in the median and along the curb help to conceal the ones that do.



Figure 2.16: David Dr. (Veterans Blvd. to W. Napoleon Ave.) utility poles and transmission lines. (1/17/2014)



Figure 2.17: David Dr. (W. Napoleon Ave. to W. Metairie Ave.) utility poles and transmission lines. (6/4/2014)



2.6 Property Ownership

The David Dr. right-of-way is approximately 70' wide. To provide for service and delivery vehicles (Single-Unit Truck - SU) u-turns along the corridor some property will need to be acquired and include the properties below. Note, not all property will be required for each alternative. In figure 2.18 below the turning radius for a SU truck is provided. Figure 2.19 below shows the approximate locations for property acquisition to facilitate u-turn movements. Option A: Expansion within Right-of-Way would require property at locations 1b and 3. Option B: Couplet would require property at locations 1a, 2, 4, 5, 6, and 7. Jefferson Parish will need to determine exact right-of-way acquisition in subsequent phases of David Dr. reconstruction. A survey and abstracting will need to be completed for verification of preliminary conceptual designs presented in this report, if necessary. The study team provided in *Section 5: Opinion of Cost* the anticipated cost for property acquisition. Table 2.7 below shows square feet needed at each location.

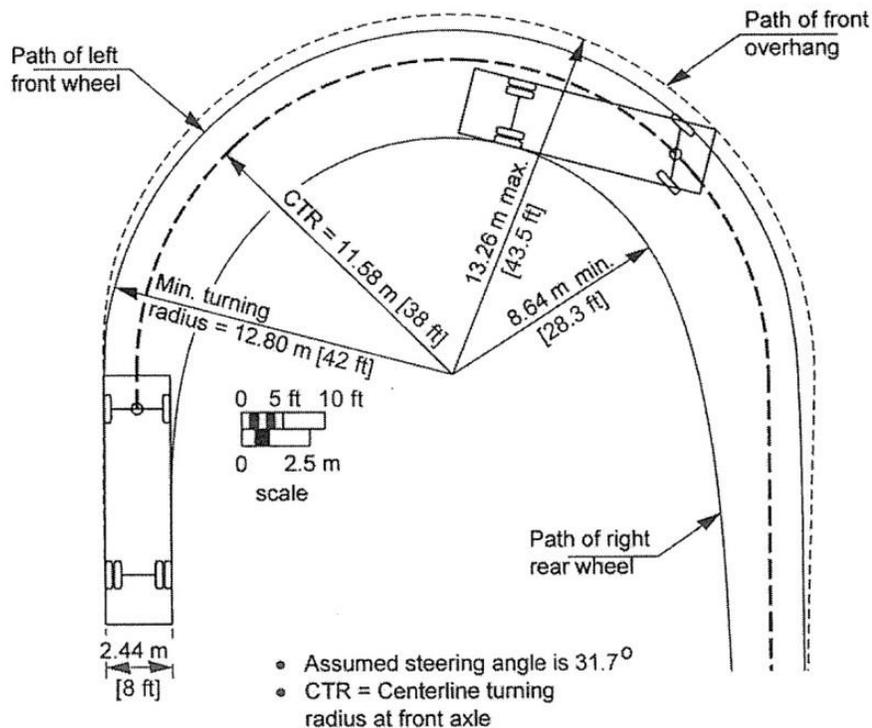


Figure 2.18: SU truck turning radius, AASHTO Green Book, 2004



Figure 2.19: Locations for property acquisition for u-turn locations on David Dr. (For illustrative purposes only, not to scale)

The locations numbered above are detailed below in table 2.7 and all data can be found in the appendix:

Name (if applicable)	Address	Property (Ft ²)
1a. Ground Pat'i	3124 David Dr.	24,500
1b. Groun Pat'i	3124 David Dr.	4,400
2. David Dr. @ Trenton St. (NE corner)	2901 David Dr.	135
3. Multi-family building	2900 David Dr.	6,500
4. Vacant lot (strip)	not known	209
5. David Dr. @ York St. (NE corner)	2501 David Dr.	147
6. David Dr. @ York St. (SW corner)	2412 David Dr.	147
7. Vacant lot	not known	4,400

Table 2.7: Property acquisition details.

Some cost saving measures may be available to Jefferson Parish. For example in location 1a, only a portion of the Ground Pat'i parking is needed; therefore, an option available to the Parish is potentially a land swap for additional parking in a surface lease to the rear of the property along the Soniat Canal. When a survey is completed, it may be found that the minimal property needed along the corners in locations 2, 5, and 6 may be within the Parish right-of-way. Location 4 is a vacant property that is currently for sale, and only a small strip is needed across the front. Location 7 appears to be a Parish owned lot that is used for parking and access to Lafreniere Park.

3.0 Environmental Conditions

For all Stage 0 Environmental Checklist and accompanying research documentation, please refer to *Appendix B*.

3.1 Surrounding Community Elements

The Stage 0 Environmental Checklist inquires if the proposed alternatives are adjacent to or will impact churches, cemeteries, schools, public facilities, or water supply. Our investigation concludes the following.

No churches, cemeteries, or public facility locations will be impacted or are adjacent to the corridor design alternatives. One preschool is located along the corridor, David Drive Daycare & Preschool, 2601 David Dr. as seen in figure 3.1 below. The preschool is open from 6:30AM to 6:00PM Monday-Friday, year-round, and enrolls children 6 months of age through pre-kindergarten. During construction some short-term noise could impact the school's daily routines. However, when complete, the project would have a long-term positive impact on this property. The positive impacts would be easier and safer access for caregivers to the preschool and - based on the design alternatives - increased access to recreational opportunities. Jefferson Parish should notify the school in advance of possible noise issues.



Figure 3.1: David Drive Daycare & Preschool (3/19/2014)

One water supply, a Jefferson Parish Water Tower, is located along the corridor at David Dr. and Veterans Blvd. as seen in figure 3.2 below. The tower does not consist of any operational personnel. Occasionally it is visited for maintenance and monitoring.



Figure 3.2: Jefferson Parish Water Tower (3/19/2014)

3.2 Wetlands Inventory

No known wetlands or wetlands enrolled in the reserve program exist along the corridor. The site is within the Jefferson Parish Eastbank Levee System.

3.3 Native American Tribal Lands

The corridor does not contain any known properties owned by a Native American Tribe.

3.4 Section 4(f) Issues

Section 4(f) issues investigated along the corridor consist of public recreation, public parks, wildlife refuges, and historic sites. One public park, Lafreniere Park, is located west of the corridor as seen in figure 3.3. The project benefits public recreation connectivity. If constructed, any of the three design alternatives create a connection to the Jefferson Parish bicycle network at Veterans Blvd. and at W. Napoleon Ave. (as identified in the Jefferson Parish Bicycle Master Plan in figure 3.3 below) providing a critical linkage between these two points.



Figure: 3.3: Jefferson Parish Bicycle Master Plan (Source: Jefferson Parish. 2014)

No known impacts of public parks, wildlife refuges, or historic sites exist along the corridor nor are any adjacent to the corridor.

3.5 Endangered Species

The Endangered Species Act of 1973 was designed to protect critically imperiled species from extinction as a "consequence of economic growth and development untempered by adequate concern and conservation." The Act is administered by two federal agencies, the United States Fish and Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration (NOAA).



The David Dr. corridor lies within a densely developed area almost two miles away from Lake Pontchartrain and is more than two miles from the Mississippi River within the levee system. No other known critical habitats are near the site, therefore, the possibility of disturbing a threatened or endangered species is unlikely. A list of threatened and endangered species relevant to the Metairie, LA area is located in *Appendix B*.

3.6 Louisiana Scenic Rivers Act

In 1970, the Louisiana Legislature created the Louisiana Natural and Scenic Rivers System. The System was developed for the purpose of preserving, protecting, developing, reclaiming, and enhancing the wilderness qualities, scenic beauties, and ecological regimes of certain free-flowing Louisiana streams.

Today, there are approximately 3,000 miles of Louisiana designated Natural and Scenic Rivers. However, there are no rivers in Jefferson Parish that meet the required criteria. Figure 3.4 shows the southeast Louisiana scenic rivers.



Figure 3.4: Scenic Rivers map. Source: LA Dept. of Wildlife and Fisheries. Accessed: June 2014.

3.7 Significant Trees

LA DOTD in Publication EDSM No: I.1.1.21 offers directives towards significant trees. The directive establishes a general policy governing the treatment of significant trees within the highway right-of-way, zone of construction, and/or operational influence. No trees of significance are located within the right-of-way along the David Dr. corridor. However, in coordination with Jefferson Parish and LA DOTD precautions will be made for any trees impacted in the corridor.

3.8 Navigable Waterways

The David Dr. corridor does not contain any navigable waterways. The Soniat Canal to the west of David Dr. is for drainage purposes only.

3.9 Hazardous Materials

The David Dr. corridor between Veterans Blvd. and W. Napoleon Ave. consists primarily of office and retail commercial activity and multi-family homes. Along the corridor are businesses like MC Auto Repair, 2413 David Dr., Autoworld Technicians, 2609 David Dr., and Super Cleaners, 2912 David Dr. all of which have clean US EPA Enforcement and Compliance History Online (ECHO) reports, as does the entire corridor.

The Louisiana Department of Environmental Quality and US Environmental Protection Agency, among other relevant databases were researched for any known existence of hazardous materials, spills, or non-compliance issues along the corridor. No violations were recorded in the databases. The complete details are located in *Appendix B*.



3.10 Environmental Justice Issues

Based on the design alternatives, no relocations or displacements will need to take place for construction. Neither sensitive community nor cultural issues exist along the corridor. The study area surrounding community does not contain a large percentage of minority or protected class residents (27%) nor low-income residents below the poverty level (18%). Therefore, no Environmental Justice issues exist for this Stage 0 report. The U.S. Census Bureau American Community Survey Environmental Justice fact sheet was used to make this determination as seen in table 3.1 below.

2012 Census Tract 216 (estimate)		
Category	Population	Percentage of Total
Total Population	6,240	100%
White	4,496	73%
Black	1,264	21%
American Indian	108	1.25%
Asian	45	0.50%
Pacific Islander	0	0
Other	223	3%
Multi-racial	104	1.25%
Total Minority Population	1,744	27%
Below poverty level as defined by the US Census Bureau	1,123	18%

Table 3.1: U.S. Census Bureau 2012. Accessed: June 2014.



4.0 Proposed Corridor Improvements

4.1 Roadway Design Guidelines and Necessary Improvements

David Dr. from Veterans Blvd. to W. Napoleon Ave. is classified as a *minor arterial* as part of the Federal Aid Network. The proposed conceptual design improvements for each alternative conformed to Federal and State guidelines set forth within this roadway classification.

Conceptual design improvements along the David Dr. corridor incorporate a complete streets design along with suggestions from the RPC and the Project Management Committee (PMC). The alternatives presented considered the complete streets approach of street networks that are safer, more livable, and welcoming to everyone. Design requirements, best practices, and guidelines from the Americans with Disabilities Act (ADA), the American Association of State Highway and Transportation Officials (AASHTO), the Federal Highway Administration (FHWA), the Public Rights-Of-Way Accessibility Guidelines (PROWAG) were reviewed for compliance for all three design alternatives. The three design alternatives graphics are for descriptive purposes only. All guidance and best practices noted above shall be reviewed and incorporated in subsequent, if necessary, LA DOTD Stage 1 and Stage 3 project stages or other design phases as required.

4.2 Complete Streets Policy

Louisiana's Complete Streets policy was developed to ensure a fully-integrated transportation system that safely accommodates pedestrians, bicyclists, and transit users. The policy principally effects new and reconstruction roadway projects and includes complete streets provisions, such as sidewalks, crosswalks, bicycle facilities, and/or multi-use paths, to be integrated into the project development process. The policy was adopted in July 2010 by the Louisiana Department of Transportation and Development (LA DOTD).

The Regional Planning Commission (RPC) Complete Streets Policy adopted in November 2012 complements the objectives and goals of the LA DOTD policy. Both policies can be found in *Appendix D*.

4.3 Proposed Bicycle and Pedestrian Improvements

The three proposed improvements along the David Dr. corridor incorporate a complete streets design concept and the design alternatives accommodate suggestions from Jefferson Parish elected officials, the Project Management Committee (PMC), and the Jefferson Parish Bicycle Master Plan. Connecting the bicycle and pedestrian facilities with the existing and/or proposed Jefferson Parish bikeways/greenways and providing critical linkages to these facilities is a major component to the success of this complete streets project. For example, bicycle and pedestrian improvements to the corridor include a two way separated lane and ADA compliant sidewalks and ramps.

4.4 Conceptual Streetscape Design

The David Dr. corridor conceptual design alternatives approach is for a managed access complete streets project. The existing corridor has a roadway condition that is generally good, sidewalks that are intermittently broken and non-compliant, no landscaping, and in need of protected left and u-turns.

During the PMC and design team meetings, there was strong support for improvements to be made to this heavily traveled and unsafe section of David Dr. The following section describes the three design



alternatives developed by the PMC and design team that incorporate the previously discussed design concepts and are further evaluated in *Section 4.5*:

- Option A – Expansion within right-of-way
- Option B – Couplet
- Option C – Bypass

4.5 Proposed Options and Typical Sections

The following pages detail the three conceptual design alternatives. The alternatives graphics are for descriptive purposes only. All design guidance and best practices noted in *Section 4.1* and throughout this report shall be reviewed and incorporated in subsequent LA DOTD Stage 1 and Stage 3 project stages, if necessary.



Option A: Expansion within Right-of-Way

As detailed in the following renderings (figure 4.1), Option A: Expansion within Right-of-Way calls for utilizing the majority of the 70' available right-of-way to create a raised median. In this option a redesigned David Dr. from Veterans Blvd. to W. Napoleon Ave. will have four 11' wide vehicular travel lanes, a 14' landscaped raised median; each side will have a 2' landscaped buffer and a 4' sidewalk. In addition a separated 10' multi-use path is incorporated in between the rear of the west side properties and the canal.

The raised median will provide access management and protected left and u-turns at certain locations. Corridors with a raised medians increase safety for all users and decrease vehicle/vehicle conflicts. The Option A conceptual plan for David Dr. will provide a storage area for vehicles out of the travel lanes thereby preventing a complete stoppage for left and u-turns. The landscaped median will present a more aesthetically pleasing sight line of the corridor for users.

Option A: Expansion within Right-of-Way

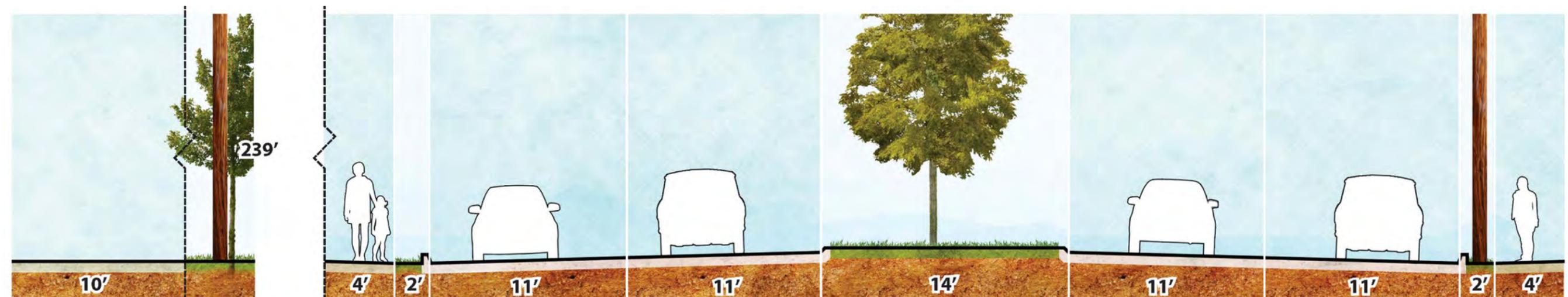
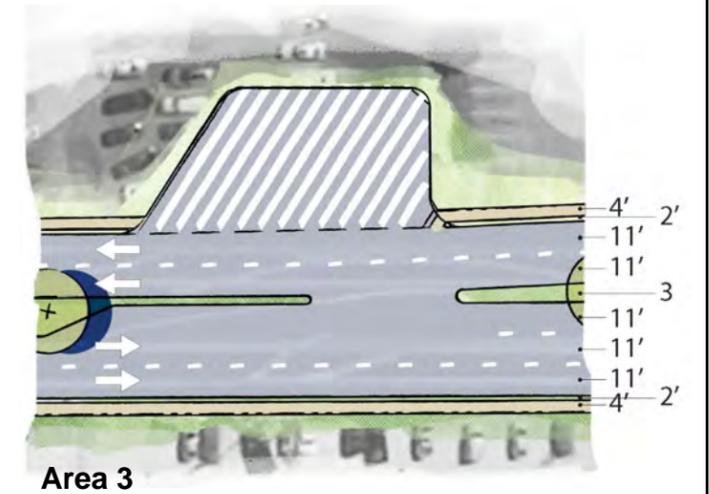
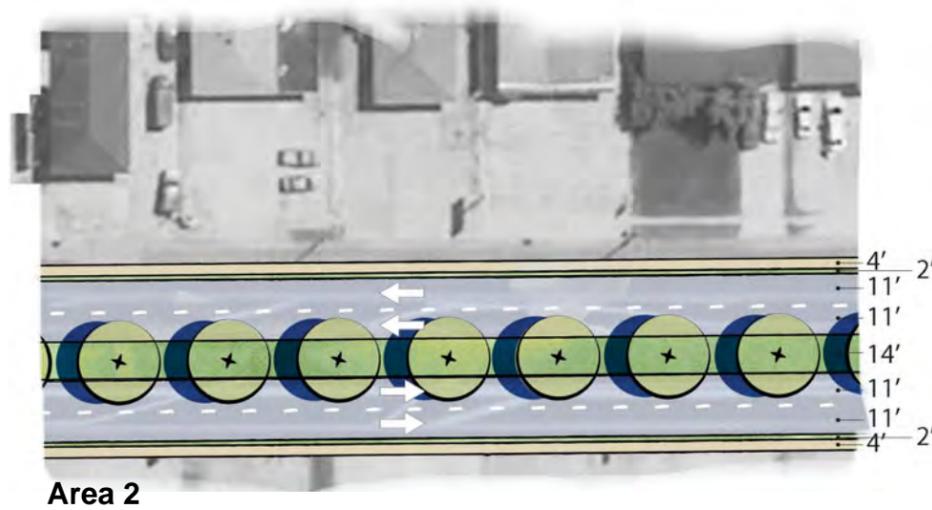
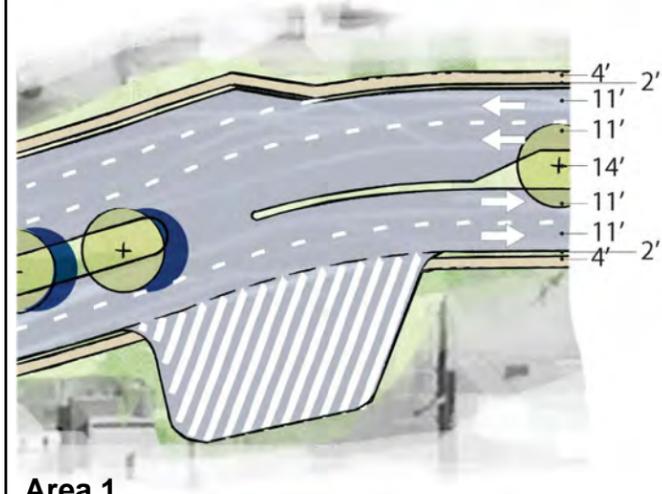
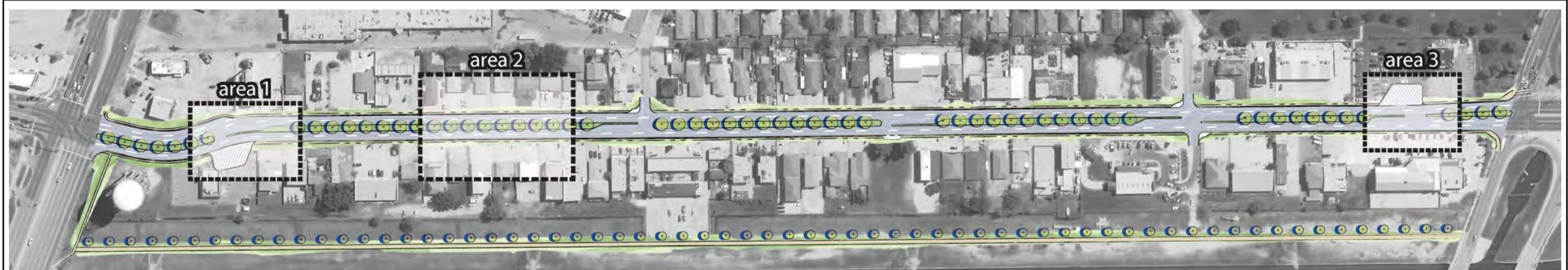


Figure 4.1: Option A: Expansion within Right-of-Way

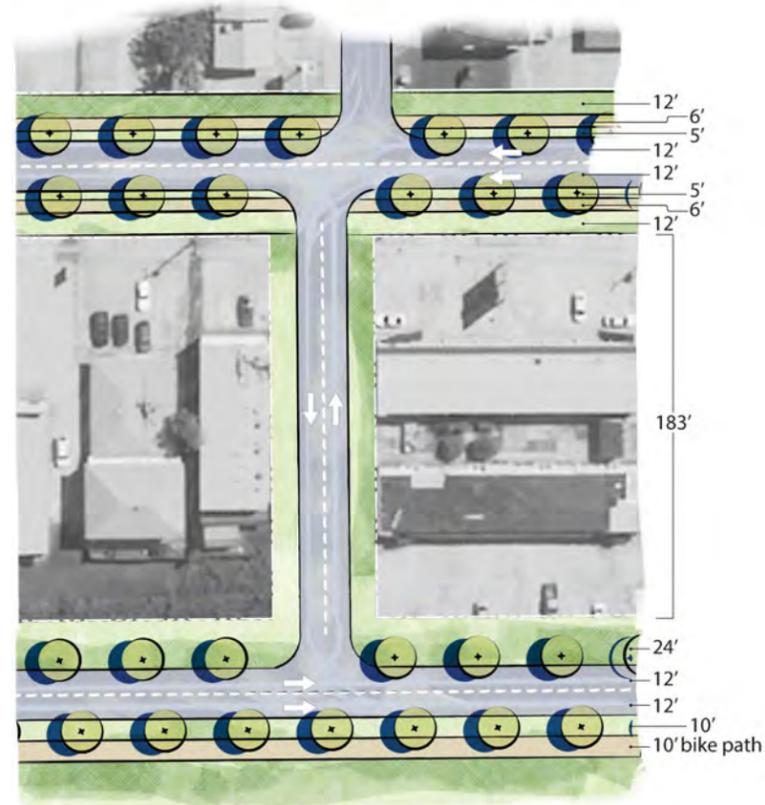
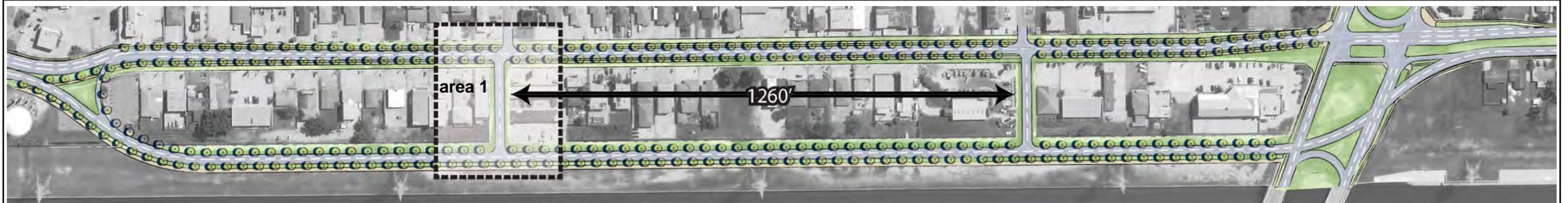


Option B: Couplet

As detailed in the following renderings (figure 4.2), Option B: Couplet calls for a complete redesigning of David Dr. from Veterans Blvd. to W. Napoleon Ave. The couplet design alternative presents separated north and south bound traffic by utilizing the property donated to Jefferson Parish by Entergy Corp. parallel to the Soniat Canal. The existing David Dr. alignment would be altered for two north bound 12' vehicular travel lanes and on each side of the travel lanes a 5' green space, a 6' sidewalk, and an additional 12' green space. The area in between the rear of the west side David Dr. properties along the Soniat Canal would have two south bound 12' vehicular travel lanes, with 24' of green space in between the rear of the properties, and a 10' green space in between the two-way 10' bicycle lane.

The Option B alternative provides extensive access management by eliminating left turn conflicts to access properties. The separation of the north and south bound lanes remove the need to cross in front of oncoming traffic to access destination points. David Dr. north and south bound lanes would be connected in three locations. The first location would be a u-turn on the north bound side where the existing Ground Pat'i is located. The second location would be at the current David Dr./Trenton St. intersection. A multi-family residential structure would have to be razed to provide the cross connection access. The third location is at the current David Dr./York St. intersection. Jefferson Parish currently owns a street right-of-way in between David Dr. and the Soniat Canal for this cross connection. The couplet design would create thru-lots for the west side David Dr. properties. The corridor would benefit from extensive greenspace and landscaping due to the available right-of-way.

Option B: Couplet



Area 1

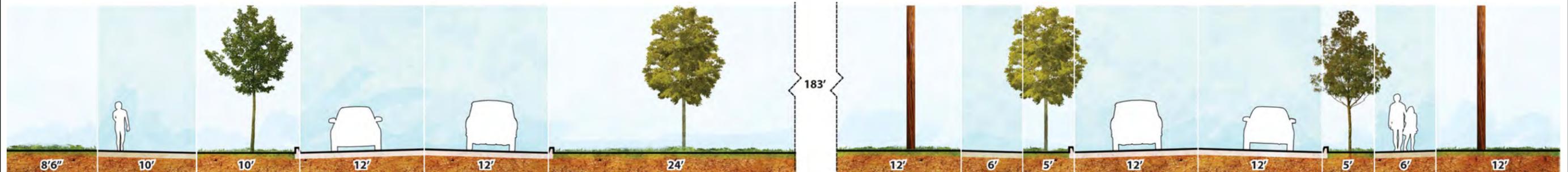


Figure 4.2: Option B: Couplet

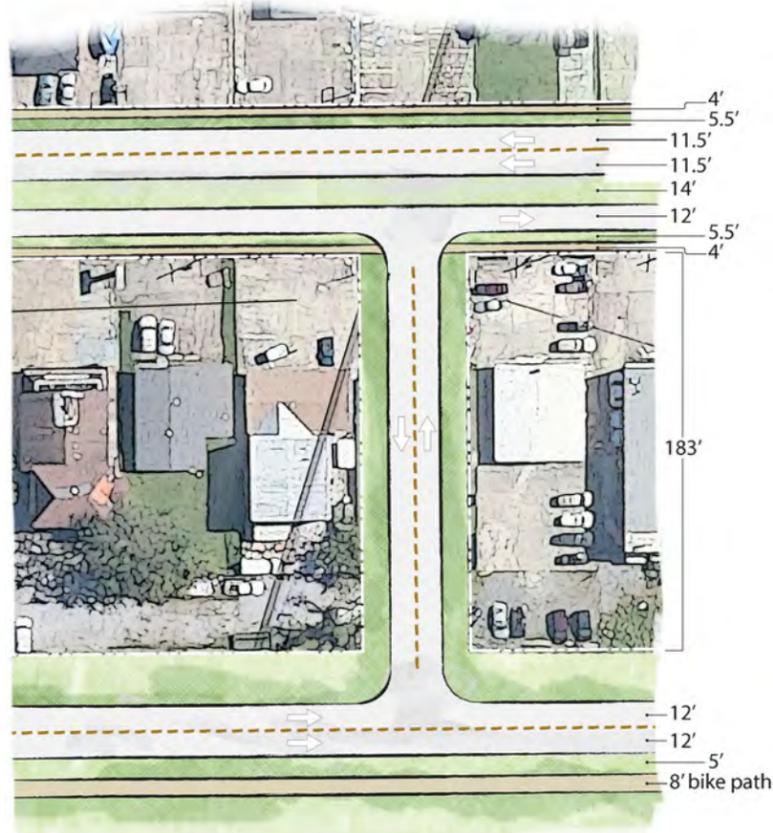
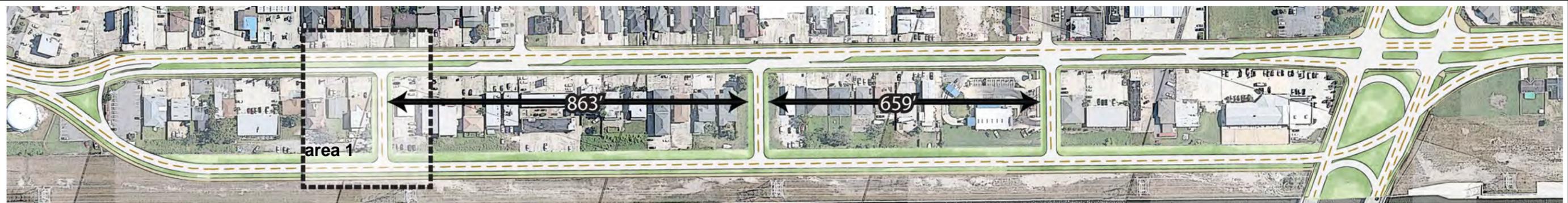


Option C: Bypass

As detailed in the following rendering (figure 4.3), Option C: Bypass is a hybrid design of both Options A and B. The Option C design concept includes a realigned David Dr. with two 11.5' north bound thru lanes, a 14' raised median, one 12' south bound vehicular travel lane for local traffic, and a 5.5' greenspace and a 4' sidewalk on each side of the roadway. In between the Soniat Canal and the rear of the David Dr. properties there are two 12' south bound lanes, a 5' greenspace, and an 8' bicycle lane. This concept calls for three cross connections.

The PMC eliminated this option for several reasons. One reason is the unconventional alignment concerning the bypass lanes and the local lane. The design called for splitting the south bound lanes with the west side properties along David Dr. in between them. Another reason is the problematic u-turn locations, passenger vehicles could potentially have a problem with the radii and for single unit trucks it would be practically impossible. The need for multiple cross connections increased the cost of the project with multiple properties needing to be purchased. The conceptual design offered fewer benefits than the two other alternatives.

Option C: Bypass



Area 1



Figure 4.3: Bypass



5.0 Opinion of Probable Cost and Implementation Phasing

5.1 Estimated Cost Methodology

Estimated opinions of probable construction costs for two of the three conceptual options were derived from approximating roadway and related infrastructure quantities based on average unit prices provided by Jefferson Parish Department of Engineering. The two alternatives breakdown of these costs are shown in *Section 5.2* below and in the Stage 0 Preliminary Scope and Budget Checklist in *Appendix B*. Costs include a 20% contingency for unforeseen conditions during construction and an additional 15% was added to the construction value for necessary professional services (i.e. topographical surveying, environmental services, geotechnical engineering, design and engineering, landscape architecture, and construction engineering and inspection).

5.2 Implementation Phasing/Estimated Cost of Improvements

Phasing and implementation of the chosen alternative plan will ultimately depend upon available funding. Funding amounts and time of availability are likely to vary as well as the selection and implementation of all recommended facility enhancements. The following is proposed estimated costs and should not be construed as final. Each option listed below has detailed estimates for road, utility, bicycle lane, and landscaping construction.

Option A: Expansion within Right-of-Way

Road w/raised median: \$2,121,946.94
Bike lane: \$382,703.80
Property acquisition: \$125,950.00
Landscaping: \$63,877.00
Utilities: \$1,000,000.00
~20% contingency: \$705,522.27
Construction cost estimate: \$4,400,000.00
15% professional services fee: \$660,000.00
The entire corridor is estimated at \$5,060,000.00

Option B: Couplet

Roads: \$5,412,675.96
Bike lane: \$382,772.60
Property acquisition: \$1,118,334.00
Landscaping: \$118,310.50
Utilities: \$100,000.00
~20% contingency: \$1,167,906.94
Construction cost estimate: \$8,300,000.00
15% professional services fee: \$1,245,000.00
The entire corridor is estimated at \$9,545,000.00

Option C: Bypass

This alternative was eliminated by the PMC after the design presentation. An opinion of probable cost was not required.



Presented in table 5.1 below is a matrix of the design concepts relative to the two options carried forward, their overall cost, and the No-Build Option (existing conditions of the corridor and any planned improvements).

Design Concept	Option A: Expansion within Right- of-Way	Option B: Couplet	No-Build Option (Existing Conditions)
Redesigned David Dr. (divided median)	✓		
Realigned David Dr.		✓	
Protected left turns (passenger cars only)	✓		
Protected left turns (signalized intersections)		✓	
Truck Accessible Turns (all intersections)		✓	
Managed access		✓	
Increased parking options		✓	
12' vehicular travel lanes		✓	✓
11' vehicular travel lanes	✓		
10' dedicated bicycle lane	✓	✓	
Shared vehicular/bicycle lane (sharrow)			✓
6' sidewalk		✓	
4' sidewalk	✓		✓
17' landscaping buffer		✓	
3' landscaping buffer			✓
2' landscaping buffer	✓		
Property acquisition required	✓	✓	
Utility relocation (Entergy)	✓		
Linkage to proposed bike lane @ Veterans	✓	✓	
Linkage to proposed bike lane @ W. Napoleon	✓	✓	
Total Construction cost (w/20% contingency and 15% professional services)	\$5,060,000	\$9,545,000	N/A

Table 5.1: Design matrix

5.3 Potential Funding Sources

A combination of available monies from Jefferson Parish general fund, bonds, grants, as well as Regional Planning Commission involvement is the most likely source of funds. Urban Systems (STP>200K) funds are expected to be used for this project.

5.4 Detours and Closures During Construction

The scope of the David Dr. corridor project runs from Veterans Blvd. to W. Napoleon Ave. Along the corridor is a day care, a businesses, and multi-family structures which will all need to have access maintained during construction. Design documents should incorporate appropriate continued traffic operations and detours which will facilitate access to all structures.



6.0 Conclusion

6.1 Summary of Impacts

The implementation of any of the proposed alternatives will have a positive impact on the efficiency and safety of the corridor, the surrounding neighborhood, and throughout Jefferson Parish. The addition of a dedicated bicycle lane along the Soniat Canal that connects to the existing and proposed Jefferson Parish bicycle network will provide a linkage to Lafreniere Park, a valuable community asset. The project offers residents of Jefferson Parish and surrounding communities alternative transportation choices, access to recreation facilities and exercise, and expanded public access to the surrounding areas through modal means other than motorized vehicles. The realignment of David Dr. for all alternatives, in relation to the managed access, will provide a safer designed corridor. In addition, no environmental impacts were discovered to impede the project.

The construction of a complete streets concept will require a financial commitment from Jefferson Parish Government and other public entities that may contribute to this project. A consensus among the stakeholders, including Jefferson Parish officials, and the PMC expressed strong support for the project to move forward. The preferred alternative is Option A: Expansion within Right-of-Way. The preferred option realigns David Dr. with a 14' raised median to provide for a safer and managed access corridor with a dedicated bicycle lane. The PMC determined that Option B: Couplet, provides the all of the complete street and access management concepts but is cost prohibitive, it would also need to remove one existing business and one multi-family residential structure for the new roads, and could possibly be a burden to existing businesses by potentially decreasing visibility. Option C: Bypass, was eliminated from consideration based on design benefit analysis.

The final product will be safer managed access corridor that will increase the Jefferson Parish residents' access to bicycling, exercise, and transportation options. Complete streets policies and programs are largely responsible for the widespread increase of bikeway development across the parish and region and Jefferson Parish's Bicycle Master Plan was consulted when designing the conceptual layout. The David Dr. project offers a great opportunity to benefit from a complete streets design as many other communities have around the country and will continue Jefferson Parish's commitment to a safer and healthier community.

6.2 Summary of Cost Estimates

The improvements to the David Dr. corridor would make a substantial improvement to the existing facilities, infrastructure, surrounding neighborhood, and provide a critical link on the Jefferson Parish bicycle network. Design, development, and construction of these facilities will take time, effort, and funding to produce the quality product the corridor deserves.

Based on historical cost data and quantities estimated from preliminary layouts and typical sections, anticipated utility locations, costs for design and construction oversight, and reasonable contingencies, the opinion of probable project costs is estimated for Option A: Expansion within Right-of-Way at \$5.0 million, for Option B: Couplet at \$10.7 million, and Option C: Bypass was not brought forward to this stage. Option B is not recommended to be considered as an alternative by the PMC moving forward as its estimated cost is \$10.7 million, would need extensive property acquisition, and could potentially have negative business impacts.

In summary, Option A: Expansion within Right-of-Way is the preferred alternative of the PMC.