

# M A C K H A T C H E R

context sensitive design



context sensitive design



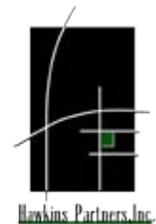
# P A R K W A Y

MACK HATCHER



PARKWAY

The Mack Hatcher Parkway Context Sensitive Design logo, which appears throughout this document, was developed by Wilbur Smith Associates. The principal elements of the logo include the divided square, the surrounding words “Mack Hatcher Parkway,” and the inset letters (representing **C**ontext **S**ensitive **D**esign). The integration of photos from the Franklin area and the flow of text and color around these principle forms embody the tenets of the CSD process, which depends on an awareness of the relation of individual elements in forming a cohesive whole.



# table of contents

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## SECTION I: INTRODUCTION

1.1 :: Context Sensitive Design	1.1
1.2 :: Importance of CSD	1.2
1.3 :: Context	1.3
1.4 :: Importance of Context	1.4
1.5 :: Process Organization	1.5
1.6 :: TDOT Project Description & Timeline	1.7
1.7 :: Purpose and Need Statement	1.8

## SECTION II: CONTEXTUAL UNDERSTANDING

2.1 :: Contextual Understanding	2.1
2.2 :: Character Segments	2.3
2.3 :: Issues Analysis	2.12
2.4 :: Vision Statement	2.16
2.5 :: Goals & Objectives	2.17
2.6 :: Public Involvement	2.22

## SECTION III: CONSENSUS BUILDING

3.1 :: Traffic Analysis	3.1
3.2 :: Facility Type	3.3
3.3 :: Access Management	3.10
3.4 :: Intersection Types	3.14
3.4.1 :: At-Grade Intersections	3.14
3.4.2 :: Grade Separated Intersections	3.15

3.4.3 :: Intersection Analysis & Recommendations	3.15
3.4.4 :: CDT Recommendations	3.16
3.5 :: Bridges	3.20
3.5.1 :: Number and Extent of River Crossings	3.20
3.5.2 :: Bridge Type Analysis	3.21
3.5.3 :: Design Elements	3.21
3.6 :: Landscape Character	3.25
3.6.1 :: Landscape Character Toolbox	3.25
3.6.2 :: Toolbox Terminology: Design Components	3.25
3.6.3 :: Landscape Structures	3.31
3.6.4 :: Recommendations by Character Segment	3.36
SECTION IV: VISUALIZATIONS	
4.1 :: Visualizations	4.1
4.1.1 :: Aerial Photo Simulations	4.1
4.1.2 :: Ground Level Simulations	4.10
4.1.3 :: Video Simulations & Interviews	4.20
SECTION V: CONSENSUS DECISIONS AND CONCLUSION	
5.1 :: Consensus Memo	5.1
5.2 :: Conclusion	5.6

# SECTION ONE

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# INTRODUCTION

## 1.1 :: context sensitive design

On the forefront of transportation project delivery, Context Sensitive Design (CSD) is relatively new to the state of Tennessee. The Mack Hatcher Parkway (State Route 397) extension in Franklin, Tennessee is a unique project on which the Tennessee Department of Transportation (TDOT) has utilized the CSD process to develop a roadway that complements its surroundings. This milestone project functions with interdependent stakeholders working together as a team to realize a vision for future improvements to Mack Hatcher Parkway and the Franklin community.

The State Route 397 Mack Hatcher Parkway (MHP) project team has evaluated possible context sensitive design solutions for the widening of existing sections of MHP and for a new western extension in Franklin, Tennessee. CSD seeks to balance the goals of safety and

mobility with the preservation and enhancement of aesthetic, historic, environmental, and community values. The design team, led by Wilbur Smith Associates (WSA), has worked closely with TDOT to develop an effective Context Sensitive Design process in order to realize these goals and values.

Through close coordination with TDOT, the City of Franklin, Williamson County, and other agencies, this project has evaluated a range of appropriate ideas in order to develop design recommendations for the improved Mack Hatcher Parkway by utilizing CSD. Key elements of the CSD process include safety and mobility, an extensive public involvement process, roadway enhancement and aesthetics, contextual understanding, and constructability.

*“Context Sensitive Design (CSD) is an approach that places preservation of historic, scenic, natural environment and other community values on an equal basis with mobility, safety and economics... A transportation facility is an integral part of the community’s fabric and it can help define the character of the community or it can destroy it.”*

– Mary Peters, FHWA Administrator



## 1.2 :: importance of CSD

**I**mmersed in history and culture while maintaining a contemporary appeal, the Franklin locale is distinct and merits a process that seeks to protect these attractive qualities. Franklin is a very special place and the CSD process makes every effort to ensure that the new roadway enhances this fact.

There are many benefits to using the CSD process, including promoting public acceptance, trust, and support by building positive relationships with stakeholders. The CSD process is proactive as opposed to being reactive, which makes for prompt and lasting decisions, improves project delivery and cost effectiveness, and creates better facilities for the community. It works to maintain an important balance point between region, user, community, and environment.

CSD provides a sensitive design approach that is important to the MHP project because of the existing environment surrounding the roadway. CSD seeks to minimize and alleviate disruption of historically significant sites, commercial and residential areas, and the natural landscape. Building an extension that is compatible with the existing portion of MHP is another reason CSD is important to this project. The proposed extension and improved existing segments should complement one another, resulting in a consistent MHP once all segments are completed.



*Immersed in history and culture while maintaining a contemporary appeal, the Franklin locale is distinct and merits a process that seeks to protect these attractive qualities. Franklin is a very special place and the CSD process makes every effort to ensure that the new roadway enhances this fact.*

## 1.3 :: context

Assessing the context of the existing environment surrounding MHP creates the need for the Context Sensitive Design process. Transportation facilities are not detached from society; but rather, should be integrated into their setting in order to connect the community. Sensitivity to MHP’s surroundings requires a thorough understanding of the various elements that make up its context. Historic, aesthetic, archaeological, community, economic, cultural, environmental, recreational, and scenic elements shape the project area and will affect MHP’s final design. The Contextual Understanding Report, established early in the process, documents these elements to provide a foundation for the roadway’s future design (see Appendix for the Contextual Understanding Report).

By understanding the context of the project, the consulting team was able to work with the stakeholders involved to determine the elements they value, whether environmental, aesthetic, historic, or cultural. An understanding of context can reveal opportunities and/or constraints to any transportation project and facilitates a sensitive design approach to protect elements that are affected. Design decisions are based on the understanding and acceptance of the context of the MHP project.



## 1.4 :: importance of context

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An excellent understanding of context produces transportation projects that are place sensitive. Successful projects that consider the importance of context are more likely to be accepted by the community, compatible with the environment, functional in terms of engineering and technical issues, financially feasible, and timely.

The goal of the MHP Context Sensitive Design process is to create an aesthetically pleasing roadway that fits into its environment. This is not only the desired outcome of the project established by those involved, but there is legal precedence and an authoritative basis for context sensitivity in transportation mandated by several Federal

acts. This illustrates the importance of contextual understanding and awareness of the MHP environment.

Including local stakeholders and involving the community of Franklin in the design process is central to understanding the importance of the context of MHP. The people that use the roadway every day understand the effects the roadway will have on their neighborhoods. A “one-size-fits-all” approach to transportation design contradicts CSD and will not serve the needs of Franklin and its residents. MHP should agree with its environment and enhance Franklin’s sense of place.

*“It is the continuous responsibility of the federal government to use all practicable means to assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.”*

*– National Environmental Policy Act of 1969*

## 1.5 :: process organization

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*“Generating ideas is one of the most important parts of CSD... Context Sensitive solutions must be developed by drawing on our citizens and agency colleagues to generate ideas for possible solutions and contribute to the solution.”*

*– Federal Highway Administration*

CSD is about building partnerships, alliances, and consensus; however, this can be challenging and labor intensive. Oftentimes, conflicting goals and priorities are presented that have to be taken into consideration, but it is important to remain focused and respectful of the various issues. In order to address the issues, a multi-disciplinary team including the public, a full range of stakeholders, and commitment from top agency officials and local leaders was established to lead the Mack Hatcher Parkway development process through open, honest, and continuous communication.

TDOT and the City of Franklin, along with local stakeholders, partnered to guide the CSD process and develop design recommendations for the MHP extension and existing MHP. The consulting team, led by Wilbur Smith Associates with assistance from Hawkins Partners, Inc., served as facilitators to the CSD process and provided the necessary tools for the Citizen Design Team (CDT) and Agency Resource Team (ART) to make informed decisions on potential design solutions for MHP. Before making design recommendations to the CDT, the consulting team listened

carefully so the recommendations corresponded to the team’s vision of a fully integrated transportation facility.

Local officials from the City of Franklin nominated team members for the CDT, which were then selected and approved by TDOT. The CDT provides local perspective on the community’s character and suggests how they think MHP should be designed to maintain and enhance that character. Consensus building between the CDT members is crucial for a successful CSD process. This is best accomplished through problem solving communication that satisfies the project’s purpose and need.

The ART includes representatives from key agencies that provide expertise and information to assist in the Mack Hatcher Parkway CSD process. They bring an understanding of the landscape, community, and resources available to Franklin and were available to answer questions and provide feedback on the more technical questions.

The formation and inclusion of the CDT and ART provided the initial steps in a thorough public involvement process. The CDT and ART assisted in facilitating an information sharing process with the general public. The Context Sensitive Design process requires a commitment to a public involvement process that solicits and values public input and gives proper consideration to that input during the decision making process. This process includes development of communication tools to create public awareness and achieve mean-

ingful public input regarding the study issues and corridor needs. The public involvement process encourages public input and awareness not only through the CDT and ART, but also by opening all working meetings to the public, conducting special public meetings, making televised presentations to the Franklin Board of Mayor and Aldermen, and through the use of newsletters and news releases. The process was tailored to suit the issues, impacts, and communication style of the Franklin area. It effectively obtained and incorporated public comments, without jeopardizing or interfering with an objective and unbiased technical analysis of Mack Hatcher Parkway's impact.

Utilizing the various team members and the public involvement process to develop design recommendations for MHP was a multi-step process where each phase was dependent on the next. First, the design team took a thorough inventory of the affected landscape,

and then they analyzed the data collected to establish any issues, opportunities, and constraints presented. This assessment led to the creation of a vision statement that provided the image for the finished product. Once the vision had been established, everyone involved worked to see that this vision was realized by organizing goals and objectives that will accomplish the ultimate goal of a fully integrated transportation system. Finally, consensus was built based upon these goals and objectives and established the basis for the final design recommendations.

Throughout the process there were continuous team meetings that included the CDT, ART, TDOT, the consulting team, and other stakeholders and agencies affected by the extension. These meetings served as working sessions to discuss the various design issues and led to the formation of this Final Report.

## 1.6 :: TDOT project description & timeline

Transportation projects are developed in four phases: Planning and Environmental, Design, Right-of-Way, and Construction. Context Sensitive Solutions are integral to all phases of the MHP transportation project development process. The following is a reflection of various aspects of these phases as they have occurred, or will occur, on both the existing route and proposed western extension of MHP. This description/timeline represents TDOT status as of the date of this publication, but should be recognized as subject to change.

PROJECT SCHEDULE FOR EXISTING ROUTE	
Advanced Planning Report	Completed December 29, 1999
Conduct Design Public Meeting	Forecast for Spring 2007
Approval of Final Environmental Document	Forecast for Summer 2007
Distribute Final Right-of-Way and/or Utility Plans	Forecast for Fall 2007
PROJECT SCHEDULE FOR PROPOSED WESTERN EXTENSION	
Advanced Planning Report	Completed March 15, 2001
Initial Public Meeting	Conducted July 31, 2001
Meeting with Historic Property Owners	Conducted June 1, 2004
Approval of Draft Environmental Impact Statement	Completed November 22, 2004
NEPA Hearing	Conducted January 18 & 20, 2005
Supplemental DEIS Public Meeting	Conducted July 7, 2005
Alignment Selection	Completed December 2, 2005
Begin Context Sensitive Design Process	Began March 2, 2006
Begin Preliminary Design	Forecast for Spring 2007

## 1.7 :: purpose and need statement

The CSD process should be completed consistent with other elements of the overall project development, including environmental documentation. A critical element of this consistency is the Purpose and Need Statement. The Purpose and Need Statement was established in the Draft Environmental Impact Statement (DEIS) and provides the basis for the MHP project that was referred to throughout the process. The following is the Purpose and Need Statement as found in the MHP DEIS:

*“When combined with the existing Mack Hatcher Parkway, this project would create a complete loop around the City of Franklin and provide needed connectivity throughout the region. This proposed action will provide improved connectivity to the existing transportation network in Franklin and Williamson County. This improved transportation network will address existing and future capacity needs within the study area. The community will have improved mobility to local and regional destinations. The proposed action supports development currently in place, under construction, or planned within the study area. The proposed extension of Mack Hatcher Parkway could serve to facilitate future multi-modal improvements for the region.”*

The Purpose and Need Statement functions as a mission statement for the project. It is the foundation and reason for the effort spent on designing a successful roadway.

*“In the beginning of the interstate era, we built the greatest freeway system in the world; but aesthetics and preserving the environment weren’t part of that mission. Now we need another transformation. We’re here to define a new vision, to change how we do business.”*

– Tom Warne, Executive Director, Utah Department of Transportation

### Final Report Structure

This report is divided into five (5) chapters and a separate appendix, which collectively address contextual understanding, design guidelines, and recommendations. Chapters and content include:

- SECTION 1: Introduction establishes the purpose of the document and explains the CSD process and its importance.
- SECTION 2: Contextual Understanding begins with a description of the character segments and project issues, which provide the basis for the goals, objectives, and vision statement. This chapter ends with a more in depth description of the public meeting process.
- SECTION 3: Context Sensitive Design Guidelines outlines the processes for establishing recommendations for the MHP corridor involving traffic analysis, facility type, access management, intersections, bridge type, and landscape character.
- SECTION 4: Visualizations illustrates the tangible results of the recommended design.
- SECTION 5: Conclusion and information on where to obtain Appendix information.
- APPENDIX: Contains Conceptual Design sections (including a cost estimate for the entire route, typical sections, intersection layouts, and functional layouts that illustrate the design recommendations), the Contextual Understanding Report, and public meeting documentation.

# SECTION TWO

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# CONTEXTUAL UNDERSTANDING

## 2.1 :: contextual understanding

A thorough comprehension of existing conditions is a critical step toward contextual understanding. Inventory is a non-biased recording process that considers the visual and non-visual aspects of a site, past and present. An early step in the CSD process was to engage participants in an inventory of the entire MHP corridor.

While a seemingly simple form of assessment, there is much to be gained from a thorough visual evaluation of landscape context. As part of the Mobile Workshop, and with the goal of heightening participants' awareness of the visual aspects of the corridor, CDT and ART members traveled the entire MHP loop as closely as existing road patterns would allow.

Provided for each participant was a map with key elements identified and the bus route noted. The map divided the corridor into inventory segments based on location of major intersections to allow for more organized record keeping. A worksheet prompted participants to examine such factors as vegetation, topography, land use, spatial character, and other features, while encouraging supplemental note taking. During the workshop, the group had the opportunity to pull over at various locations, allowing for more detailed examination. Throughout the workshop, there was lively discussion as participants asked questions and shared information. The inventory process familiarized the team with known contextual elements of the corridor. Whether historic, aesthetic, archaeological, social, economic, cultural, or environmental, all factors were to be consistently considered



throughout the CSD process. Through identifying, cataloging, and describing key elements in the MHP corridor, the inventory phase was the non-biased record of the elements that shape “context.”

Other valuable resources that were inventoried included the Franklin Land Use Plan, which recognizes the strong sense of community values, indicating a commitment to growth and development that preserves and enhances the defining character of Franklin. While it details overall goals within the urban growth boundary, it also examines context on a more local scale.

In addition, the recommended Long Range Bicycle Facilities Plan illustrates a desire for greater multi-modal connectivity. Similarly,

Parks and Greenway planning recommendations include improved recreational opportunities throughout the region, while increasing connectivity and preserving environmental resources via a network of multi-use paths.

The Draft Environmental Impact Statement (DEIS) and its supplemental reports carefully detail the impact the corridor would have on all known contextual elements. It is acknowledged that the MHP alignment would impact historical districts and sites and would traverse sensitive environmental areas.

The team examined the information compiled in the inventory phase and identified the ways in which it could shape the overall project and define what the context means. The first step was recognizing the broad distinctions that emerged during the inventory process between different areas of the linear study area. Building upon the mobile workshop and the differing character areas within the MHP project area, the corridor was divided into four related but unique character segments. For each segment, issues were noted that became the basis for a comprehensive set of opportunities and constraints. These, in turn, provided the basis for the goals and objectives that guided the team during the design concepts phase.

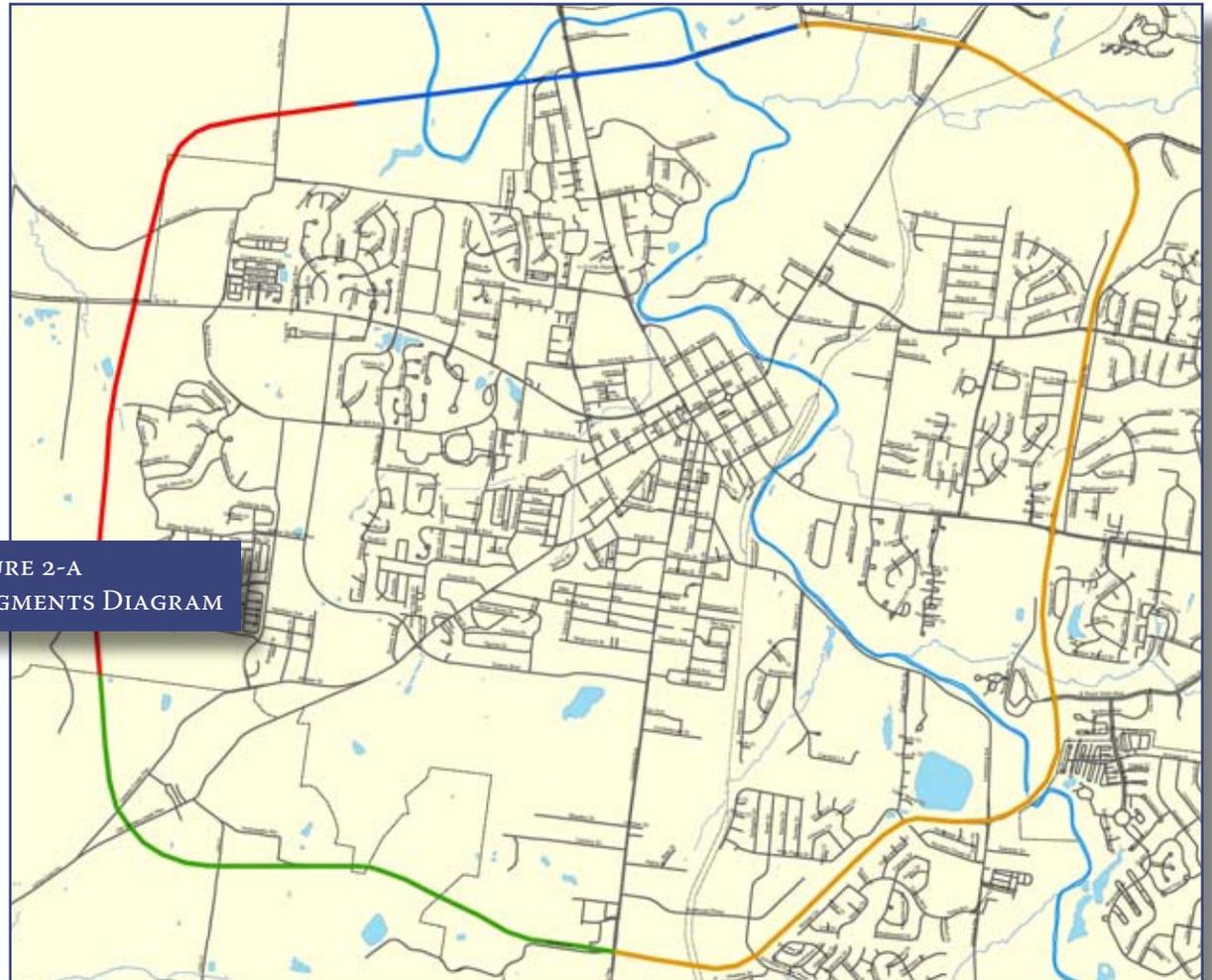


## 2.2 :: character segments

While the entire corridor relates to the historic City of Franklin, distinct areas emerged through the inventory process that were visually and quantitatively different. These notable differences resulted in the formation of character segments (Figure 2-A). Segments are based on identified, existing, or planned context, somehow unique from other areas within the corridor. These distinctions assisted the CSD team in customizing design solutions to a more specific set of needs on a smaller scale, while still fitting into the overall MHP agenda.

The character segments were designated as follows and identified on maps by corresponding color:

- EXISTING CORRIDOR
- SOUTHALL HILLS
- WEST HARPETH
- HARPETH RIVER CROSSINGS



**FIGURE 2-A**  
**CHARACTER SEGMENTS DIAGRAM**

### KEY IDENTIFYING CONTEXT CHARACTERISTICS

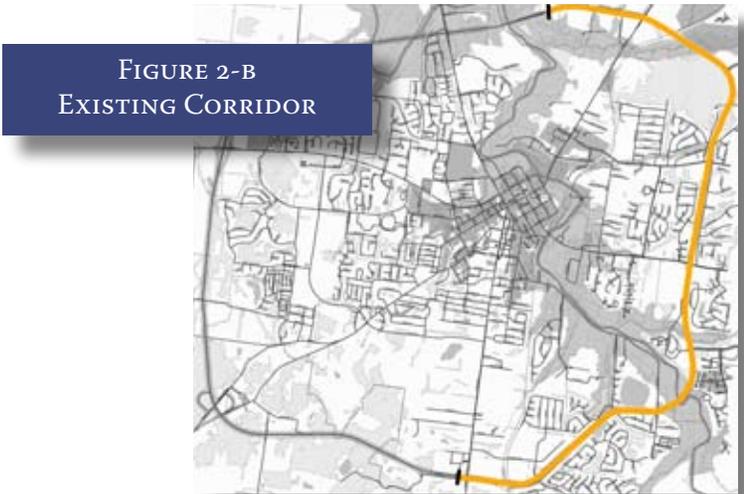
- Defined edges
- Consistent, established land use
- Close proximity to adjacent development

The Existing Corridor segment represents an existing highway landscape. Approximately 25% of the segment is a four lane, divided highway with a depressed median. The remaining portion is scheduled to be widened to four lanes from the current two lane cross-section. There are more intersections in this segment than in any other area of the corridor, presenting a unique set of mobility issues. Of those intersections, three are planned/proposed “gateway” intersections, as recognized in the Franklin Land Use Plan. Gateways are intersections of symbolic importance that emphasize thresholds into (and between) areas of the city. They establish “punctuation” within the corridor, reinforce community character, and enhance the “sense of place.” To create the gateway statement, the Franklin Roadway Enhancement Master Plan recommends the inclusion of design features such as monuments, signage, and a specialized planting palette that respond to both vehicular and pedestrian scale. In this corridor segment, these gateways are identified where MHP intersects Murfreesboro Road (Highway 96), Lewisburg Avenue, and Columbia Avenue.

The edges of this segment are bounded by adjacent development, geologic or topographic features such as high rock cut walls and steeply

dropping roadway shoulders. The development, predominantly single-family residential, is in consistently close proximity to the edges of this corridor segment and generally turns its backside to the roadway. The roadway crosses the Harpeth River once in the southeast portion of the segment. This crossing, with its negligible design distinction, goes relatively unnoticed to the typical MHP user.

In addition to the residential uses along this segment, the corridor is adjacent to prominent historic resources such as Roper’s Knob and the Winstead Hill/Harrison House Historic District. The location of Winstead Hill, along with the proximity of the commercial development north of the roadway, create a particular set of issues for the intersection with Columbia Avenue and the transition into the Southall Hills character segment. Photographs of the Existing Corridor appear on the facing page.



**FIGURE 2-B**  
**EXISTING CORRIDOR**

existing corridor



### KEY IDENTIFYING CONTEXT CHARACTERISTICS

- Unique undulating hill and valley topography and relatively high vegetation density
- Designated as conservation and rural area
- Some rural residential

Defined by the ridges and valleys west of Columbia Avenue and south of Davidson Drive, the Southall Hills segment contains a natural environment unlike any other part of the corridor. The terrain is varied and the landscape is dramatic, providing for scenic views to and from the area.

Current and proposed land use is predominantly Conservation and Rural, with some rural residential. It is not anticipated that this area will experience the intensive development and growth as seen in other parts of the corridor. This relatively undeveloped area contains valuable natural resources that provide wildlife habitat, vegetation diversity, and scenic and recreational opportunities.

This segment has extremely limited points of access to and from the existing street network. Its main intersection, Mack Hatcher Parkway at Carter's Creek Pike, is recognized in the Franklin Land Use Plan as a planned/proposed gateway. This intersection presents a unique set of challenges based on its current geometry and the topographic changes within the corridor.

Directly adjacent to the eastern end of this segment is the Winstead Hill/Harrison House Historic District. The existing tree line along Hillview Lane provides a visual buffer between this resource and MHP. Photographs of the Southall Hills character segment follow on the facing page.

FIGURE 2-C  
 SOUTHALL HILLS



southall hills



### KEY IDENTIFYING CONTEXT CHARACTERISTICS

- Flat pasture lands
- Suburban residential on both sides of corridor
- Consistent agricultural character
- Densely populated

To the north of Highway 96, this character segment traverses the Harpeth River Rural Historic District. This district embodies the distinctive agricultural character of the Franklin area, adding to the aesthetic and economic appeal of the area. Following are photographs of the West Harpeth character segment.

Uniquely situated on flat, open pasture land, the West Harpeth character segment is defined by the flattening topography near Davidson Drive in the south, and by the edge of the Harpeth River floodplain in the northeast.

This area of Franklin is planning for, and is experiencing, intensive growth. Land use policy is in place for dense traditional neighborhood development along both sides of the corridor. This development creates high numbers of potential corridor users in very close proximity. Additionally, the roadway as planned will pass very close to the existing Franklin Green neighborhood near the end of Nolen Lane. The roadway will cross several existing roads, such as Del Rio Pike, Old Charlotte Pike, and Highway 96. The Highway 96 intersection has been identified as a proposed/planned Gateway as part of the Franklin Land Use Plan.



FIGURE 2-D  
 WEST HARPETH

west harpeth



### KEY IDENTIFYING CONTEXT CHARACTERISTICS

- Predominantly undeveloped floodplain
- Sensitive ecological area
- Intersects recreational area and greenway system

In this area of the corridor, the completed Mack Hatcher Parkway would cross the Harpeth River three times. Because it exists almost entirely in the floodplain, this segment deals with a unique set of environmental factors. Additionally, the corridor intersects with existing and proposed recreational areas and multi-use paths. The City of Franklin has planning in place for an extension of the greenway system to run along the length of the Harpeth River in this area. Additionally, planning recommendations encourage inclusion of open spaces, as well as pedestrian connections to surrounding conservation areas.

With the chosen alignment, some residential displacement will be required in the Rebel Meadows neighborhood. While there is some additional existing residential and commercial development in this area, future planning recommendations call for mainly conservation land use as the majority of the area is constrained by floodplain. Following are photographs of the Harpeth River Crossings character segment.

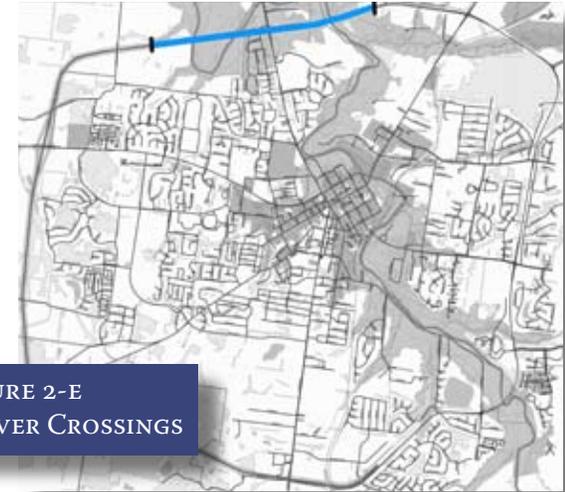


FIGURE 2-E  
 HARPETH RIVER CROSSINGS

harpeth river crossing



## 2.3 :: issues analysis

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Critical to the CSD process, issues identification should be non-biased and as thorough as possible. Issues, once identified, are then classified as opportunities or constraints. Preliminary analysis of the inventory data quickly revealed an initial list of issues. The initial list of issues was presented to the ART and CDT and addressed by a working session in which the CDT and ART discussed and supplemented the original list with additional issues. Comments were contributed by participants through group discussion, as well as anonymous submissions on index cards. From these issues, lists of opportunities and constraints were developed for each character segment. Participants reached consensus on the opportunities and constraints, understanding that they were establishing the foundation for the goals and objectives in the next phase of the CSD process. The complete sets of results, arranged by character segment, are found in the lists on the following pages.



## CHARACTER SEGMENT ISSUES ANALYSIS :: EXISTING CORRIDOR

### OPPORTUNITIES

- Make appropriate “statement” at Gateway intersections
- “Focus Inward” in response to boundaries
- Establish visual cohesiveness throughout
- Capitalize on attractive natural features
- Better acknowledgement of water crossing
- Enhance connections/views to key cultural landscape features/historic sites
- Improve buffers between roadway and existing development
- Enhance presence of Franklin’s character defining elements
- Connectivity to nearby parks
- Franklin Road as an additional gateway
- Mitigate the straightaway segments
- Address traffic issues
- Coordinate efforts with the Franklin gateway program
- Improved signage and wayfinding
- Noise abatement
- Landscape improvement – tree planting
- Rethinking of intersection typology (roundabouts, etc.)

### CONSTRAINTS

- Respond to traffic congestion
- Deal with multiple intersections
- Geologic (rock cuts) and topographic (steep shoulders) narrowness in parts of corridor
- Challenge to transition from existing 4-lane cross-section to alternative cross-sections
- Established development in very close proximity to roadway
- Lack of typical Franklin character
- Environmental issues related to the river
- ROW regulations (what is and is not allowed)
- Adjacent neighborhoods, access/impact

## CHARACTER SEGMENT ISSUES ANALYSIS :: SOUTHALL HILLS

### OPPORTUNITIES

- Enhance scenic views and vistas
- Preserve Hillview Lane as a visual buffer for Winstead Hill
- Proximity to nature allows for engaging driver experience
- Exploring new interchange design type for gateway interchange at Carter’s Creek Pike
- Incorporation of greenway/bikeway and connectivity to parkland
- Preserve rural character along roadway and at intersection points
- Capitalize on attractive natural features
- Neighborhood ingress/egress at Carter’s Creek Pike
- Northerly vista from hilltop context
- Preserve wildlife habitat
- Explore new road design models
- Make the segment truly ‘something special’
- Respect topography, move around hills not through – allow topography to dictate design
- Incorporation of scenic overlook

### CONSTRAINTS

- Terrain could require larger grading impact
- Limited width of corridor between Winstead Hill and existing commercial development
- Potential negative impact to trees on Hillview Lane
- Impact on Carter’s Creek and Old Carter’s Creek Pike local collector streets
- Disruption of established forest and rural landscape
- Odd geometry at the intersection of Carter’s Creek Pike and Old Carter’s Creek Pike
- Impact to rural community homes
- Inactive landfill in close proximity to the corridor
- Environmental issues
- Pre-Civil War cemetery on Hillview Lane
- Small stream under Hillview Lane

## CHARACTER SEGMENT ISSUES ANALYSIS :: WEST HARPETH

### OPPORTUNITIES

- Function as a ‘zipper’ between the neighborhoods – not a divider
- Embrace the classic, rural/historic Franklin vernacular landscape vocabulary
- Outward conscious
- Hwy 96 interchange established as a new gateway typology
- Communities’ desire to link across the corridor
- Traffic calming measures could provide opportunities for engaging pedestrians and cyclists
- Preserve and enhance connections/views to key cultural landscape features and historic sites
- Linkages to proposed and existing parks and multi-use paths
- Borrow from vernacular landscape expressions, such as the hedgerows
- Look to other CSD models for design inspiration and guidance
- Access control
- Guide how the development happens through MHP roadway design
- Explore new sound mitigation techniques
- Enlarged impact – realize regional impact potential the corridor will have
- Shape path of future land use
- Lessen vulnerability of area to undesirable development
- Recognize the importance of the rural historic district as critical to character of Franklin and economic wellbeing
- Respond to existing tree rows
- Design roadway to engage with development (ie. Boulevard)
- Use lower design speeds instead of walls and berms to address noise issues

### CONSTRAINTS

- Difficulty in visualizing full impact of planned traditional neighborhood development
- Changes character of the Harpeth River Historic District
- Potential negative visual impact from historic sites
- Mitigating impact of Hwy 96 interchange on surrounding landscape
- Proximity of existing residential to edge of ROW
- Possible need for sound mitigation limits outward and inward views across the landscape
- Straight alignment. Limited access on flat land may result in higher travel speeds
- Potential impacts on adjacent historic sites
- Landscape’s visual compatibility with existing TVA line
- Existing cemetery south of Hwy 96
- Addressing environmental/stream issues
- Flooding and stormwater issues in creek
- Safety issues – many nearby residents
- History of phosphate mining in the area
- Geologic instability (i.e. sinkholes)

## CHARACTER SEGMENT ISSUES ANALYSIS :: HARPEATH RIVER CROSSINGS

### OPPORTUNITIES

- Acknowledge the river and floodplain by exploring innovative design models
- Employ new ways of addressing water crossings
- Preserve mature vegetation
- Tie into existing and proposed greenway system
- Extend creative design vocabulary of new section into the existing
- Reevaluate the existing Harpeth Crossing
- Improve recreational experience and provide additional recreational opportunities
- Increase width of the streamside corridor
- CELEBRATE the river
- Interpret/acknowledge the Native American history in the area
- Employ design vocabulary unique to Franklin

### CONSTRAINTS

- Location in the floodplain
- Potential adverse impact to ecologically sensitive area
- Regulatory constraints (associated with floodplain and river)
- Meeting Hillsboro Road elevations
- Disruption of existing neighborhood and street network
- Design vocabulary established by existing 4-lane divided segment
- Potential impact to Brownland Farms
- Hillsboro Road intersection
- Geologic instability (e.g. sinkholes)

### ADDITIONAL GENERAL COMMENTS

- Improved signage/wayfinding throughout
- Explore opportunity for grant funding sources
- Overlay Character Areas to ensure development compatibility
- Transfer Development Rights – from outside MHP to inside MHP
- Learn from other states examples
- Network with other community groups
- Incorporate multi-use path on entire loop
- Establish criteria for private development entrances (office, industry, residential) onto MHP
- Encourage overlooks, pull-offs, historic markers and non-automobile connectors



## 2.4 :: vision statement

Participants began sharing their aspirations for the Mack Hatcher Parkway project during the initial MHP CSD project meeting. The CSD Vision Statement is a direct result of refinement to these aspirations for MHP. Consensus was reached that this statement be the guiding vision for the entire CSD team:

*“The CDT will recommend Mack Hatcher Parkway (MHP) solutions that strive to preserve and enhance not only safety and mobility, but also the natural and historic character, community, and environmental assets that contribute to Franklin’s quality of life. The recommended design elements will utilize an appropriate sense of scale; provide an enjoyable experience for MHP users; be harmonious with the contextual surroundings; and be scenic, efficient, unique, and a source of pride for the community for many years.”*

*“The CDT will recommend Mack Hatcher Parkway solutions that strive to preserve and enhance not only safety and mobility, but also the natural and historic character, community, and environmental assets that contribute to Franklin’s quality of life.”*



## 2.5 :: goals & objectives

To support the vision statement, and to establish means of reaching the desired outcome set forth within it, the CSD team’s next step was to devise a set of goals and objectives. Goals and objectives are defined as follows:

**GOALS** are broad statements of the CSD team’s desired outcome at the project’s completion.

**OBJECTIVES** are more measurable and specific means to determine if the goal was achieved.

In analyzing the opportunities and constraints, broad themes emerged. These themes were developed into goal statements by the design team and presented to the CDT for review. Revisions were made and consensus was reached on the five goals listed to the right. To assist in achieving these goals, it was necessary for the CSD team to establish supporting objectives. While the goals encompass desires for the entire corridor, the objectives were customized more specifically to each character segment, addressing the unique needs of the individual areas.

These goals and objectives have served to inform design decisions and ensure compatibility with the vision statement. The complete set of objectives, arranged by character segment, is included in the tables on the following pages.

**GOAL 1** – To be environmentally sensitive to the native landscape of Franklin and employ solutions compatible with known ecological systems

**GOAL 2** – Provide adequate capacity for safe and improved mobility throughout the corridor for multiple modes of transportation, while considering access management

**GOAL 3** – Maintain and enhance Franklin’s cultural heritage

**GOAL 4** – Contribute to the community’s greater “Sense of Place” with a strong identity that is consistent with Franklin, Tennessee

**GOAL 5** – Respect and integrate into land use patterns/community fabric, while facilitating appropriate future uses

## GOALS AND OBJECTIVES :: EXISTING CORRIDOR

GOALS	OBJECTIVES
<p><b>1. ENVIRONMENTAL/ECOLOGICAL</b></p> <p>To be environmentally sensitive to the native landscape of Franklin and employ solutions compatible with known ecological systems</p>	<p>1.1. Consider known environmental factors that may impact design decisions</p>
<p><b>2. MOBILITY</b></p> <p>Provide adequate capacity for safe and improved mobility throughout the corridor for multiple modes of transportation, while considering access management</p>	<p>2.1. Employ intersection models for improved safety, visibility, and traffic flow</p> <p>2.2. Improve route legibility with signage and wayfinding opportunities</p> <p>2.3. Explore cross-section alternatives for the segments to be widened so as to meet traffic needs while providing interesting user experiences</p> <p>2.4. Incorporate multi-use paths and bikeway opportunities throughout to encourage multi-modal forms of transportation</p>
<p><b>3. CULTURE</b></p> <p>Maintain and enhance Franklin’s cultural heritage</p>	<p>3.1. Acknowledge to users the Harpeth River as a key to Franklin’s character and community identity</p> <p>3.2. Maintain and enhance cultural landscape where possible, and protect archaeological resources and historic resources</p> <p>3.3. Consider incorporation of scenic overlooks where appropriate</p> <p>3.4. Coordinate with governing agencies relative to historic/environmental review regulations</p>
<p><b>4. SENSE OF PLACE/AESTHETICS</b></p> <p>Contribute to the community’s greater “Sense of Place” with a strong identity that is consistent with Franklin, Tennessee</p>	<p>4.1. Employ design elements that recognize Franklin’s character, and improve the aesthetic appeal and visual cohesiveness of the corridor</p> <p>4.2. Make appropriate “statement” at Gateway intersections</p> <p>4.3. Utilize native plant material to support aesthetic goals and more fully buffer roadway from adjacent development</p> <p>4.4. Employ native materials where planting and other design features are appropriate</p>
<p><b>5. CONNECTIVITY/LAND USE</b></p> <p>Respect and integrate into land use patterns/community fabric, while facilitating appropriate future uses</p>	<p>5.1. Employ design features that limit road noise, but avoid negative visual impact on corridor aesthetics</p> <p>5.2. Incorporate multi-use paths and bikeway opportunities throughout to encourage connectivity to nearby parks, recreational areas, and community resources</p>

## GOALS AND OBJECTIVES :: SOUTHALL HILLS

GOALS	OBJECTIVES
<p><b>1. ENVIRONMENTAL/ECOLOGICAL</b></p> <p>To be environmentally sensitive to the native landscape of Franklin and employ solutions compatible with known ecological systems</p>	<p>1.1. Fit road into topography, limiting disturbance of the natural environment</p> <p>1.2. Retain as many trees as possible to preserve vegetative diversity and animal habitat</p> <p>1.3. Use innovative practices to minimize soil erosion during and after construction</p> <p>1.4. Design to avoid disturbance of nearby landfill</p> <p>1.5. Minimize impact of roadway on the hydrologic functioning of the landscape</p> <p>1.6. Improve functioning of the area's natural systems where possible</p>
<p><b>2. MOBILITY</b></p> <p>Provide adequate capacity for safe and improved mobility throughout the corridor for multiple modes of transportation, while considering access management</p>	<p>2.1. Incorporate multi-use paths and bikeway opportunities throughout to encourage multi-modal forms of transportation</p> <p>2.2. Employ innovative intersection design that mitigates disturbance to the natural and human environment as possible while meeting the mobility needs the community</p> <p>2.3. Consider appropriate accessibility to all users</p>
<p><b>3. CULTURE</b></p> <p>Maintain and enhance Franklin's cultural heritage</p>	<p>3.1. Maintain and enhance cultural landscape where possible and protect archaeological resources and historic resources</p> <p>3.2. Retain and enhance character-defining features throughout corridor</p> <p>3.3. Coordinate with governing agencies relative to historic/environmental review regulations</p>
<p><b>4. SENSE OF PLACE/AESTHETICS</b></p> <p>Contribute to the community's greater "Sense of Place" with a strong identity that is consistent with Franklin, Tennessee</p>	<p>4.1. Capitalize on the attractive natural features in the area by optimizing scenic views and vistas, potentially incorporating scenic overlooks where appropriate</p> <p>4.2. Design elements shall serve to create a unique user experience, allowing for engagement with natural areas</p> <p>4.3. Ensure route legibility with signage and wayfinding opportunities</p>
<p><b>5. CONNECTIVITY/LAND USE</b></p> <p>Respect and integrate into land use patterns/community fabric, while facilitating appropriate future uses</p>	<p>5.1. Minimize disruption to neighborhood street network and work to enhance community connectivity without negatively impacting community dynamics</p> <p>5.2. Consider appropriate accessibility to all users</p> <p>5.3. Explore cross-section alternatives that respond to width constraints between development and historic resources</p> <p>5.4. Incorporate multi-use paths and bikeway opportunities throughout to encourage connectivity to nearby parks, recreational areas, and community resources</p>

## GOALS AND OBJECTIVES :: WEST HARPETH

GOALS	OBJECTIVES
<p><b>1. ENVIRONMENTAL/ECOLOGICAL</b></p> <p>To be environmentally sensitive to the native landscape of Franklin and employ solutions compatible with known ecological systems</p>	<p>1.1. Consider known environmental factors that may impact design decisions and use innovative methods for responding to these conditions</p> <p>1.2. Minimize impact to the operation of the area's natural systems</p> <p>1.3. Employ native materials where planting are appropriate to encourage habitat improvement and natural diversity</p> <p>1.4. Improve functioning of the area's natural systems where possible</p>
<p><b>2. MOBILITY</b></p> <p>Provide adequate capacity for safe and improved mobility throughout the corridor for multiple modes of transportation, while considering access management</p>	<p>2.1. Utilize a cross-section that engages adjacent development, not segregates it</p> <p>2.2. Employ intersection models that function as character-defining nodes and safely meet the needs of a multi-modal user group</p> <p>2.3. Incorporate multi-use paths and bikeway opportunities throughout to encourage multi-modal forms of transportation</p> <p>2.4. Provide balance between traffic speeds and traffic calming needs in dense population areas</p>
<p><b>3. CULTURE</b></p> <p>Maintain and enhance Franklin's cultural heritage</p>	<p>3.1. Maintain and enhance cultural landscape where possible and protect archaeological resources and historic resources</p> <p>3.2. Recognizing the importance of the rural historic district to the character of Franklin, borrow from native landscape expressions to enhance this aesthetic further</p> <p>3.3. Minimize impact to historic sites</p> <p>3.4. Maintain and enhance views</p> <p>3.5. Coordinate with governing agencies relative to historic/environmental review regulations</p>
<p><b>4. SENSE OF PLACE/AESTHETICS</b></p> <p>Contribute to the community's greater "Sense of Place" with a strong identity that is consistent with Franklin, Tennessee</p>	<p>4.1. Utilize design elements that embody the character of the district, acknowledge its historic and agricultural aesthetic and create an engaging user experience</p> <p>4.2. Ensure route legibility with signage and wayfinding opportunities</p>
<p><b>5. CONNECTIVITY/LAND USE</b></p> <p>Respect and integrate into land use patterns/community fabric, while facilitating appropriate future uses</p>	<p>5.1. Facilitate community connectivity between neighborhoods</p> <p>5.2. Employ design features that minimize road noise, but do not interfere with open views and area aesthetic</p> <p>5.3. Recognizing the regional influence of the corridor, provide appropriate access opportunities that will help shape the path of future land use</p> <p>5.4. Encourage measures that allow for multiple uses in a safe environment</p> <p>5.5. Incorporate multi-use paths and bikeway opportunities throughout to encourage connectivity to nearby parks, recreational areas, and community resources</p>

## GOALS AND OBJECTIVES :: HARPETH RIVER CROSSINGS

GOALS	OBJECTIVES
<p><b>1. ENVIRONMENTAL/ECOLOGICAL</b></p> <p>To be environmentally sensitive to the native landscape of Franklin and employ solutions compatible with known ecological systems</p>	<p>1.1. Explore innovative design models for traversing the floodplain and river that will minimize impact to ecosystems</p> <p>1.2. Preserve and supplement native vegetation</p> <p>1.3. Consider known environmental factors that may impact design decisions and use innovative methods for responding to these conditions</p> <p>1.4. Coordinate with governing agencies to meet or exceed floodplain/floodway and riparian buffer regulations</p> <p>1.5. Be sensitive to, and enhance where possible, existing wildlife corridor</p>
<p><b>2. MOBILITY</b></p> <p>Provide adequate capacity for safe and improved mobility throughout the corridor for multiple modes of transportation, while considering access management</p>	<p>2.1. Provide increased access to, and expanded opportunities for, greenways and recreational areas</p> <p>2.2. Employ intersection design that creates as little disturbance to the natural environment as possible, while still addressing user needs</p> <p>2.3. Incorporate multi-use paths and bikeway opportunities throughout to encourage multi-modal forms of transportation</p>
<p><b>3. CULTURE</b></p> <p>Maintain and enhance Franklin's cultural heritage</p>	<p>3.1. Employ design elements that reveal the Harpeth River's role in the cultural genesis of the area</p> <p>3.2. Maintain and enhance cultural landscape where possible and protect archaeological resources and historic resources</p> <p>3.3. Coordinate with governing agencies relative to historic/environmental review regulations</p>
<p><b>4. SENSE OF PLACE/AESTHETICS</b></p> <p>Contribute to the community's greater "Sense of Place" with a strong identity that is consistent with Franklin, Tennessee</p>	<p>4.1. Explore new design models for river crossings that create a unique user experience acknowledging the water crossing</p> <p>4.2. Employ design elements that support Franklin's unique character in both new and existing corridor areas</p> <p>4.3. Ensure route legibility with signage and wayfinding opportunities</p>
<p><b>5. CONNECTIVITY/LAND USE</b></p> <p>Respect and integrate into land use patterns/community fabric, while facilitating appropriate future uses</p>	<p>5.1. Acknowledge disruption to neighborhood street network and recreational areas and work to maintain community connectivity</p> <p>5.2. Incorporate multi-use paths and bikeway opportunities throughout to encourage connectivity to nearby parks, recreational areas, and community resources</p> <p>5.3. Employ design features that minimize road noise, but avoid negative visual impact on corridor aesthetics</p> <p>5.4. Recommend context sensitive construction be utilized to minimize impact on existing community</p>

## 2.6 :: public involvement

Realizing the vision for Mack Hatcher Parkway through Context Sensitive Design was a collaborative effort that required cooperation and consensus among the CDT, ART, TDOT, the consulting team, and public stakeholders involved in the project. Beginning with the introductory training workshop and building session-by-session, contextual understanding of the corridor was developed. This careful and incremental process worked to build consensus by informing and including all participants, while at the same time raising the public's level of awareness.

The unique context surrounding MHP will be significantly influenced by the extension of this transportation facility. The residents of Franklin are a part of this unique context and have a stake in the MHP project. Therefore, the CSD process was a vital means of maintaining the important

balance between the goals of safety and mobility and the preservation and enhancement of aesthetic, historic, environmental, and community resources by involving the very community that the roadway will impact.

Public involvement ensures that the cultural heritage of the local community is preserved. By involving the people affected by the project and working with various constituencies to reach consensus on major community decisions, the CSD process represents a community effort of which citizens can and should be proud. Community involvement is the cornerstone of a successful project and promotes an all-inclusive process that evokes acceptance from local leaders as well as the wider public.

The recommendations set forth in this document are not only a product of efforts by the CDT and the City of Franklin leadership, but from the wider public as well. The CDT was formed to provide representation for all areas of Franklin and all working meetings of the CDT were open to the public. Public comment periods were set aside for each meeting. Two public meetings were conducted to inform and update the citizens of Franklin on the CSD process and, most importantly, gain their input. The first meeting was held Thursday, October 19, 2006 at Freedom Middle School from 6 p.m. to 8 p.m. in Franklin, TN and had a total attendance of approximately 140 citizens and interested members of the public, CDT members, City leadership, TDOT staff, and consulting team members. The meeting provided the opportunity to inform citizens of the CSD process and invited them to share their thoughts.



The meeting was hosted by the CDT with guidance from TDOT and the consulting team. CDT members were responsible for introduction and closing remarks, as well as for assisting TDOT and the consulting team in answering the public's questions. Flyers were circulated several weeks before the meeting at various public locations surrounding the project to announce the date and location of the meeting, and notification was provided in local newspapers, on TDOT's website, and at CDT meetings. A brief PowerPoint presentation introduced the Citizen Design and Agency Resource Teams to the public, introduced the public to the context sensitive design process, and gave a brief overview of the project, including consensus items reached. Following a question and answer period that included questions concerning the selected alignment, project timing, and fiscal issues, the audience was dismissed to the Character Segment stations.

Four stations representing each of the four character segments were set up with visualization materials including maps, illustrations of various intersection types, and other design elements. Members of the CDT, TDOT, and the consulting team were available to answer questions. Additionally, a court reporter was provided for those who wished to make an official statement. The results of the public comments were compiled and are summarized in the Appendix.

The second meeting was conducted on Thursday, January 25, 2007 at the same location from 6:30 p.m. to 8:30 p.m. with an approximate attendance of 100 citizens and interested members of the public, CDT members, City leadership, TDOT staff, and consulting team members. This public meeting allowed the CDT to present and discuss the final Context Sensitive Design concepts for the proposed and existing Mack Hatcher Parkway.



A brief PowerPoint presentation provided an update of the process including developments since the last meeting, such as updated consensus items and landscape design recommendations. Video simulations, which provided a visual sense of before and after conditions, were presented. The simulations also gave the public a sense of the process and proposed design recommendations. Simulations, photos, computer renderings, and other graphics/visualization tools were utilized extensively throughout the CSD process, and particularly during the public meeting process. These visualization tools are described further in Chapter 4. As in the first meeting, the Character Segment stations were utilized to allow the public to review updated design elements, ask questions, and provide comments. The result of the public's comments and statements submitted to the court reporter can be found in the Appendix.



# SECTION THREE

MACK HATCHER



P A R K W A Y

# CONSENSUS BUILDING

### 3.1 :: traffic analysis

One of the key decisions in determining what characteristics a roadway must have is the amount of traffic that will utilize the facility on a daily basis. Specifically, traffic volumes help to determine the number of lanes required, what types of intersections might be appropriate, and what type of access control is needed.

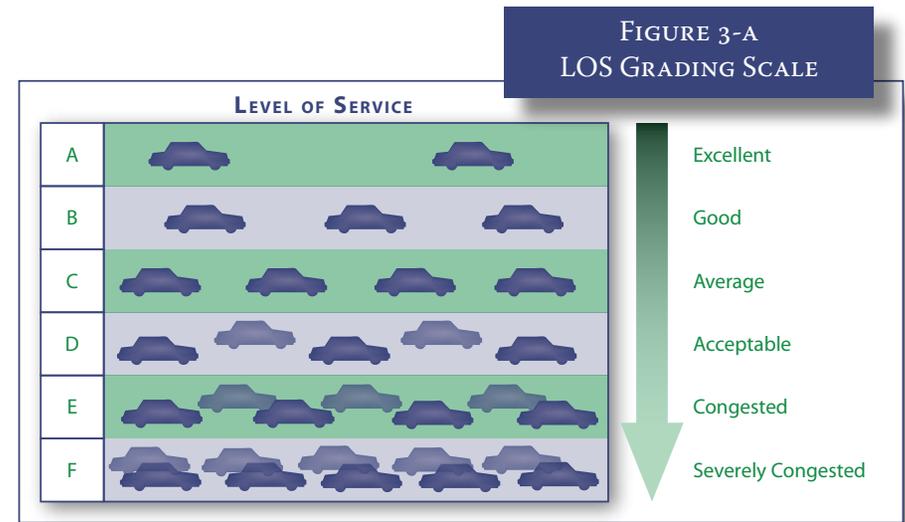
As part of the CSD process, CDT members were presented with the year 2030 projected traffic volumes for key sections of the existing and proposed MHP. This enabled the group to make informed decisions on the number of lanes and intersection types that are most appropriate for the facility. Following is an overview of the traffic volume data as presented to the CDT.

#### 2030 TRAFFIC VOLUMES

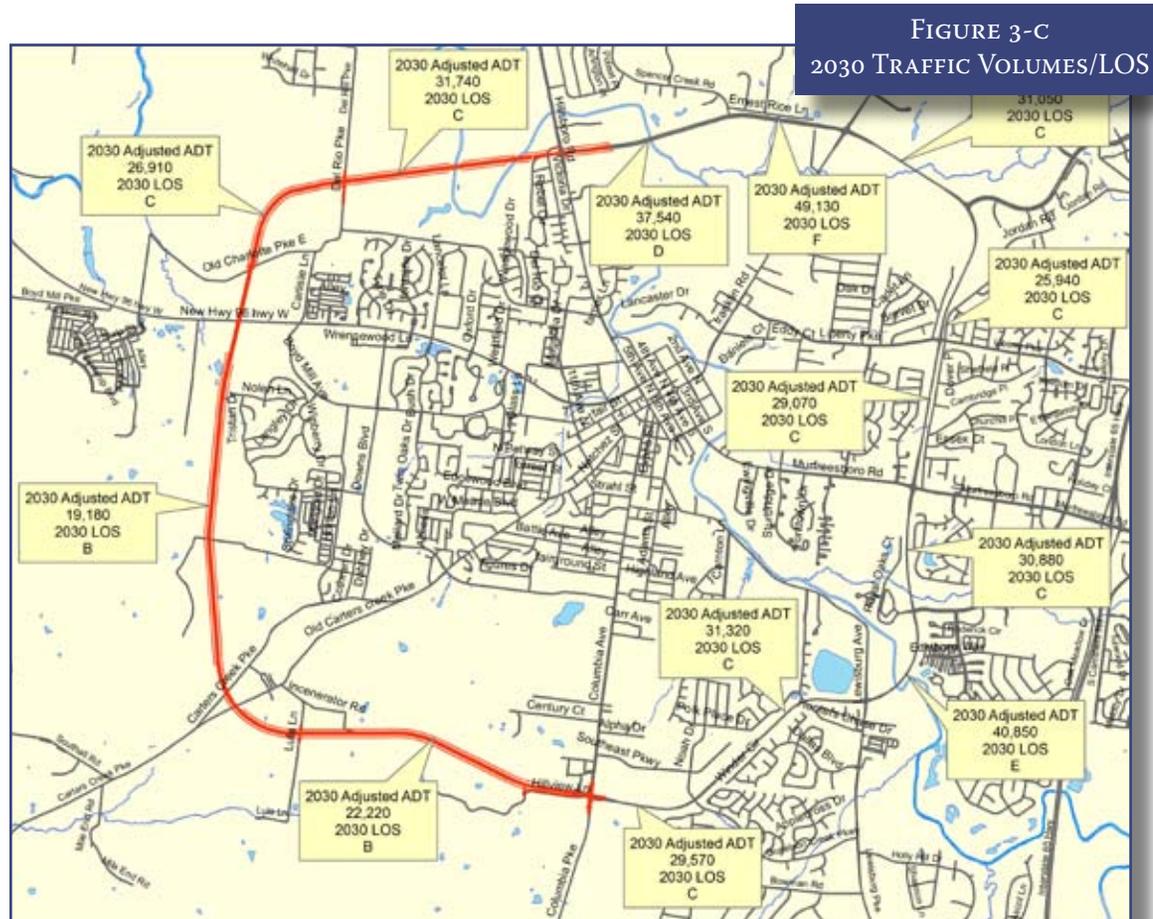
When determining the needs for a roadway facility, it is necessary to consider the amount of traffic that will utilize the facility several years into the future. This helps ensure that the roadway will not become obsolete soon after its completion due to congestion. The best tool available for determining the amount of traffic that might use the facility in the future is called a travel demand model. A travel demand model utilizes projected socioeconomic data such as population and employment to determine how much traffic will be produced in the future and which roadway facilities will be utilized by the motoring public. Using the travel demand model along with TDOT’s mechanism for further refining the outputs of the model, traffic projections

for MHP were developed for the year 2030 and presented to the CDT for consideration in their decision making process.

Traffic volumes are expressed in terms of Average Annual Daily Traffic (AADT), which represents the number of vehicles that pass a certain point within a 24 hour period. Perhaps a better indicator or representation of how well a facility performs in moving traffic is Level of Service (LOS), which is a qualitative measurement of a roadway operation and is based on facility type, number of lanes, and traffic volumes. LOS is expressed by assigning the letters “A” through “F” and is very similar to the educational system grading scale with “A” being excellent, “C” representing average, and “F” representing failure (see Figure 3-A and Figure 3-B).



As seen in the (Figure 3-C) map of the projected traffic volumes and levels of service for MHP in 2030, all but three locations operate at an acceptable LOS of “C” or better. Of the three locations that do not operate at an acceptable LOS, only one has a LOS of “F,” with the other two operating at LOS “D” and “E.” It is also worth mentioning that the three locations that do not meet acceptable levels of service are located on the existing portions of MHP, and the best levels of service (“B”) are in the southwest sections of the corridor in the character segments of Southall Hills and West Harpeth.



LEVEL OF SERVICE	DESCRIPTION
A	Represents free-flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high.
B	Within the range of stable flow, but the presence of others in the traffic stream begins to be noticeable. Freedom to select desired speed is relatively unaffected, but there is slight decline in the freedom to maneuver within the traffic stream.
C	Within the range of stable flow, but LOS C marks the beginning of the range of flow in which operation of individual users becomes significantly affected by interactions with others in the traffic stream.
D	LOS D represents high-density, but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.
E	LOS E represents operating conditions at or near capacity levels. Freedom to maneuver within the traffic stream is extremely difficult. Comfort and convenience levels are extremely poor, and driver frustration is generally high.
F	LOS F is used to define forced or breakdown flow. This condition exists when the amount of traffic approaching a point exceeds the amount which can traverse the point.

Source: *Highway Capacity Manual*, TRB 2000

### 3.2 :: facility type

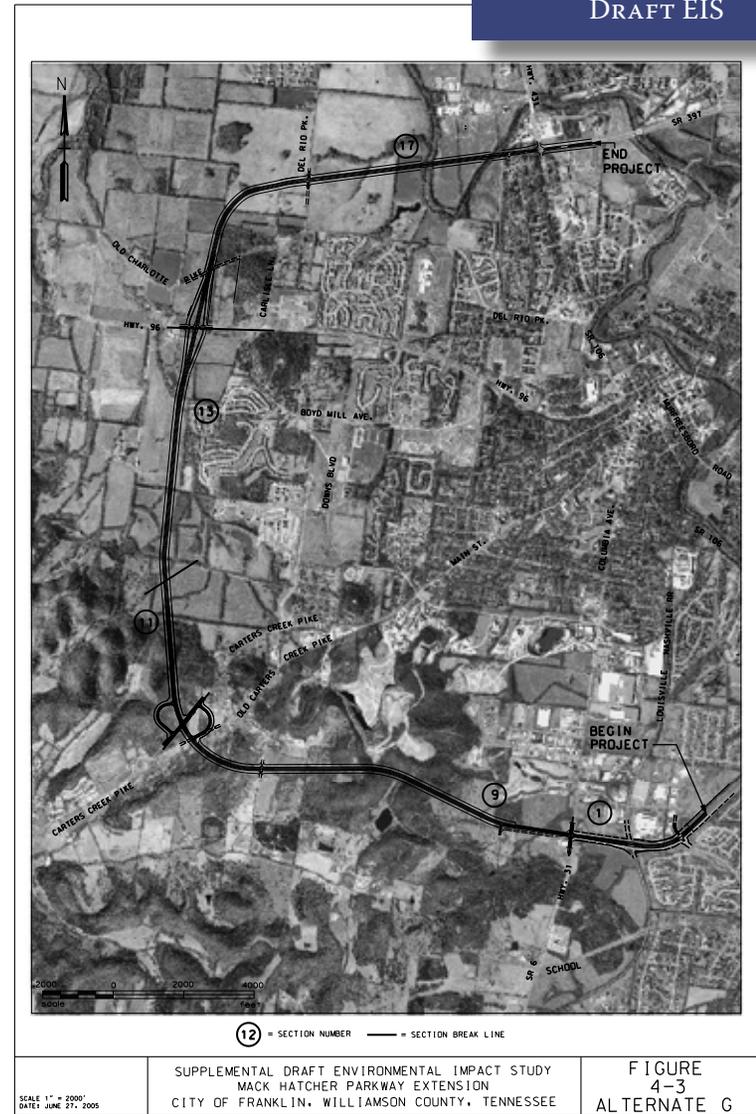
#### DRAFT EIS RECOMMENDATION

With the proposal of any major roadway that receives federal funding and is determined to have potential impacts to the environment, an Environmental Impact Statement (EIS) is required to determine the significance of those potential impacts that may result from its construction. While the existing portion of Mack Hatcher Parkway does not require an EIS, the proposed extension of Mack Hatcher Parkway does. The Draft Environmental Impact Statement (DEIS) for this proposed roadway recommends a four-lane, divided, limited-access facility with 250 feet of right-of-way, which is consistent with some sections of the existing segment of Mack Hatcher Parkway. The design speed of the proposed roadway is 60 mph.

#### CDT RECOMMENDATION

The CDT considered several facility types for Mack Hatcher Parkway including expressway, major arterial, and minor arterial. After being presented the various facility types and their characteristics, the CDT decided not to focus on the actual functionally classified facility type, but did recommend a limited access roadway for its full alignment (existing and proposed). This is consistent with the DEIS recommendation. This recommendation was primarily based on the material presented to the CDT in one of the working meetings, the recommendation from the DEIS, and information from other key documents such as the City of Franklin Major Thoroughfare Plan, Roadway Enhancement Master Plan, and Land Use Plan.

**FIGURE 3-D  
 DRAFT EIS**



## CROSS-SECTION

There were three cross-section options presented to the CDT for Mack Hatcher Parkway. One option was to continue the existing section of MHP between Hillsboro Road (SR 106) and Franklin Road (SR 6) with four lanes, a depressed median, and paved outside shoulders (see photo at right). The second option presented was a four-lane, raised median with outside shoulders, and curb and gutter. The third option was a four-lane, raised median with curb and gutter on the inside shoulder and a grass stabilized shoulder on the outside shoulder. The group decided that for the majority of the entire route, the second option of four lanes, raised median, outside shoulders, and curb and gutter would be more appropriate for this roadway based on the expected types of development and the intended use of the facility as a major thoroughfare.

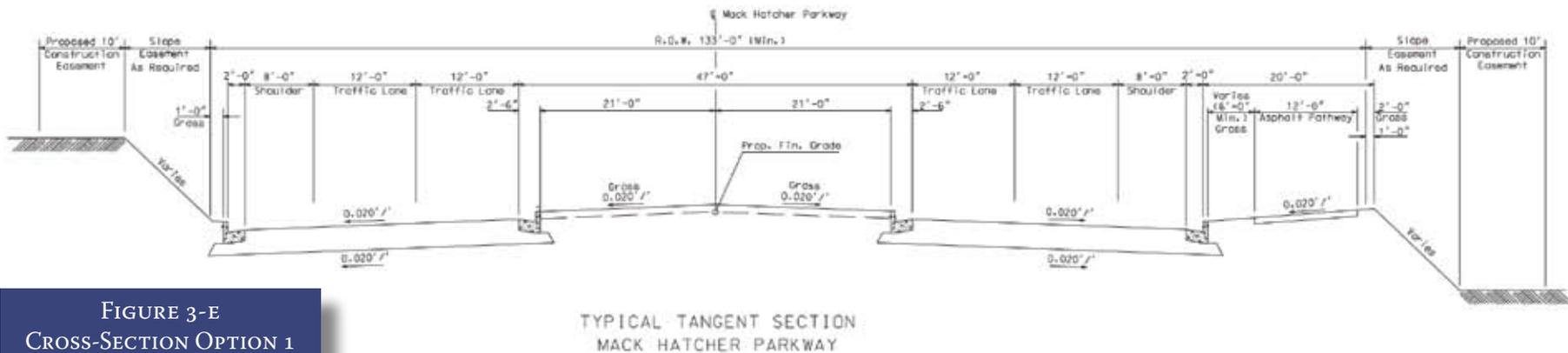
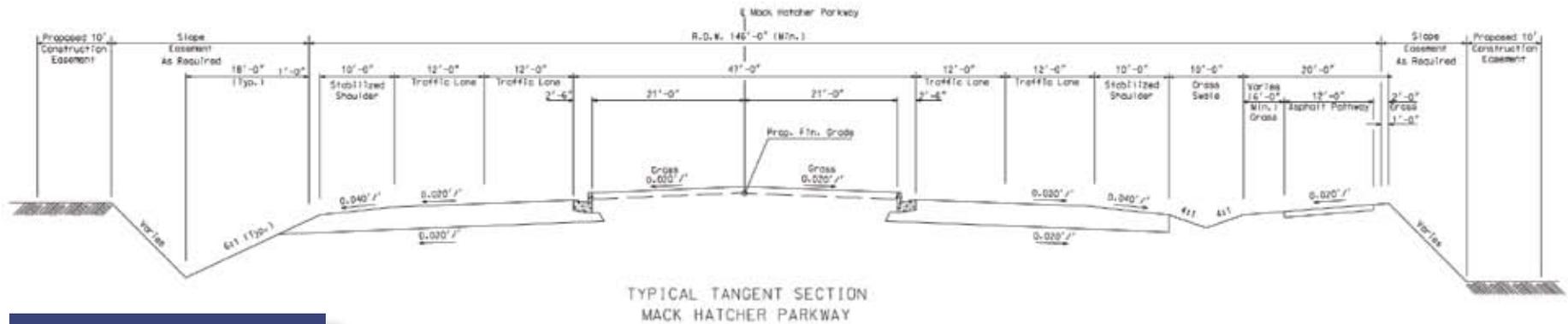


FIGURE 3-E  
CROSS-SECTION OPTION 1



**FIGURE 3-E  
CROSS-SECTION OPTION 2**

The West Harpeth character segment between State Route 96 West and the beginning of the Harpeth River Crossings character segment is the only exception. It was determined by the CDT that this section of the facility, with its historic district and open pasture lands, would be appropriately served by the third option of a four-lane, raised median with curb and gutter on the inside shoulder and a grass stabilized outside shoulder. The CDT specifically discussed and decided on a cross-section approach for each character segment. Following are some of the detailed discussions and descriptions of why each cross-section was chosen.

The Existing Corridor is to have curb and gutter with a raised median and outside shoulders. The existing conditions include a two-lane cross-section with an open ditch drainage system in some areas, which is not consistent with the recommendations for the other segments of MHP. The CDT decided that the cross-section should be consistent for the majority of the roadway that includes four lanes, curb and gutter, a raised median, and shoulders.

The Southall Hills segment will have curb and gutter, a raised median, and outside shoulders; and should maintain as tight a cross-section as possible after Hillview Lane. Curb and gutter would allow for a smaller cross-section and would be less invasive in this predominantly rural area. This recommendation was decided upon to maintain the rural feel and character of the area. Bifurcated travel lanes are also to be used, if and where necessary and feasible, to mitigate further intrusion.

The West Harpeth segment is the only segment where a cross-section that includes grass stabilized shoulders with no outside curb and gutter is recommended. This is recommended for only the portion of the character segment from Highway 96 West to the beginning of the Harpeth River Crossings character segment. Because much of this area is in a historic district, grass shoulders were chosen because they tend to fit better with the historic character of the area with its pastoral views. This cross-section (like the others) includes a raised median. South of State Route 96 West, the cross-section will include paved outside shoulders and curb and gutter.

The Harpeth River Crossings segment is recommended to have curb and gutter, a raised median, and outside shoulders. This area is consistent with the existing corridor's features (from Hillsboro Road to Spencer Creek Road) in terms of development and topography. Much of this character segment consists of the Harpeth River area. For this reason, this section will consist of two parallel bridges that span the two river crossings. This is discussed in further detail in Section 3.5 of the report.

### MULTI-USE PATH/SIDEWALK FEATURES

Multi-Use paths are facilities exclusively designated for walking, biking, skating, and other non-motorized forms of travel. The CDT recommends a multi-use path for the entire length of Mack Hatcher Parkway; roughly 12.5 miles. This recommendation is consistent with plans outlined in the City of Franklin Bike and Pedestrian Plan Update (June 2003,) (Figure 3-F), and the Franklin Land Use Plan (2004). This path would serve to link neighborhoods, provide recreational opportunities for area residents, and help to protect sensitive cultural and environmental areas through preservation of open space. The City of Franklin has several existing greenways, but the

current system overall remains fragmented. The proposed multi-use path along the MHP route would serve to link many of these disparate parts into a unified whole. The multi-use path would connect to and from existing neighborhood sidewalk networks, as well as provide links to amenities such as the Williamson County Recreation Center, Roper's Knob, and the Winstead Hill Historic Area.

FIGURE 3-F  
BIKE & PEDESTRIAN PLAN

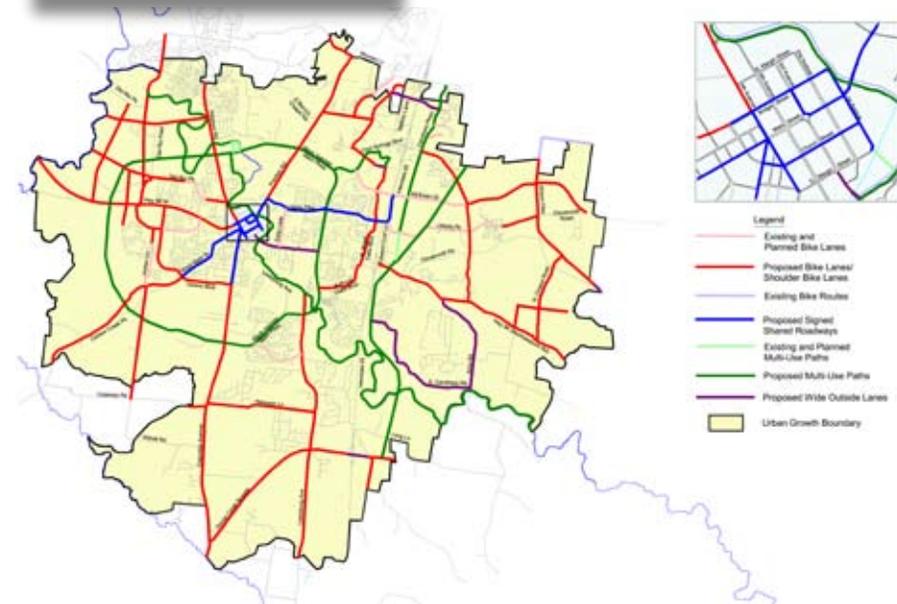


FIGURE 3-G

It is recommended that the multi-use path be a 12-foot wide, hard-surfaced lane able to accommodate a variety of non-motorized travel.

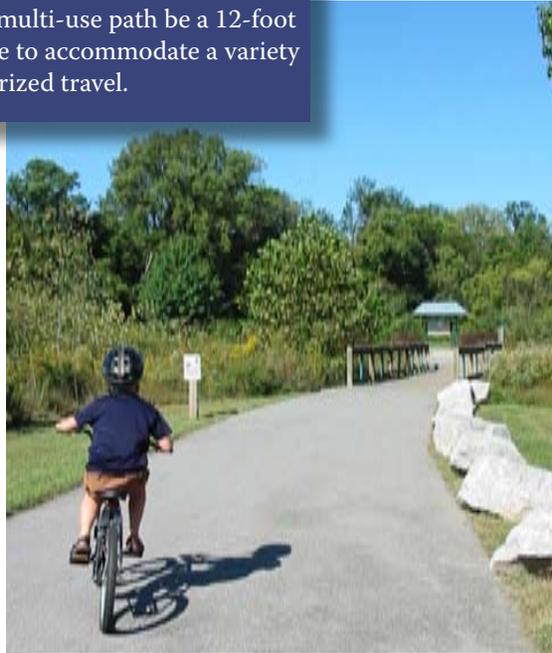


FIGURE 3-I

The path should incorporate a unified system of way-side exhibits at key interpretive opportunities, adding an interesting educational element



FIGURE 3-H

A meandering design, where feasible, is encouraged to provide user interest and aesthetic appeal.

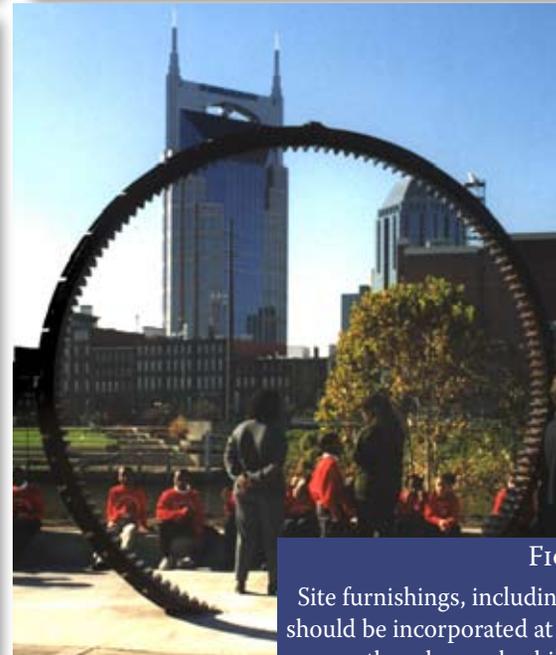


FIGURE 3-J

Site furnishings, including benches and trash receptacles, should be incorporated at appropriate locations. The multi-use path and may also highlight local and regional artists through installments of public art.

## TRAILHEADS

Trailheads are nodes along the path system; either points of beginning for an access trail or key locations where the path intersects with other path components, such as a community sidewalk. With a contiguous system, as proposed around the MHP loop, there are many potential locations to enter and exit the multi-use path.

Primary trailheads are to be located at prominent points of beginning and specific community facilities that are in close proximity to the multi-use path. These trailheads should provide vehicular parking to allow a greater number of area users to access the path system. In many cases, the location of these trailheads could take advantage of existing parking facilities. Additional features of a primary trailhead include benches, bike racks, trash receptacles, wayfinding and interpretive signage, and access to a water fountain and/or rest room facilities (Figure 3-K).

Secondary trailheads have the same features as the primary trailheads, with the exception of vehicular parking. These are smaller nodes, generally located at minor intersections or connections to neighborhood-scale sidewalk systems (Figure 3-L).

The map (Figure 3-M) shows proposed locations for trailheads and waysides around the MHP loop based on existing development patterns and connections to proposed and existing greenways. As Franklin continues to grow, opportunities for additional locations of trailheads should be studied and identified to meet the growing demand of area residents.



FIGURE 3-K  
PRIMARY TRAILHEAD



FIGURE 3-L  
SECONDARY TRAILHEAD



FIGURE 3-M  
TRAILHEAD LOCATIONS

## CONSENSUS ITEMS FOR FACILITY TYPE

- FACILITY TYPE

- *MHP will be a four-lane, limited access facility for its full alignment.*

- CROSS-SECTIONS

- Existing Corridor – curb and gutter with the consideration of additional landscaping in the buffer area where feasible
  - Southall Hills – since no survey has been conducted, the group consensus for the roadway in this character segment is that MHP should be minimally invasive by maintaining as tight a cross-section as possible
  - West Harpeth – a narrow road with curb and gutter and to slide the alignment as far away from existing neighborhoods as possible; *After revisiting the cross-section type for this character segment, the CDT decided that a grass shoulder from Highway 96 to the Harpeth River bridges would be a better fit for the historic context in this area*
  - Harpeth River Crossings – the section from Hillsboro Road to Spencer Creek Road match the existing corridor, which is proposed curb and gutter, with the consideration of a wider raised median

- MULTI-USE PATH/SIDEWALK NETWORK

- Existing Corridor – a multi-modal path with the understanding that there may be instances when it is not feasible and bikes and pedestrians will need to be separated
  - Southall Hills – a multi-use path; for Hillview Lane, the multi-use path will be on the outside of the roadway, but

should cross back over to the inside of MHP at the closest intersection; sidewalks are only to be used on the bridges or in those areas where multi-use paths are not feasible

- West Harpeth; Highway 96 to Southall Hills character segment – a multi-use path will be used on the inner side of MHP
- West Harpeth; Highway 96 to Harpeth River Crossings character segment – a separated multi-use path on interior of MHP
- Harpeth River Crossings – The group consensus from Hillsboro Road to Spencer Creek Road is a multi-use path with no sidewalks; there was also consensus that the section from Hillsboro Road through both river crossings should have a multi-use path on one bridge and a sidewalk on the other; the section from the end of the bridges to Del Rio Pike should be multi-use path only to match the West Harpeth character segment

### 3.3 :: access management

Access management is typically defined as the coordination between land access and traffic flow. The basic premise of access management is to preserve and enhance the performance and safety of the major roadway system. It manages congestion on existing transportation facilities and protects the capacity of future transportation systems by controlling access from adjacent development. The CDT utilized this premise to determine the number and location of access points along the Mack Hatcher Parkway facility.

#### DRAFT EIS RECOMMENDATION

The DEIS for the proposed extension of Mack Hatcher Parkway recommends interchanges at Carters Creek Pike and Highway 96 West, along with at-grade intersections at US 31 (SR 6, Columbia Pike) and US 431 (SR 106, Hillsboro Road). The project ends just east of the intersection of Hillsboro Road and existing Mack Hatcher Parkway north of the city. The DEIS further states that the extension is a proposed limited access facility and has been identified as a corridor to contain a multi-use path that will be separated from motorized vehicular traffic by an open space or barrier and can be located within a road right-of-way or an independent right-of-way.

#### CDT RECOMMENDATION

The CDT agreed with the recommendations set forth in the DEIS that MHP will be a limited access controlled facility for its full alignment (existing and proposed). Consensus was reached among the group to allow access to Mack Hatcher Parkway at the points men-

tioned in the DEIS; however, based upon information that became available after the DEIS process was complete, the group recommended future analysis of potential additional access points between Highway 96 West and Carters Creek Pike, as well as an additional access point to be located in the Hillview Lane area. The addition of access points to the proposed roadway may require revisions to the DEIS and result in delays to the project. Therefore, the CDT chose to recommend that future analysis of potential access points be considered once those sections of the roadway get nearer to design and construction. Additional discussion of the additional access points continues on the facing page.

The defined access points decided on by the CDT are as follows: Hillsboro Road, Spencer Creek Road, Franklin Road, Cool Springs Boulevard, Liberty Pike, Highway 96 East, Royal Oaks Boulevard, Lewisburg Pike, Polk Place, Southeast Parkway, Columbia Avenue, Carters Creek Pike, Highway 96 West, and Del Rio Pike. Del Rio Pike, Highway 96 West, and Carters Creek Pike are proposed as part of the western extension of Mack Hatcher Parkway and do not currently exist. The remaining access points are part of the Existing Corridor.

This recommendation was primarily based on the material presented to the CDT during several working meetings, including current and projected traffic volumes, the recommendation from the DEIS, and information from other key documents such as the City of Franklin Major Thoroughfare Plan, Roadway Enhancement Master Plan, and Land Use Plan.

Since MHP has been established as a limited access facility, there was much discussion during the CSD process to determine whether there was a need for additional points of access. After much deliberation, the CDT decided that future analysis of additional access points would be recommended between Highway 96 West and Carters Creek Pike and in the Hillview Lane area. This decision was based on the significant impact the Westhaven development will have on traffic near Highway 96 West and historical property adjacent to the Hillview Lane area.

### ADDITIONAL ACCESS POINTS

The decision to recommend future analysis of an additional access point between Highway 96 West and Carters Creek Pike was influenced by traffic volume issues generated from the Westhaven development, which became apparent after the DEIS process was completed. Westhaven is a Traditional Neighborhood Development located on 1,500 acres just a few miles west of the future intersection of Mack Hatcher Parkway and Highway 96 West. When complete, Westhaven will consist of five neighborhoods and 2,000 single-family homes, live/work retail spaces, and condominiums. Westhaven's community design also includes plans for an elementary school. The Westhaven community was represented on the Citizen Design Team, and members of the community had a considerable presence at both public meetings. Westhaven residents would like to see direct access to Mack Hatcher Parkway at Townsend and Championship Boulevards. Public meeting comments can be found in the Appendix. The Westhaven Master Plan proposes two access points that are in harmony with the Franklin Major Thoroughfare Plan, but the Plan

does not identify whether they are at-grade or grade-separated. The CDT is recommending that any additional access points to the MHP facility be located to serve the transportation needs of the residents and development in the community and be consistent with the City of Franklin's Major Thoroughfare Plan.

The recommendation to analyze access to MHP in the Hillview Lane Area correlates with the recommendations for the multi-use path. The group consensus is a multi-use path on the inner side of MHP for all character segments except for instances when it is not feasible, such as Hillview Lane. At Hillview Lane, the multi-use path will be on the outside of the roadway to preserve a line of trees that are directly adjacent to a historic civil war battlefield (see Figure 3-N). In this instance, Hillview Lane becomes the multi-use path so residents will no longer have access to MHP unless a new access point is created.



FIGURE 3-N  
HILLVIEW LANE

## POINTS OF INTERSECTION WITH NO ACCESS TO MHP

There are several instances where the proposed Mack Hatcher Parkway intersects existing roadways that will not have access to the new facility. This occurs in the Southall Hills character segment at Lula Lane and in the West Harpeth character segment at Davidson Drive and Old Charlotte Pike. The group consensus is for these points of intersection to remain functional, consistent with the City's MTP and

continue to be accessible to residents while addressing each crossing in the following order of preference:

1. Cul-de-sac each end of Old Charlotte Pike at the intersection of MHP
2. Lula Lane or Old Charlotte Pike passes under MHP
3. Lula Lane or Old Charlotte Pike passes over MHP

FIGURE 3-O  
SOUTHALL HILLS CHARACTER SEGMENT

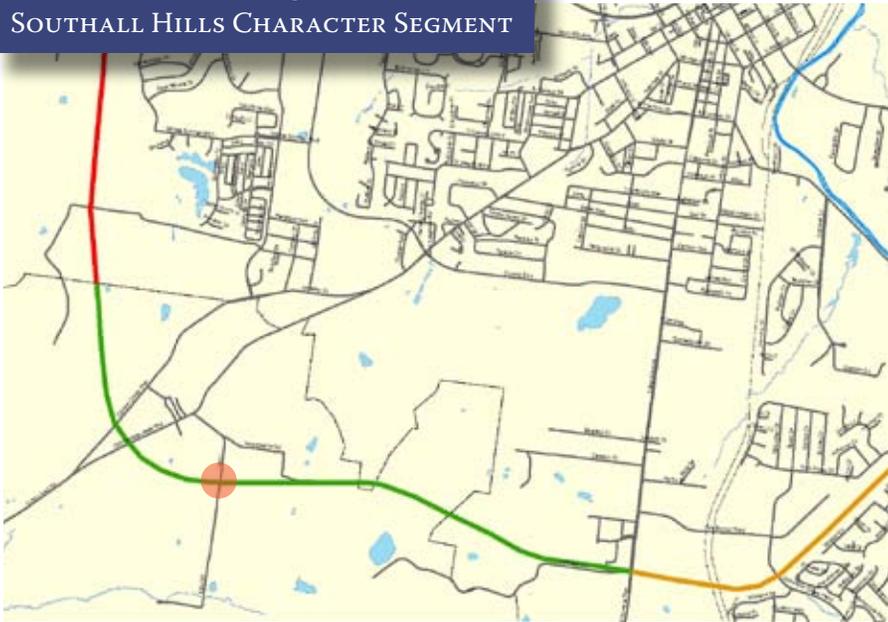


FIGURE 3-P  
WEST HARPETH CHARACTER SEGMENT

## CONSENSUS ITEMS FOR ACCESS MANAGEMENT

- ACCESS POINTS

- Those access points defined in the DEIS were the only ones to be considered in this CSD process.
- The group decided that future analysis of additional access points would be recommended between the proposed interchanges of Highway 96 West and Carters Creek Pike, as well as in the Hillview Lane area.
- The defined access points were as follows: Hillsboro Road, Spencer Creek Road, Franklin Road, Cool Springs Boulevard, Liberty Pike, Highway 96 East, Royal Oaks Boulevard, Lewisburg Pike, Polk Place, Southeast Parkway, Columbia Avenue, Carters Creek Pike, Highway 96 West, and Del Rio Pike.

- ADDITIONAL ACCESS POINTS & CROSSINGS

*Any additional access points to the MHP facility should be located to serve the transportation needs of the residents and development in the community and be consistent with the State and City*

*of Franklin's Major Thoroughfare Plans. The group recommended consideration of additional access points not previously identified in the DEIS, at the following locations:*

- Between Highway 96 West and Carters Creek Pike
- Hillview Lane Area

- MHP CROSSINGS

*Lula Lane and Old Charlotte Pike should remain functional, consistent with the City's MTP, and continue to be accessible to residents while addressing each crossing in the following order of preference:*

1. Cul-de-sac each end of Old Charlotte Pike at the intersection of MHP
2. Lula Lane or Old Charlotte Pike could go under MHP
3. Lula Lane or Old Charlotte Pike could go over MHP

## 3.4 :: intersection types

### 3.4.1 :: AT-GRADE INTERECTIONS

At-grade intersections are the most common type of intersection utilized on roadways today. At-grade intersections are defined as the intersection of two or more roadways that join on the same vertical plane. The result is that vehicles entering the intersection from different approaches may be in conflict with one another. To avoid conflicts, right-of-way is typically assigned by one or a combination of the following measures: yield signs, stop signs, roundabouts, or traffic signals. The CSD process for MHP has resulted in the recommendation of three different types of intersection control for at-grade intersections, including roundabouts, stop control, and traffic signals.

#### ROUNDABOUTS

Circular intersections are present in various forms throughout the world; however, there are specific characteristics that define the modern roundabouts recommended during the MHP context sensitive design process and distinguish them from traffic circles (and larger rotaries). Modern roundabouts use yield signs to control right-of-way at the intersection and entering traffic always yields to circulating traffic. Traffic circles may use stop signs or traffic signals, and right-of-way may be given to entering vehicles. Pedestrian access at roundabouts is limited to the perimeter of the circular intersection, while some traffic circles allow access to the center island, which can be quite large. Other distinguishing features of roundabouts include the prohibition of parking within the circular area, the

ability to accommodate large trucks, and counterclockwise vehicle flow. Modern roundabouts are designed with safety in mind so that vehicles are required to reduce their speed prior to entering the intersection. Intersections recommended for control with roundabouts are Spencer Creek Road, Del Rio Pike, Highway 96 west, and Carters Creek Pike.

#### STOP CONTROL

Right-of-way control with stop signs should be familiar to most motorists. Intersections controlled with stop signs can be of either the two-way or all-way stop variety. At two-way stop intersections, one roadway is assigned priority over the other and vehicles on only one of the roadways are required to stop and yield the right-of-way, while vehicles on the prioritized roadway are not required to stop. All-way stop intersections are used when no roadway has a noticeable priority and all vehicles entering the intersection are required to stop and yield the right-of-way according to motor vehicle codes. A two-way stop controlled intersection has been recommended at the intersection of MHP and Polk Place, with MHP being given priority.

#### TRAFFIC SIGNALS

Traffic signals are typically used in situations similar to those of an all-way stop when traffic volumes exceed the capacity of those that a stop controlled intersection is capable of accommodating. Traffic signals can be configured in a variety of different layouts and designs and may be constructed so that aesthetics are given a high priority. The unifying feature

of all traffic signals in the United States is the way they assign right-of-way to vehicular and pedestrian traffic. Vehicles are assigned right-of-way when a green signal is displayed to them, while all conflicting movements are shown red signals. Pedestrians are assigned the right-of-way when shown a “walk” indication. Both vehicles and pedestrians are provided a clearance interval that allows them to leave the intersection prior to another movement being assigned the right-of-way. The CDT has recommended traffic signals at the following intersections on MHP: Franklin Road, Hillsboro Pike, Columbia Avenue, Southeast Parkway, Lewisburg Pike, Royal Oaks Boulevard, Highway 96 East, Liberty Pike, and Cool Springs Boulevard.

### 3.4.2 :: GRADE SEPARATED INTERSECTIONS

Grade separated intersections, or interchanges, are commonly found on high volume roadways with access control such as freeways and expressways. A grade separated intersection allows all or some of the traffic on different roadways to pass unrestricted in different vertical planes. This eliminates conflicting vehicle movements and thus the need to assign right-of-way to a particular movement. Grade separated intersections are costly to construct since a bridge-type structure is usually necessary and, as a result, are normally only considered when the movement of high vehicular volume is considered a priority. Grade separated intersections are distinguished by the configuration and control of the roadways. One type of grade separated intersection is the single point urban interchange (SPUI). SPUIs are an advantageous solution when space requirements are minimized because of the compact design. Vehicles entering or exiting the freeway are controlled with a traffic signal at a single intersection located

above or below the free-flow traffic. Because traffic is controlled with a single intersection, SPUIs are able to accommodate large volumes of traffic in a relatively efficient manner. A single grade separated SPUI has been recommended at the intersection of Mack Hatcher Parkway and Franklin Road through the context sensitive design process.

### 3.4.3 :: INTERSECTION ANALYSIS & RECOMMENDATIONS

As described in section 3.3, the location of intersections along the proposed portion of MHP was predetermined and analyzed as a part of the Environmental Impact Study. Existing intersections on MHP are to remain once the eastern section is reconstructed. Therefore, the charge of the CSD process was to determine the most appropriate type of intersection control given the issues that had been identified, the expected traffic and pedestrian volumes, and environmental surroundings.

#### ISSUES IDENTIFIED

Prior to presenting intersection options to the CDT, the Agency Resource Team (ART) identified known issues that had the potential to guide decisions that would be made regarding functional intersection types. The primary issue in determining which type of intersection control could be used was intersection capacity, or the traffic volumes an intersection is capable of accommodating efficiently. Roundabouts are capable of handling significant volumes of traffic in both the single lane and double lane configuration; however, there are limits to the traffic volumes they can efficiently accommodate. Beyond that limit, traffic signals become necessary to move traffic through the intersection and avoid gridlock. Although traffic signals perform well enough to move larger volumes of traffic than

roundabouts, they also have their limits. Traffic volumes that exceed what a traffic signal can accommodate necessitate grade separation of the intersection, allowing one or more directions of travel to flow freely. Intersection capacity was discussed at length throughout the CSD process and presentations were provided in an effort to educate CDT members on the concept.

In addition to the issue of intersection capacity, three specific issues were identified, including access management, intersection spacing, and multi-use path access. Access management is a concept described as “when access increases, mobility decreases” and vice versa. The CDT was faced with the challenge of providing the necessary access to Mack Hatcher Parkway while maintaining an acceptable level of mobility throughout the corridor. The spacing of intersections on the existing portion of Mack Hatcher Parkway is much tighter than of those on the proposed section. More closely spaced intersections can provide a challenge when attempting to achieve efficient operation; however, if enough roadway capacity is present, traffic signals can be operated in coordinated systems that allow for the orderly movement of vehicles. Intersections that are spaced further apart allow for more flexibility in design. Pedestrian and bicyclist safety was identified as a concern any time the multi-use path was required to cross vehicular traffic. Intersection design can be very instrumental in providing safety for non-motorists.

### INTERSECTION ANALYSES

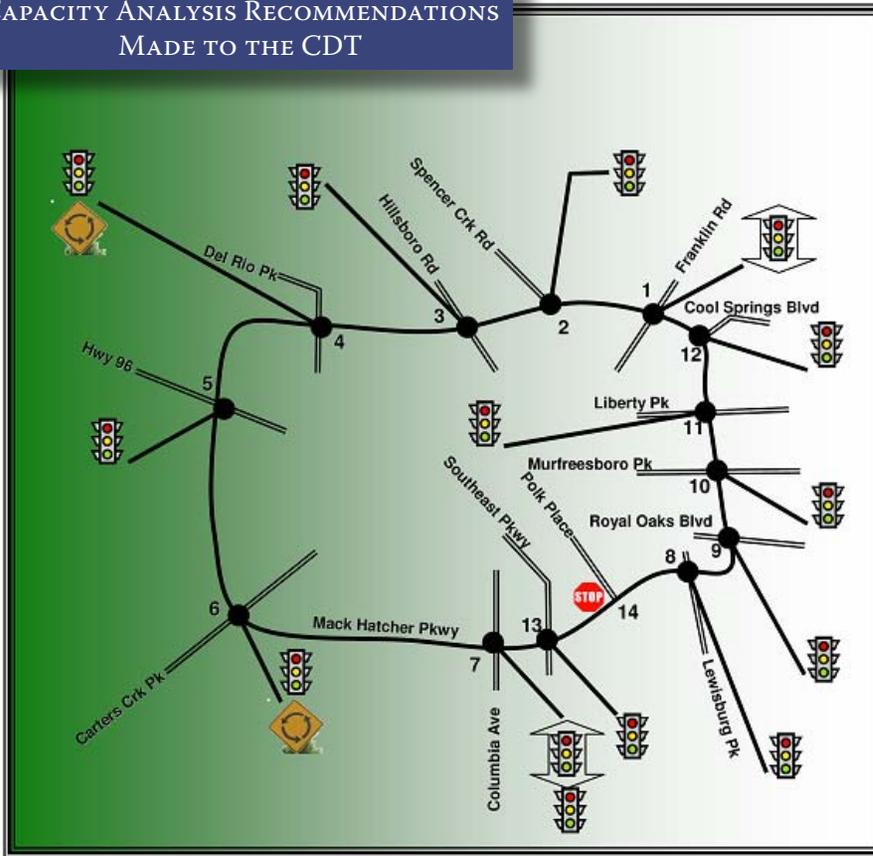
Capacity analyses using anticipated year 2030 traffic volumes were performed at all intersections along the existing and proposed sections of Mack Hatcher Parkway for the purpose of assisting the CDT in determin-

ing which intersection type would be most appropriate. Both roundabouts and signalized intersection control were analyzed at each intersection, as well as the possibility of utilizing grade separated intersections where necessary. From these analyses, recommendations were made to the CDT as to which type of intersection designs were appropriate at all 14 intersections around Mack Hatcher Parkway. The results are summarized and represented graphically and in tabular format as Figure 3-Q and Figure 3-R (facing page).

### 3.4.4 :: CDT RECOMMENDATIONS

The results from the intersection analyses were presented to the CDT for their consideration and to assist the team with selecting appropriate intersection designs. In addition to the previously discussed issues regarding intersection design, the CDT was also responsible for incorporating elements such as aesthetic qualities, integration into the surrounding landscape and, most importantly, the desires of the community as a whole with regard to Mack Hatcher Parkway. In the end, when all components of selecting intersections were considered, the CDT recommended some intersection designs that deviated from those based exclusively on capacity analyses. The CDT has made recommendations that they feel will strike a balance between the efficient movement of vehicles and complete integration of Mack Hatcher Parkway into the community. The CDT recommendations are represented graphically and in tabular format as Figure 3-S and Figure 3-T (following page).

**FIGURE 3-Q  
CAPACITY ANALYSIS RECOMMENDATIONS  
MADE TO THE CDT**



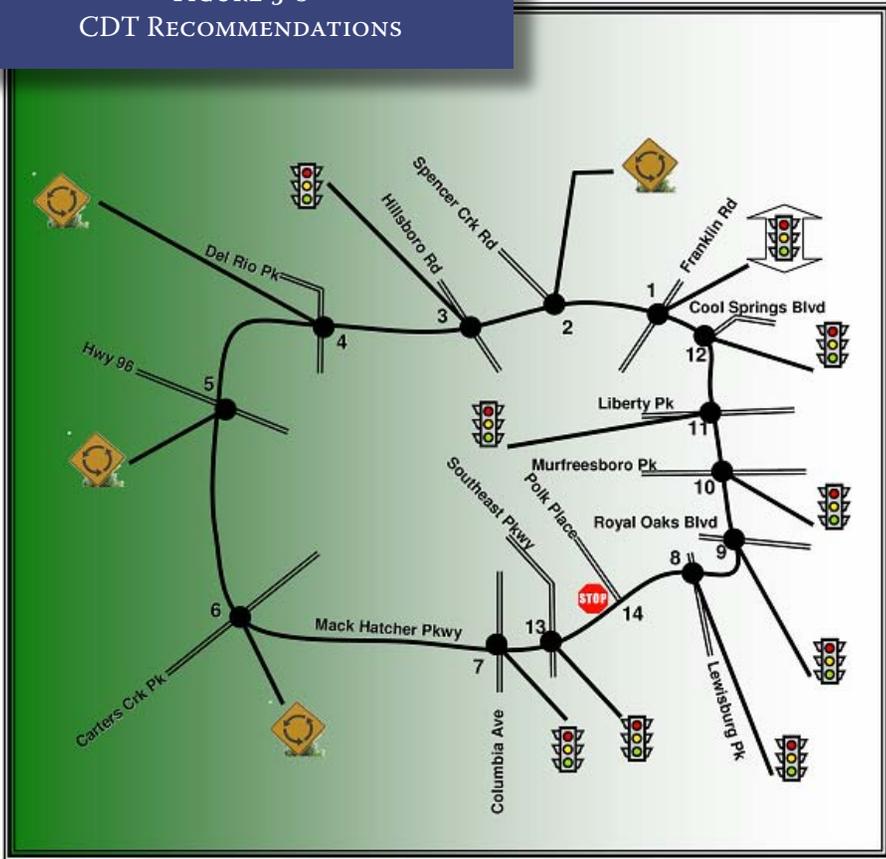
**Legend:**

-  Non-Traditional Intersection/Interchange
-  Traditional Signalized Intersection
-  Single/Double Lane Roundabout

**FIGURE 3-R  
RECOMMENDED APPROPRIATE INTERSECTION TYPES**

INTERSECTION	INTERSECTION NAME	RECOMMENDED INTERSECTION CONTROL
1	MHP and Franklin Road	Non-Traditional / Interchange
2	MHP and Spencer Creek Road	Traffic Signal
3	MHP and Hillsboro Road	Traffic Signal
4	MHP and Del Rio Pike	Roundabout or Traffic Signal
5	MHP and Highway 96 West	Traffic Signal
6	MHP and Carters Creek Pike	Roundabout or Traffic Signal
7	MHP and Columbia Avenue	Non-Traditional / Interchange or Traffic Signal
8	MHP and Lewisburg Pike	Traffic Signal
9	MHP and Royal Oaks Boulevard	Traffic Signal
10	MHP and Highway 96 East	Traffic Signal
11	MHP and Liberty Pike	Traffic Signal
12	MHP and Cool Springs Boulevard	Traffic Signal
13	MHP and Southeast Parkway	Traffic Signal
14	MHP and Polk Place	Stop Sign

**FIGURE 3-S  
CDT RECOMMENDATIONS**



**Legend:**

-  Single Point Urban Interchange (SPUI)
-  Traditional Signalized Intersection
-  Double Lane Roundabout

**FIGURE 3-T  
CDT RECOMMENDED INTERSECTION TYPES**

INTERSECTION	INTERSECTION NAME	RECOMMENDED INTERSECTION CONTROL
1	MHP and Franklin Road	SPUI
2	MHP and Spencer Creek Road	Roundabout*
3	MHP and Hillsboro Road	Traffic Signal
4	MHP and Del Rio Pike	Roundabout
5	MHP and Highway 96 West	Roundabout*
6	MHP and Carters Creek Pike	Roundabout
7	MHP and Columbia Avenue	Traffic Signal
8	MHP and Lewisburg Pike	Traffic Signal
9	MHP and Royal Oaks Boulevard	Traffic Signal
10	MHP and Highway 96 East	Traffic Signal
11	MHP and Liberty Pike	Traffic Signal
12	MHP and Cool Springs Boulevard	Traffic Signal
13	MHP and Southeast Parkway	Traffic Signal
14	MHP and Polk Place	Stop Sign

\* Denotes CDT recommendation that deviates from capacity analysis recommendation

## CONSENSUS ITEMS FOR INTERSECTION TYPES

### • INTERSECTION TYPES CONSENSUS

*Based on projected traffic volumes and an attempt to balance local priorities, MHP will have a mix of at-grade signalized intersections and roundabouts:*

- Hillsboro Road – signalized intersection
- Spencer Creek Road – roundabout at this intersection
- Franklin Road – While the initial consensus was for a signalized intersection with further analysis of grade separation with Franklin Road passing over MHP, after further consideration, the group consensus was to recommend a Single Point Urban Interchange (SPUI) at this intersection
- Cool Springs Boulevard – signalized intersection with only three legs
- Liberty Pike – signalized intersection
- Highway 96 East – signalized intersection
- Royal Oaks Boulevard – signalized intersection
- Lewisburg Pike – signalized intersection
- Polk Place – stop controlled
- Southeast Parkway – signalized intersection
- Columbia Avenue – signalized intersection with existing Hillview Lane operating as a multi-use path
- Carters Creek Pike – five-leg roundabout at this intersection, pending the topographic findings in this area once the survey is completed for design purposes
- Highway 96 West – roundabout with the understanding that based on projected traffic volumes, the intersection is likely to operate at a Level of Service “F” by the year 2030
- Del Rio Pike – roundabout at this intersection

### 3.5.1 :: NUMBER AND EXTENT OF RIVER CROSSINGS

The Harpeth River intersects Mack Hatcher Parkway at three locations in the Harpeth River Crossings character segment (Figure 3-U). The crossing east of Hillsboro Road is part of the existing MHP, and the other two crossings fall within the proposed segment of MHP. The CDT was charged with deciding the type and number of structures to span both river crossings, their adjacent 100-year floodways, and the 100-year floodplain that occurs between the floodways in the proposed portion of the Harpeth River Crossings character segment between Hillsboro Road and Del Rio Pike.

Presented with the advantages and disadvantages of choosing one wide structure as opposed to two parallel structures to traverse both crossings, the CDT recommended two parallel bridge structures. Based on a discussion of advantages and disadvantages, the CDT also recommended that these structures should be continuous from the eastern edge of floodway to western edge of floodway, spanning both river crossings and the floodplain in between. Once the group determined the number and extent of the structures, they next determined the bridge type.

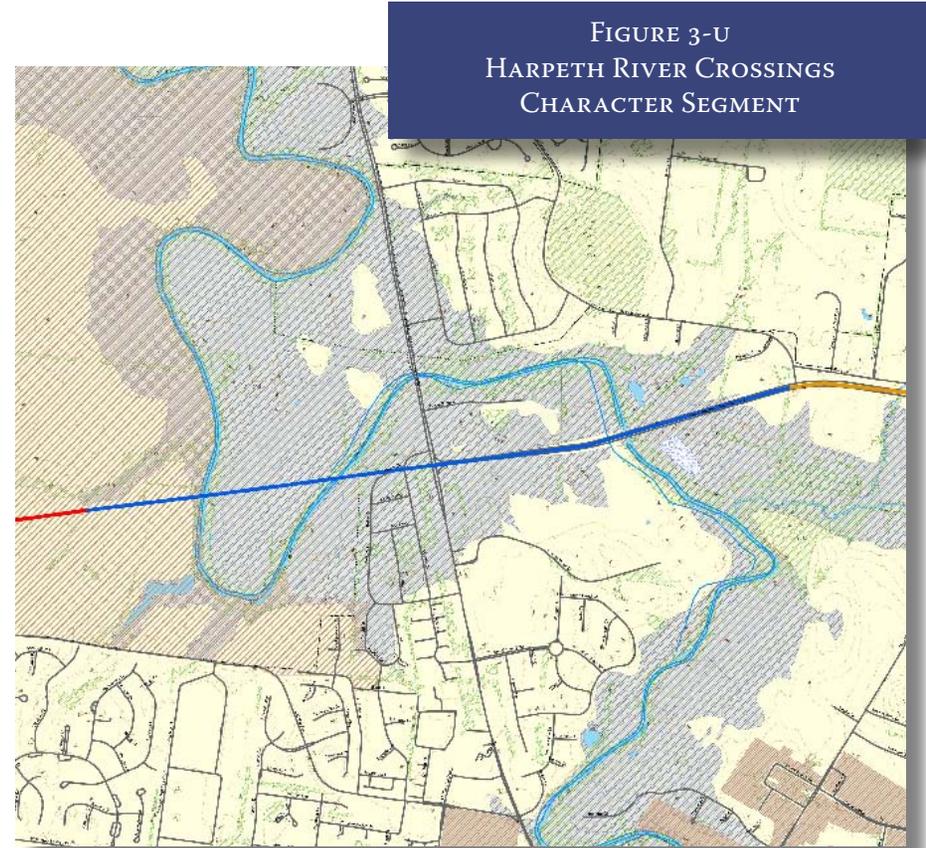


FIGURE 3-U  
 HARPETH RIVER CROSSINGS  
 CHARACTER SEGMENT

### 3.5.2 :: BRIDGE TYPE ANALYSIS

Information explaining the advantages and disadvantages of the following six bridge types was presented to the CDT:

- Arch
- Truss
- Suspension
- Segmental Concrete
- Concrete Girder
- Steel Girder

Considering the advantages and disadvantages of the six bridge types presented, the CDT first eliminated the options of suspension and segmental concrete bridge types. After careful consideration of the visual impacts that the four remaining structures would have on nearby neighborhoods, the CDT came to the consensus that they did not want a “signature” bridge type for the Harpeth River Crossings character segment. Instead, the group preferred low profile bridges that would not impose on the view to or from the bridges. This decision eliminated the arch and truss options, leaving only concrete and steel beam types.

The consensus of the CDT was that both bridges have steel beam superstructures utilizing weathering steel in lieu of the beams being painted. The group also decided that concrete beams can and should be used between the river crossings, if appropriate, but that their finished appearance should be consistent with the weathering steel beam sections.

### 3.5.3 :: DESIGN ELEMENTS

#### SUBSTRUCTURE

The consensus of the CDT was that both bridges have piers with a single, non-circular column and a tapered cap for its substructure (see Figure 3-V) except when the overall length of the pier cap exceeds the reasonable design of a single column substructure. The CDT did not want the dimensions of the column to be so large that the substructure would appear as a wall. They also did not want the pier column(s) to encroach within the limits of the river. It was decided by the group that in those cases where a single column pier is not practical, the substructure should utilize two or three columns as appropriate. When more than one column is used, the proportions of the multi-column substructure should complement those of the single column substructure.

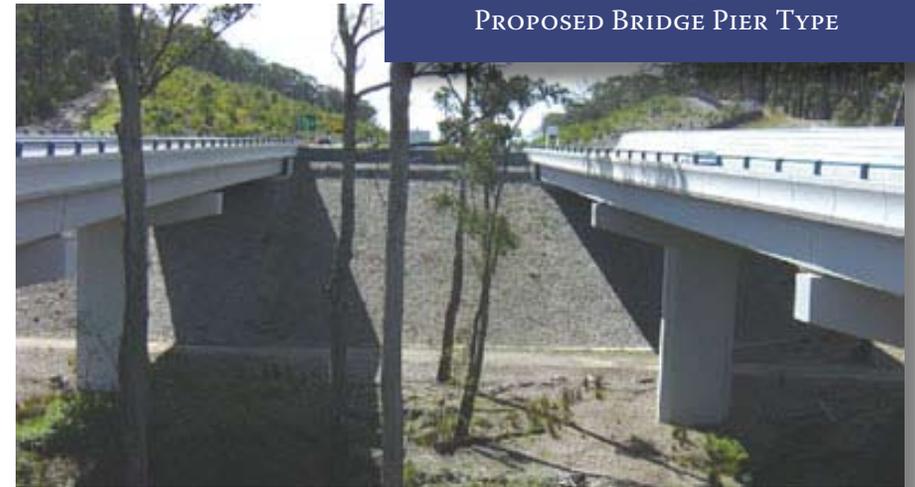


FIGURE 3-V  
PROPOSED BRIDGE PIER TYPE

## BRIDGE RAIL

The consensus of the CDT was that a standard concrete bridge rail with decorative top railing be used along the exterior of both bridges except at the actual river crossing sections (see Figure 3-W). To accomplish the goal of visual recognition of the natural waterway, the CDT recommended that the standard concrete bridge rail transition to an open, decorative rail to alert users on the sidewalk, multi-use path, and in their vehicles that they are crossing the Harpeth River (see Figure 3-X). It was also recommended that overlooks be incorporated into the Harpeth River crossing portions of the bridge to allow users of the facility to take in the natural beauty of the waterway below (see Figure 3-Y, facing page).

For safety reasons, the consensus of the CDT was that a curb-mounted barrier, which meets appropriate crash test standards, be incorporated into the structure to separate vehicular and pedestrian traffic.

It was important to the CDT that this barrier functions without negatively impacting the visually open nature of the crossing. Finally, the CDT recommended that the inside barrier rail (opposite side of the bridge from the decorative rail) should be the standard Jersey shaped barrier commonly used on Tennessee bridges.

## TYPICAL SECTION CONSENSUS

The consensus was that the west bound bridge should include a six foot wide sidewalk and the east bound bridge should include a 12 foot wide multi-use path. Both the east and west bound bridges will include two 12-foot travel lanes with two-foot wide inside shoulders and two-foot wide outside shoulders. The parallel structures will be separated by a distance of 40 feet for most of the entire bridge lengths. An exception will be the area where the eastbound bridge begins to taper to accommodate turn lanes at Hillsboro Road. In this area the separation distance between structures will be as minimal as 16 feet.

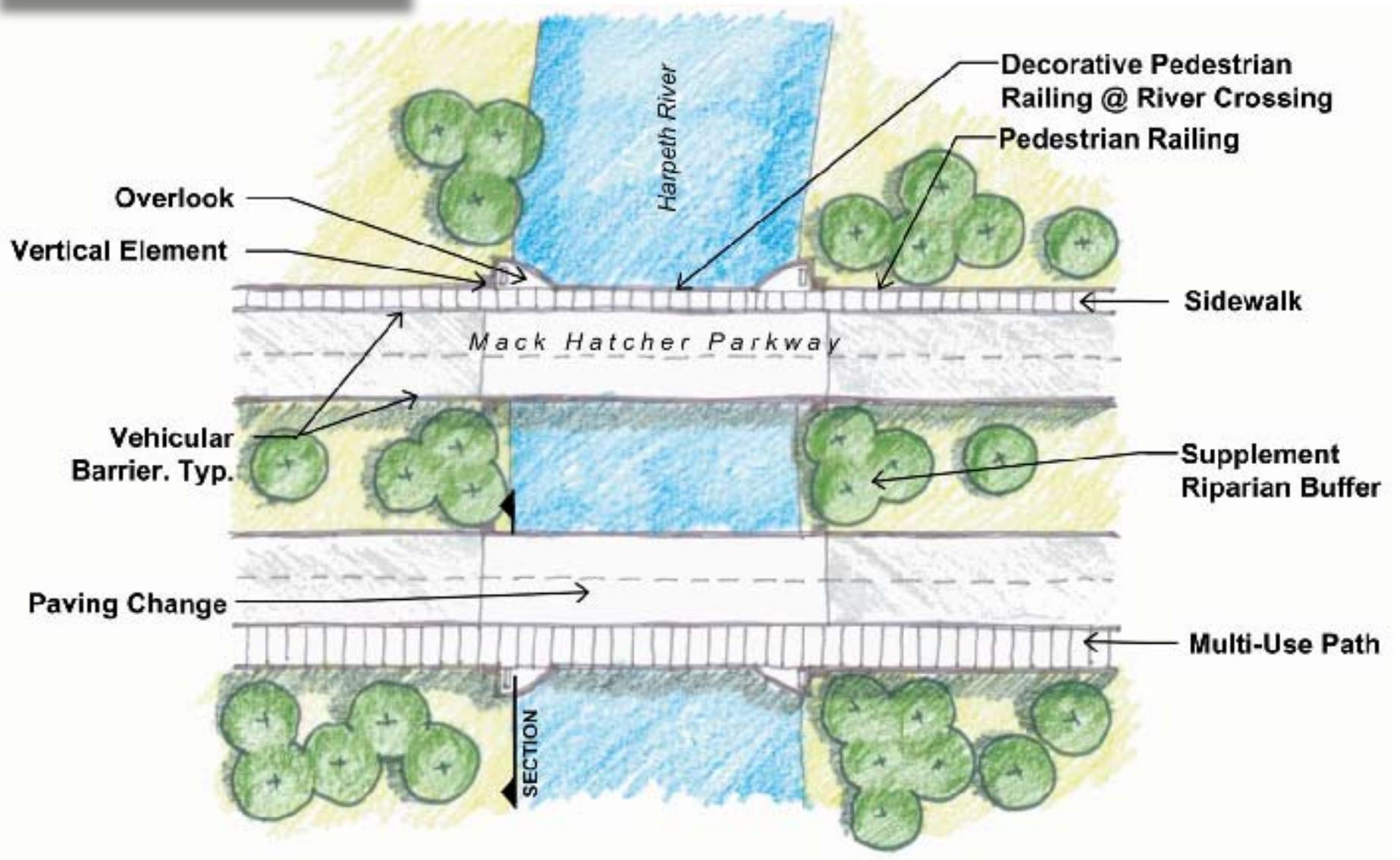


FIGURE 3-W  
STANDARD BRIDGE RAILING TYPE



FIGURE 3-X  
WATERWAY CROSSING RAILING TYPE

FIGURE 3-Y  
HARPETH RIVER CROSSING ELEMENTS



## CONSENSUS ITEMS FOR BRIDGES

- BICYCLE/PEDESTRIAN FACILITIES (MULTI-USE PATH):

- Harpeth River Crossings: Hillsboro Road to Spencer Creek Road – multi-use path

*There was also consensus that the section from Hillsboro Road through both river crossings should have a multi-use path on the eastbound bridge and a sidewalk on the westbound bridge. The section from the end of the bridges to Del Rio Pike should be multi-use path only to match the West Harpeth character segment*

- Sidewalks are only to be used on the bridges or in those areas where multi-use paths are not feasible

- BRIDGE TYPES CONSENSUS

- Two parallel bridge structures that are continuous over both river crossings

- Steel Girder – Both bridge structures are to be steel structures with a single column pier whenever possible; concrete girder sections could be utilized between the river crossings if necessary but should be designed to be consistent in appearance with the steel girder sections

*When bridge width requires multiple column piers, they should be designed consistent in appearance with the single column piers*

- The typical section of the westbound bridge should include a sidewalk and the east bound bridge should include a multi-use path

## 3.6 :: landscape character

### 3.6.1 :: LANDSCAPE CHARACTER TOOLBOX

The contextual understanding report, completed early in the CSD process, allowed the CDT to study the unique local and regional context of Franklin, Tennessee. Thorough understanding of that context allowed the design team to identify a range of design component choices appropriate for the Franklin context and to develop a “Toolbox” to help classify design components that contribute to overall character. This ensures an overall cohesiveness of the corridor, but also allows for design flexibility within the varying character segments.

Guiding principles emerged, such as the importance of using native plants wherever possible, arranging the landscape plantings in naturalistic compositions, employing indigenous building materials for landscape structures, and minimizing corridor impact through site-sensitive grading practices. Additionally, several elements of design vocabulary were considered that together make up the Landscape Character Toolbox.

### 3.6.2 :: TOOLBOX TERMINOLOGY: DESIGN COMPONENTS

#### CROSS-SECTION

The determination of corridor cross-section impacted all other design decisions that followed. Accommodating roadway function

with a focus on safety and mobility, while still allowing for aesthetic enhancement and a pleasurable user experience, led the design team to the development of cross-section alternatives. All options recommended:

- 4 travel lanes (with possible future expansion to 6 lanes in some areas)
- 42’ minimum median width
- 8’ minimum shoulder with 30” curb and gutter, or 10’ minimum reinforced grass shoulder
- 10’ minimum clear zone width from back of curb (10’ from edge of grass shoulder)
- 12’ multi-use path, typically on the inside of the MHP loop
- 6’ minimum buffer zone between shoulder and multi-use path
- Space allocated for landscape plantings and other aesthetic enhancements along roadway
- While it was recognized that there would be specific constraining instances wherein design solutions would have to be somewhat unique, the CDT’s recommendation for a roadway cross-section would include two prototypical options and one variation, described on the following page

MINIMAL PROTOTYPICAL OPTION (FIGURE 3-Z): This is the narrowest cross-section the team would recommend. It meets all requirements of roadway function while working well within spatial constraints created by natural features or existing development. The multi-use path would remain strictly parallel to the roadway due to width limitations, with a minimal buffer zone.

OPTIMAL PROTOTYPICAL OPTION (FIGURE 3-AA): This cross-section presents the best-case scenario, allowing ample space for accommodating roadway function and providing an enhanced user experience. The additional space allows the multi-use path to meander, while providing adequate, though not excessive, space for landscape buffering of existing development.

OPTIMAL PROTOTYPICAL VARIATION (FIGURE 3-AB): A variation within the optimal prototypical cross-section is the replacement of the exterior curb and gutter with reinforced grass shoulders. Reinforced grass shoulders allow for the appearance of a narrower roadway with a more rural feel.



FIGURE 3-Z  
MINIMAL PROTOTYPICAL OPTION

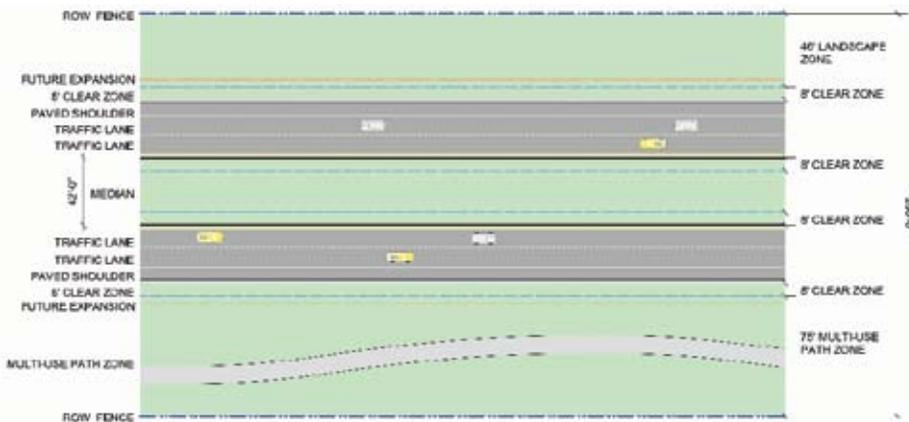


FIGURE 3-AA  
OPTIMAL PROTOTYPICAL OPTION

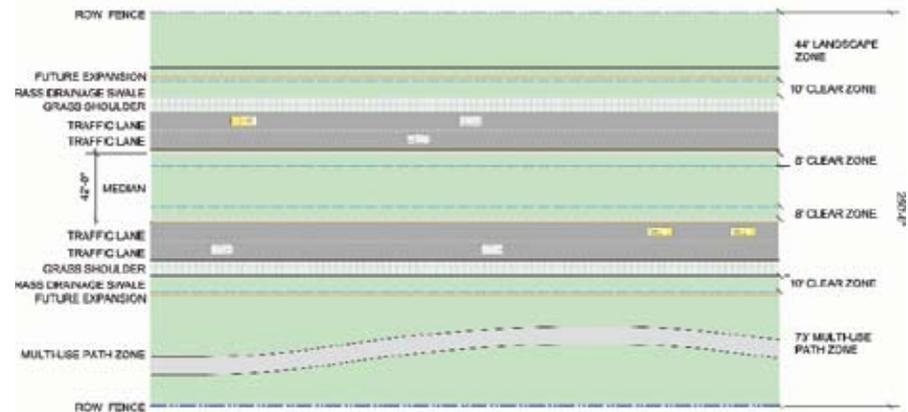


FIGURE 3-AB  
OPTIMAL PROTOTYPICAL VARIATION

## LANDFORM

Ideally, all grading should be carried out with the goal of creating a smooth landform transition from the roadway to the surrounding landscape. Avoiding steep slopes is recommended, except where necessary to protect community resources or respond to width constraints within the R.O.W. Allowing for a gentle transition may take more physical space and careful planning, but will ensure the creation of a roadway that fits seamlessly into its context. A variety of likely grading conditions were identified.

**ROCK CUT:** There are instances along MHP where roadway alignment may necessitate rock cuts. To minimize the impact of these cuts, they should be designed with a natural appearance, with color and texture that blends into surroundings.

**LANDSCAPE MOUNDS AND BERMS:** For buffering or aesthetic reasons, designers may choose to shape the land on the sides of the roadway. If artificial landforms are created, they should respond to the uniqueness of their individual location and reflect gentle, natural form, and not appear abrupt and artificial.

**INTEGRATED GRADING:** The goal of all grading should be to blend new construction with the surrounding context as seamlessly as possible. Whether in a hill and valley situation or flat pastureland, the grading adjacent to the roadway should reflect the physical geography of the area and integrate into its patterns as closely as possible.

**MEDIANS:** Grading choices within the median also influence the user experience of the roadway. A raised median creates a greater sense of separation between travel lanes. It serves to elevate plant material, forming more of a lateral visual buffer. The median can also be level, adding a more open feel to the facility. Additionally, the median may be raised and then transition to level where a varied visual experience is appropriate.

**DRAINAGE WAYS:** Much of the MHP facility will have curb and gutter, and as such will not have a need for surface drainageways adjacent to the roadway. There is, however, a segment of roadway with grass shoulders that will require basic channel conveyance of stormwater runoff. While this may be accomplished in a narrower channel with steeper sidewalls (ditch), the CDT recommendations encourage a wider, more gently sloped swale.

## PLANTING

The CDT recommended the use of native plants that reflect the existing natural diversity of the area, while enhancing roadway aesthetics, throughout the MHP corridor. The physiographic characteristics of the area shall be consistently considered when adapting a plant palette to specific locations and choosing suitable plant materials. As the roadway passes through open croplands, wooded hill and valley landscape, or specialized riparian zones along the Harpeth River, plants should be chosen to reflect these unique conditions and help inform facility users of their changing surroundings. The toolbox selections included three palette variations of planting intensity and composition, and are described in detail on the following pages.

SIMPLE PALETTE (FIGURE 3-AC): A minimal plant palette should be structured around canopy trees in small, natural groves. A native grass mix is employed as the groundcover, and no-mow zones of meadow grass and perennials are incorporated to minimize maintenance requirements.

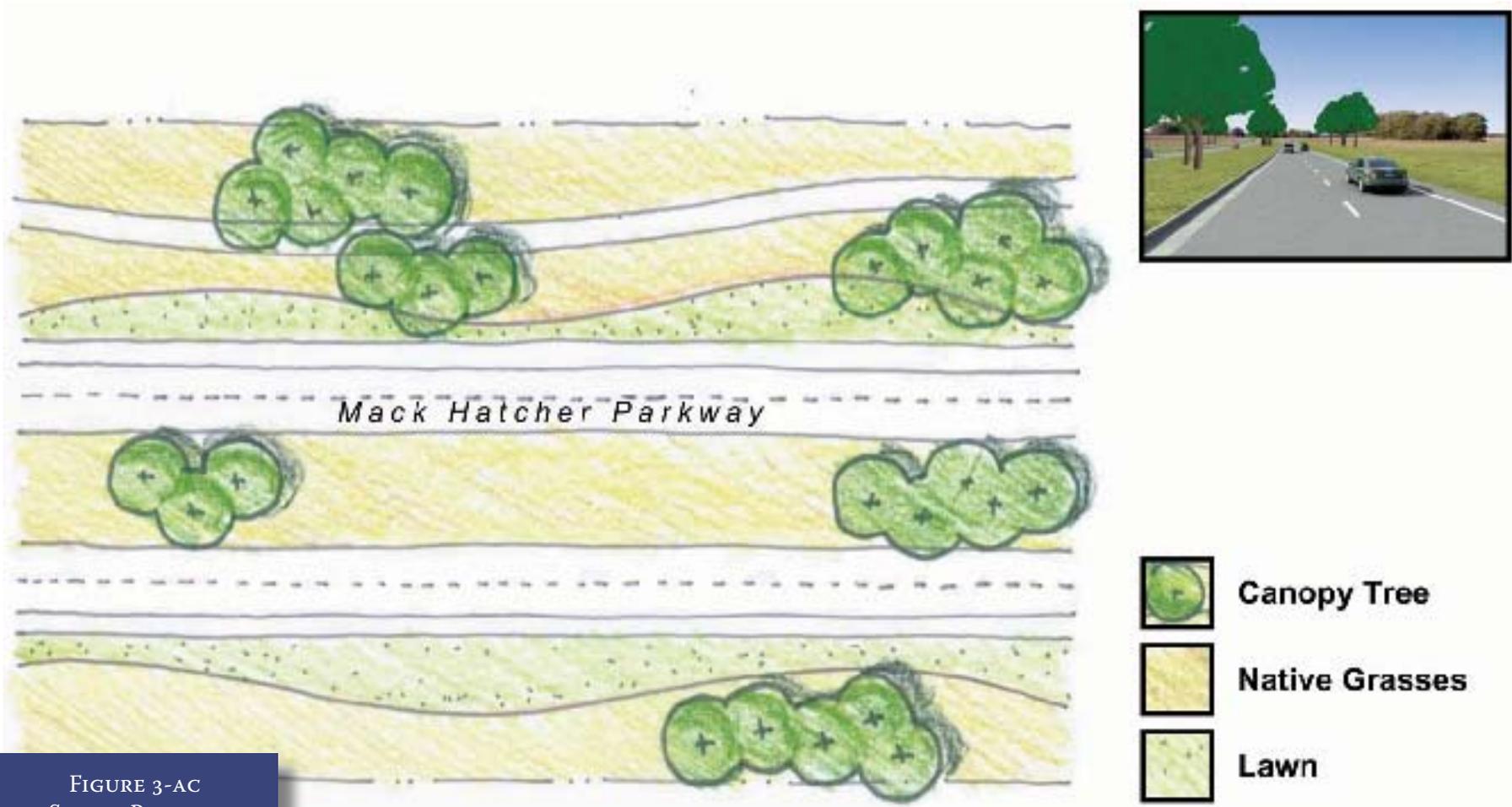
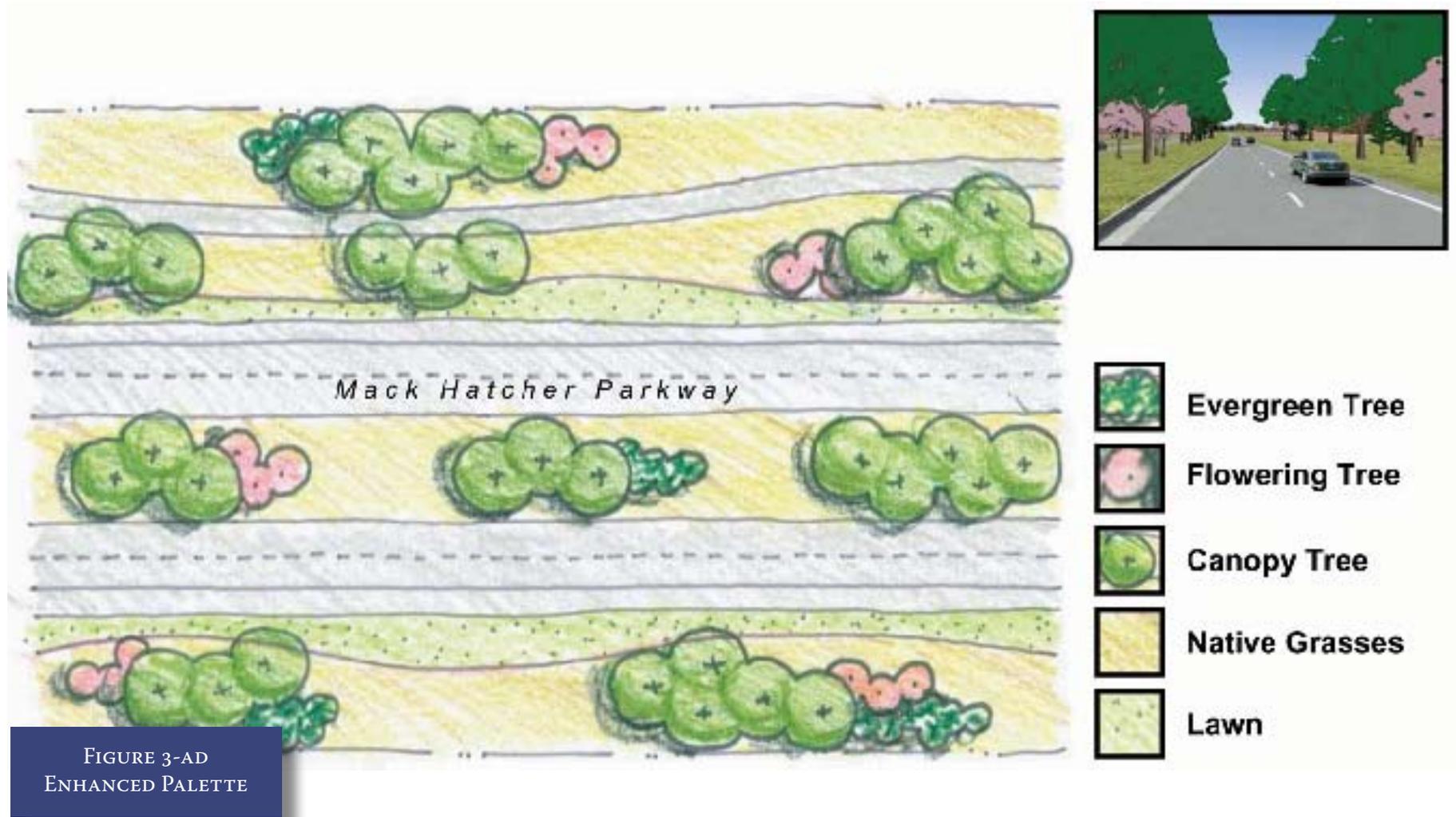


FIGURE 3-AC  
SIMPLE PALETTE

ENHANCED PALETTE (FIGURE 3-AD): Increasing intensity from the simple palette, understory trees and large shrub massing may be incorporated. No-mow zones allow for maintained green space along the roadway that transition to a more natural appearance further from the travel lanes.



ORNAMENTAL PALETTE (FIGURE 3-AE): While still utilizing native plants, this planting scheme is delineated by a high diversity of canopy and understory trees, ornamental shrubs, perennials, and/or ornamental grasses. Native grasses and wildflowers may be used, as well as an expanded range of acceptable groundcovers. With the greatest variety and intensity of plant material, maintenance requirements will be higher when this palette is employed.

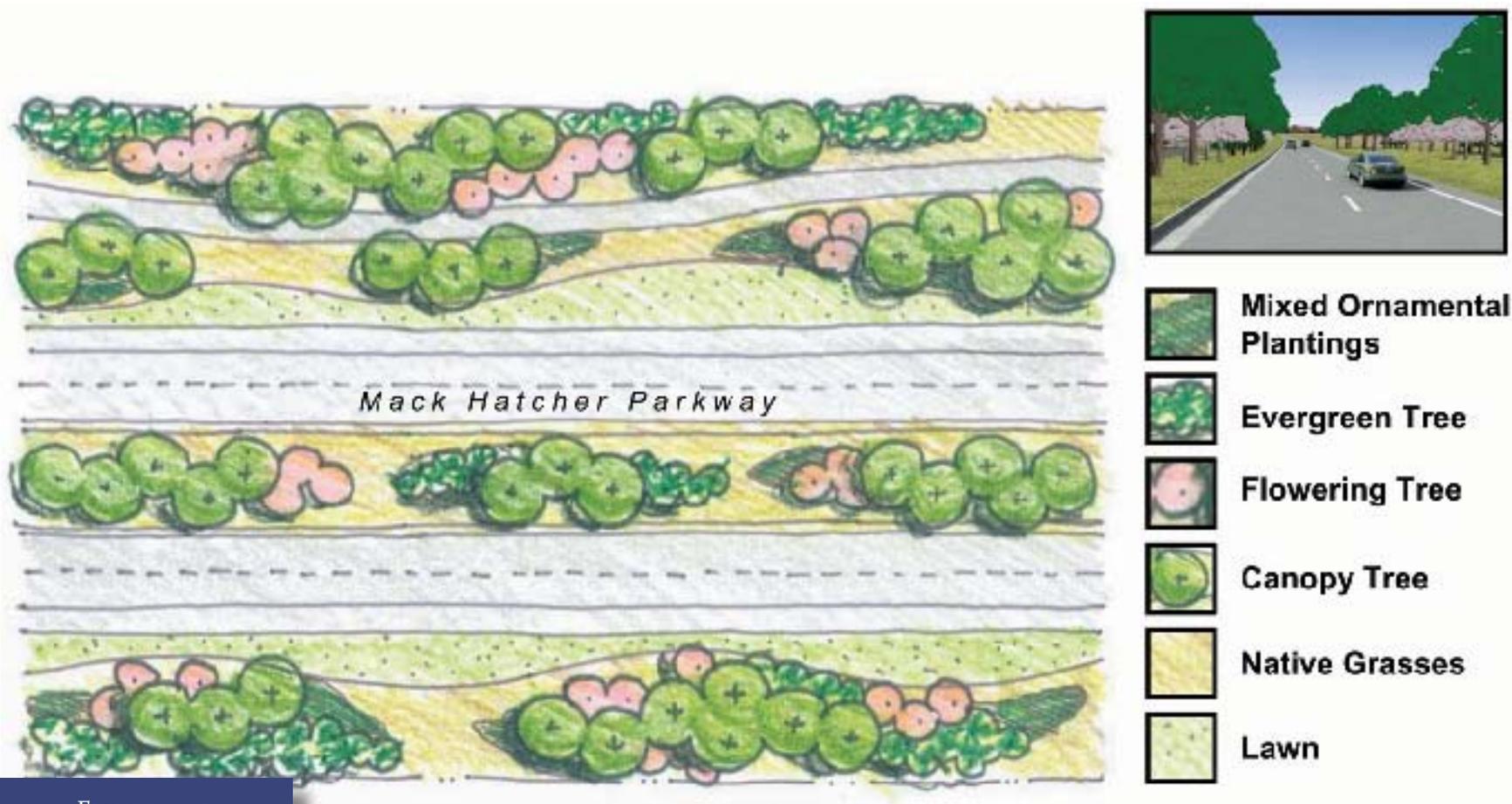


FIGURE 3-AE  
ORNAMENTAL PALETTE

### 3.6.3 :: LANDSCAPE STRUCTURES

The Franklin area has an established, historically founded vocabulary of hardscape structures that are easily read in the surrounding rural landscape. Whether stacked-stone walls or rustic horse fencing, these elements are important character-defining features. In choosing such features, it is important to have a unified system of materials, textures, and form throughout the corridor that reflects the native materials of the area.

Landscape structures may be utilitarian elements or highly visible landscape features, depending on design form, material, and intent. Fences, walls, and monument structures, such as those illustrated in Figures 3-AF and 3-AG may all have suitable uses within the MHP corridor.

#### LIGHTING

While lighting of the entire MHP is not required, there may be opportunities when lighting is recommended. The range of lighting options must factor in cost, visibility, light quantity, and aesthetic suitability. To meet these requirements, three variations were identified in the selection toolbox.

**UTILITARIAN:** While meeting lighting needs at a low cost, this type of lighting does not provide aesthetic enhancement, and in some cases may even have a negative visual impact on its surroundings. This style of roadway lighting is typically expressed as a simple wooden pole with a “cobra-type” fixture head.



FIGURE 3-AF  
STACKED-STONE WALL



FIGURE 3-AG  
RUSTIC-STYLE FENCE

**ENHANCED (FIGURE 3-AH):** Designed to blend into the landscape, these poles and fixtures employ a minimal, contemporary design. The simple lines of a dark-colored pole combined with a high cutoff, high performance luminaire would be suitable in this category.

**DECORATIVE:** These poles and fixtures are highly visible landscape features at all times of day. Examples would include faux-historical poles and acorn-type fixtures meant to recall a traditional setting.

### TRAFFIC SIGNALS

As with lighting, the range of stylistic choices runs from utilitarian and enhanced to decorative. The CDT recommends carefully coordinating signal style with appropriate roadway lighting style.

### SIGNAGE

Signage serves to enhance user experience and identify, interpret, and educate all users of the roadway facility. The scale and appearance of signage may vary with placement and intended audience (vehicular or pedestrian users); though the overall design should maintain a cohesive feel consistent with the aesthetic of Franklin, Tennessee. Figure 3-AI (facing page) indicates potential locations for signage.

**DIRECTIONAL:** Located at all intersections, this system of signage should assist users with navigating the corridor and surrounding neighborhoods. Signs should be clear, simple, and easy-to-read for vehicular users. A consistent visual aesthetic should be maintained throughout MHP, and signage should compliment existing directional signage programs already in place in Franklin. Elimination of visual clutter by consolidating signs is recommended.



FIGURE 3-AH  
ENHANCED LIGHTING

**IDENTITY:** Identity signage, crafted to express the distinctive quality of the Franklin region, should be located at prominent intersections or gateways to “announce” Franklin’s character in a unique way.

**INTERPRETIVE:** Focused at historic and community resources, this type of signage is typically intended for the non-vehicular user and should be found along the multi-use path at trailheads and waysides. There is opportunity to interpret several historic and cultural resources throughout the corridor, as well as to tie into larger regional themes.

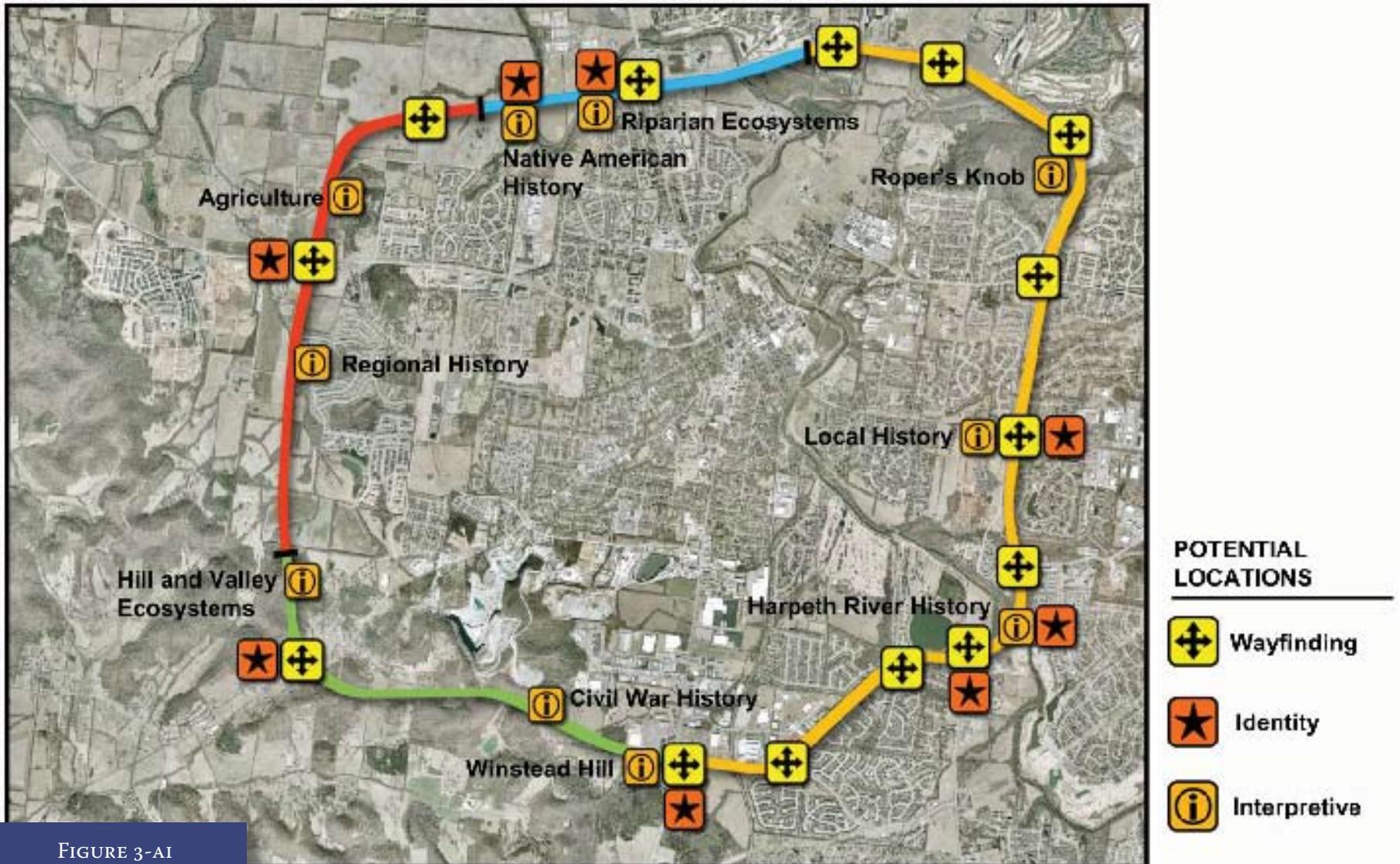


FIGURE 3-A1  
SIGNAGE LOCATIONS

## ROW FENCING

Fencing along this type of facility's right-of-way (ROW) is not required by TDOT, but in some instances may be recommended. In conditions where the multi-use path is located in close proximity to private property, physical separation may be desired. If fencing is to be used, the toolbox identifies a range of types appropriate for use in the MHP corridor.

**BASIC FENCING:** Vinyl-coated, dark colored chain link fence is virtually invisible in the landscape. This is a low-cost way to provide separation without drawing attention to the barrier itself. This is only suitable when in combination with screening landscape plantings.

**INTERMEDIATE FENCING:** In areas where a fence may be visible, but higher cost and "feature" treatments are not justifiable, a combination of black vinyl-coated chain link and painted horse fences may be used. This provides separation, while still fitting within the area's rural aesthetic.

**FEATURE FENCING:** As the name indicates, this fence type is intended as a highly visible landscape feature. It carries the highest cost, but also the highest added value. Materials may include wood fencing, stone columns and walls, or a combination of both.

## INTERSECTIONS

In addition to meeting safety and mobility requirements, intersections provide opportunities for "design intensification" along the MHP corridor, therefore presenting a unique set of design criteria for landscape treatment. While designed to fit within their respective landscape character segments, intersections should express additional aesthetic enhancement. As discussed in section 3.4, the proposed and existing MHP contains three types of intersections: roundabouts, signalized, and a single point urban interchange at Franklin Road.



FIGURE 3-AJ  
SPUI

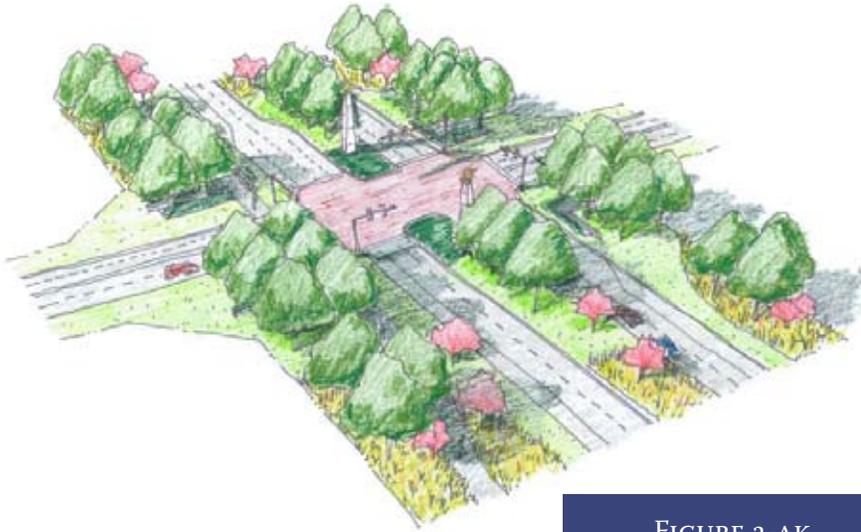


FIGURE 3-AK  
SIGNALIZED INTERSECTION



FIGURE 3-AL  
ROUNDAABOUT

**SIGNALIZED AND ROUNDAABOUT INTERSECTIONS:** Even with the safety requirements and visual sight triangles inherent in intersection design, signalized and roundabout intersections both allow for landscape enhancement in the median and along the edges of the roadway. Roundabouts further offer areas within the central circle of the rotary for appropriate landscape intensification. Use of suitable lighting, signals (where required), and signage should add to the user experience while increasing roadway understanding for all.

**SINGLE POINT URBAN INTERCHANGE (SPUI):** The structure of the SPUI presents an opportunity for aesthetic enhancement not seen in other intersection types (see Figure 3-AJ on the facing page). Through the use of concrete formliners and enhancing details, the simple structure can become an attractive amenity. Also, parts of the ‘roof’ of the structure may be planted, providing additional green space adjacent to travel lanes.

**GATEWAY INTERSECTIONS:** The Franklin Land Use Plan (2004) identified fourteen gateway intersections within the city’s urban growth boundary. Of those, five gateways are located along MHP: Murfreesboro Road, Lewisburg Avenue, Columbia Pike, Carters Creek Pike, and Highway 96 West. These gateways serve as symbolic entrances to the city, reinforcing a sense of Franklin’s character, identity, and community spirit. As such, the aesthetic treatment at these locations requires greater attention to detail. Whether signalized intersections (Figure 3-AK) or roundabouts (Figure 3-AL), these Gateway intersections may incorporate monuments and public art, adding to a greater sense of civic identity. In addition, their paving details, ornamental plantings, and specialized lighting and signage will further distinguish them from other intersections, creating visual and symbolic thresholds to the City of Franklin.

### 3.6.4 :: RECOMMENDATIONS BY CHARACTER SEGMENT

With the toolbox of appropriate options available, the design component choices were applied to each of the four character segments: the Existing Corridor, Southall Hills, West Harpeth, and Harpeth River Crossings.

#### EXISTING CORRIDOR

It is recommended that this area utilize vegetation to frame and enhance the unique views within this segment and that the overall planting scheme be more open in the northern portion keeping with the present landscape feel. The East and Southeast portions of this character segment are closely surrounded by existing development and the long views seen in the North portion are not evident. In these areas, landscape buffers along the perimeter of the parkway should be utilized to enhance the enclosure, buffer incongruous views, and create an internal focus.

The landscape recommendations for the Existing Corridor are:

- Cross-Section – optimal prototypical option, maximum 250 feet with curb and gutter and meandering multi-use path
- Landform – natural cut, integrated, and raised median
- Planting – enhanced planting, riparian plantings (when along the Harpeth River)
- Landscape Structures – focused at intersections, trailheads, and waysides
- Lighting – enhanced lighting at intersections
- Traffic Signals – enhanced traffic signals

- Signage – primarily directional; identity and/or interpretive where appropriate
- ROW Fencing (conditional use) – basic fencing when behind buffer planting; feature fencing when suitable for high visibility

#### SOUTHALL HILLS

As MHP winds its way through Southall Hills, every effort should be made to minimize the visual and physical impact of the roadway, integrating it into the surroundings using appropriate grading techniques that blend with existing landforms. Additionally, it is the desire of the CDT to keep the cross-section as narrow as possible here to reduce impact on this unique environment. Furthermore, the CDT recommends preservation of the tree-lined Hillview Lane as a multi-use path. Due to that preservation effort, this is the one area in which the multi-use path will be on the outside of the MHP loop and will transition back to the interior at the nearest appropriate intersection.

The landscape recommendations for Southall Hills are:

- Cross-Section – minimal prototypical option, 177 feet with curb and gutter and parallel multi-use path
- Landform – integrated, variable median
- Planting – enhanced planting, hill and valley, gateway intersection may be the only place for more intense levels of managed landscape
- Landscape Structures – focused at intersections, trailheads, and waysides

- Lighting – enhanced lighting at intersections
- Traffic Signals – roundabout, none required
- Signage – primarily directional; identity and/or interpretive where appropriate
- ROW Fencing (conditional use) – basic fencing when behind buffer planting, feature fencing when highly visible

## WEST HARPETH

Uniquely situated on flat, open pastureland, the design recommendations for this character segment aim to highlight and preserve the existing rural character. Adjacent development patterns and historic area designations created two different situations within this segment. South of Highway 96 West, a curb and gutter cross-section was recommended. In keeping with the feel of the historic district north of Highway 96 West, the cross-section transitions to reinforced grass shoulders as a cost-effective way to reduce the total width of pavement and provide a more rural feel appropriate to the context.

The landscape recommendations for the West Harpeth character segment are:

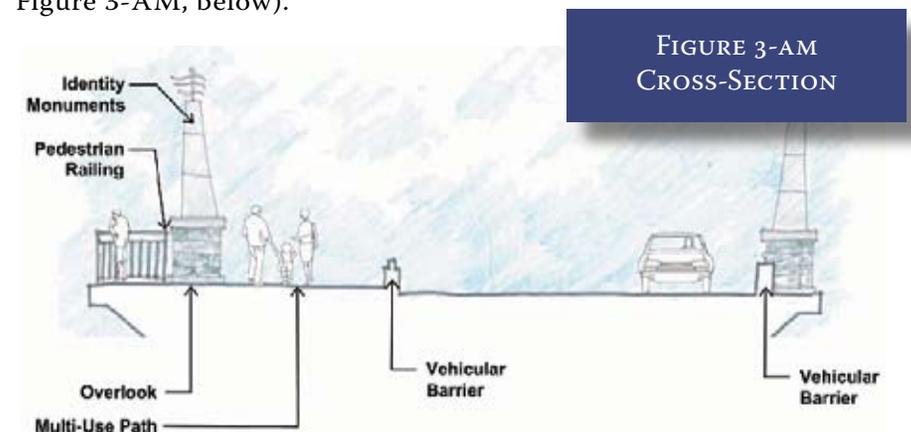
- Cross-Section – optimal prototypical option, maximum 250 feet with a meandering multi-use path – curb and gutter south of Hwy 96 West and reinforced grass shoulders north of Hwy 96 West
- Landform – integrated, swales, flat median
- Planting – simple planting, croplands aesthetic with intensified visual screening where in close proximity to existing

neighborhoods

- Landscape Structures – focused at intersections, trailheads, and waysides
- Lighting – enhanced lighting at intersections
- Traffic Signals – roundabout, none required
- Signage – primarily directional; identity and/or interpretive where appropriate
- ROW Fencing (conditional use) – feature fencing, such as horse fencing, when highly visible

## HARPETH RIVER CROSSINGS

Because it exists almost entirely in the floodplain or floodway, this segment deals with a unique set of environmental factors. Over half the segment will consist of the bridge structure that allows MHP to traverse the floodway. The CDT agreed early in the CSD process that “clear recognition” of the Harpeth River, and its importance in Franklin’s cultural heritage, be celebrated and incorporated into the bridge design. It was recommended that the bridge structure include overlooks and interpretive features that relate to those themes (See Figure 3-AM, below).



Additionally, railing design should be visually open to the river below to announce river crossings, not only to pedestrian users along the multi-use path or sidewalk, but to vehicular users as well. As indicated previously (in Figures 3-W and 3-X), a combination of railing types is to be used. The bridge piers present unique opportunities for enhancing user experience below the bridge from the multi-use path and adjacent neighborhoods, as well. For relatively low cost, form-liner technology can allow the incorporation of artistic or interpretive elements that relate local history and interpret local ecosystems, while providing subtle visual appeal, as illustrated in Figure 3-AN.

In the non-bridge structure portions of this character segment, the design recommendations are as follows:

- Cross-Section – optimal prototypical option, maximum 250 feet with curb and gutter and meandering multi-use path
- Landform – integrated, flat median
- Planting – enhanced planting, supplemented riparian buffers along the Harpeth River and intensified visual screening where in close proximity to existing neighborhoods
- Landscape Structures – as bridge features, and focused at intersections, trailheads, and waysides
- Lighting – enhanced lighting at intersections
- Traffic Signals – enhanced traffic signals
- Signage – primarily directional; identity and/or interpretive where appropriate
- ROW Fencing (conditional use) – basic fencing when behind buffer planting, feature fencing when highly visible

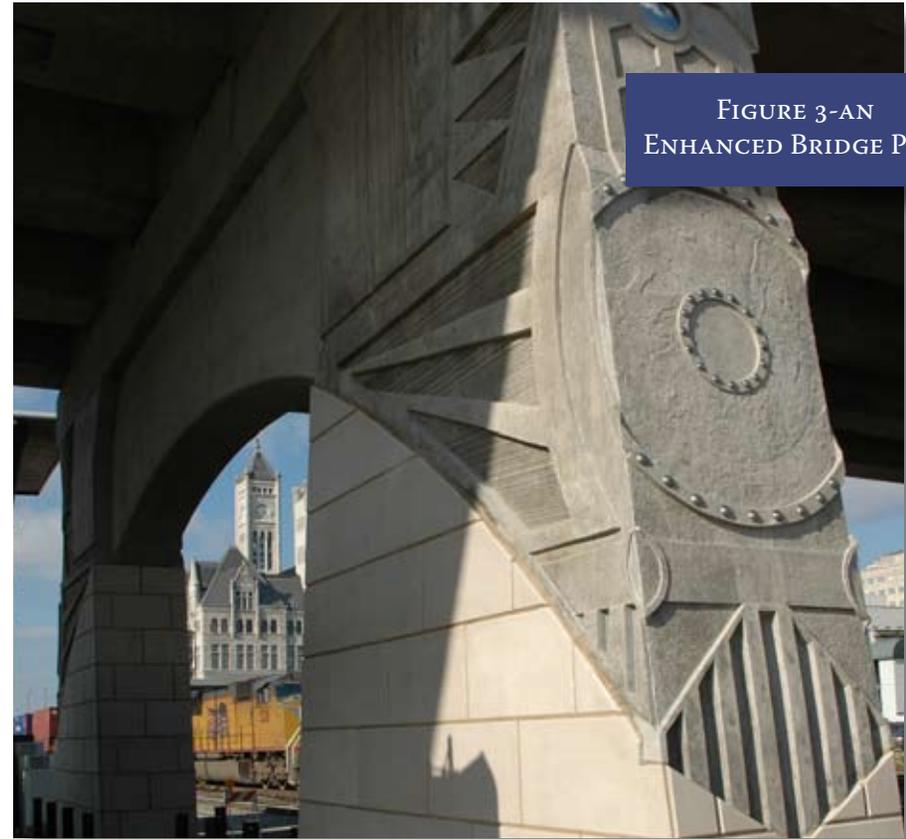


FIGURE 3-AN  
ENHANCED BRIDGE PIER

## CONSENSUS ITEMS FOR LANDSCAPE CHARACTER

- LANDSCAPE TREATMENT:
  - The group consensus was to accept the landscape recommendations for each character segment as presented in this section
  - The CDT also reached consensus to recommend the consideration of additional landscape buffering and noise walls where deemed appropriate by TDOT during design; if noise walls are required, they should be of an aesthetic design type

# SECTION FOUR

MACK HATCHER



P A R K W A Y

# VISUALIZATIONS

## 4.1 :: visualizations

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A major component of the CSD process is helping the interested public understand the more technical and complex elements of project planning, design, and construction. For the Mack Hatcher Parkway CSD project, the consulting team worked very hard to develop tools to assist in this understanding and to help the citizen design team members and general public comprehend and visualize the MHP facility.

The extensive use of pictures, examples of similar facilities, computer and paper renderings, typical section drawings, and other graphic/visualization tools helped the CDT make decisions regarding various design elements. These visuals helped affirm that the design team's decisions were the best ones for the Mack Hatcher Parkway environment. These visuals also allowed the design team to prepare effective presentations for public meetings, which led to informed public input and ultimate support of the project by the community.

The three primary visualization tools utilized by the design team included aerial photo simulations, ground level simulations, and videography. Each of these tools is discussed in more detail in the following sections, and examples of each are included.

### 4.1.1 :: AERIAL PHOTO SIMULATIONS

In order to prepare aerial photo simulations, the design team flew the entire project corridor and developed aerial photos for each character segment. These aerial photos were captured at various angles and from various heights to allow the greatest flexibility in their use for later simulations.

Once the aerial photos were reviewed and the appropriate ones selected for use, a base condition for each character segment was established. The design team then developed detailed typical sections and renderings for the roadway facility to be completed in each character segment. These design features included the cross-section showing the proper number of lanes, shoulder type, median section, curb and gutter utilization, location of the multi-use path, landscape treatment for the median, multi-use path, and areas outside the travel lanes, pavement markings and other similar details. The detailed drawings and renderings were then overlaid onto the aerial photo creating a visualization of the Mack Hatcher Parkway as it would appear when completed. Figure 4-A (Pages 4.2 and 4.3) illustrates the aerial photo simulation for the Harpeth River Crossings character segment and Figure 4-B (Pages 4.4 and 4.5) shows the aerial photo simulation for the West Harpeth character segment.

FIGURE 4-A  
BEFORE



FIGURE 4-A  
AFTER



FIGURE 4-B  
BEFORE



FIGURE 4-B  
AFTER



FIGURE 4-C  
BEFORE



Also developed were aerial photo simulations for two Gateway intersections to the City of Franklin. These are the Franklin Road / Mack Hatcher Parkway intersection and the Highway 96 East / Mack Hatcher Parkway intersection. These aerial photo simulations were created utilizing the same methodology as described above for the character segment simulations.

FIGURE 4-C  
AFTER



The CDT recommended that the Franklin Road / Mack Hatcher Parkway intersection be a Single Point Urban Interchange (SPUI), shown in Figure 4-C. The CDT recommended that the Highway 96 East / Mack Hatcher Parkway intersection be an at-grade, signalized intersection, shown in Figure 4-D.

FIGURE 4-D  
BEFORE



FIGURE 4-D  
AFTER



## 4.1.2 :: GROUND LEVEL SIMULATIONS

The design team utilized a similar procedure for the development of ground level simulations. Ground level photos were taken of key areas throughout the project corridor and were utilized to establish the base conditions for particular design elements. The ground level simulations were used to reflect the anticipated conditions at a particular point of interest, such as an intersection or well known area along MHP. The design team then completed detailed typical drawings and renderings to project the improved conditions, including those design features discussed previously in section 4.1 of this report.

FIGURE 4-E  
BEFORE



Ground level simulations were completed for the MHP/Highway 96 West roundabout intersection (Figure 4-E); the MHP/Columbia Avenue intersection, preserving the Hillview Lane area as a multi-use path (Figure 4-F); the Del Rio Pike area along MHP (Figure 4-G); the section of existing MHP to be improved from Hillsboro Road to Spencer Creek Road (Figure 4-H); and the existing section of MHP to be improved from Liberty Pike to Murfreesboro Road (Figure 4-J).



FIGURE 4-F  
BEFORE



FIGURE 4-F  
AFTER



FIGURE 4-G  
BEFORE



FIGURE 4-G  
AFTER



FIGURE 4-H  
BEFORE



FIGURE 4-H  
AFTER



FIGURE 4-1  
BEFORE



FIGURE 4-1  
AFTER



### 4.1.3 :: VIDEO SIMULATIONS & INTERVIEWS

The design team also used two different video visualization techniques to communicate with the CDT and the public further. The first was a videography of the CSD process that included personal interviews of various CDT members and representatives of the Tennessee Department of Transportation (TDOT) and Wilbur Smith Associates (WSA). The second technique was a video animation that gave a virtual “drive around” tour of the fully completed Mack Hatcher Parkway.

For the videography of the CSD process, video was captured documenting the current context of the MHP corridor and the City of Franklin. This was important to confirm the contextual sense of place

in Franklin that would be preserved and enhanced by the completed Mack Hatcher Parkway CSD process. This video was then supplemented with additional video documenting the various steps taken throughout the process including working meetings, public meetings, field reviews, and design team meetings and work sessions. Along with the video showing these project steps, video interviews were utilized to explain the steps that were taken and their importance to the process for guaranteeing a successful MHP improvements project.

Screen captures showing scenes from the *Mack Hatcher Parkway: Realizing the Vision* video are included as Figure 4-J.



FIGURE 4-J  
*MHP: REALIZING THE VISION*

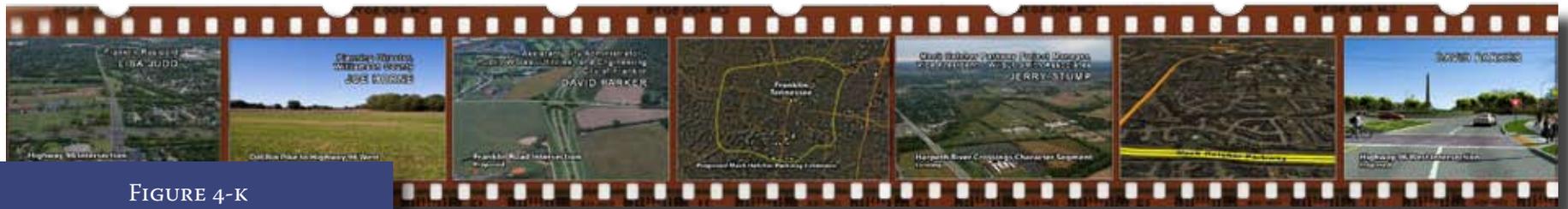


FIGURE 4-K  
*IMAGINING MACK HATCHER PARKWAY*

A second video was produced to further highlight the visualizations prepared for aerial photo simulations and ground level simulations. This video, *Imagining Mack Hatcher Parkway*, featured a virtual tour of the proposed MHP corridor. A virtual model of the City of Franklin was created utilizing GIS and other graphics / modeling tools. The model included the city limits and Urban Growth Boundary (UGB) of Franklin as well as the entire MHP corridor. The model was built such that the animation could be captured and presented at various perspectives and various height levels above the city. The virtual tour begins with a high-level look at the city and its features, including the transportation system, residential and commercial areas, and

undeveloped areas. The alignment of MHP is superimposed on the model showing the entire route of the completed MHP. The virtual tour moves the viewer around the project corridor while featuring the previously developed aerial photo simulations and ground level simulations of key points along the route. Included with the photo simulations are narration and interview segments with CDT members and with TDOT and WSA representatives. The narration and interviews describe the simulation features being presented to the viewer.

Screen captures which illustrate the images presented to the viewer as part of *Imagining Mack Hatcher Parkway* are included as Figure 4-K.

The videos were extremely well received by the CDT members and the general public, and they served as a very effective tool in further communicating the ideas developed for MHP. After presenting these visual tools showcasing the design team's ideas to the public, viewers were able to provide succinct and instant feedback. This proved very beneficial in identifying the design concepts for MHP that would be most appropriate for further development and in developing design recommendations which would be heartily supported by the public.

The final public meeting was highlighted by unanimous comments of support from the public and praise for the design team's recommendations and design concepts.



# SECTION FIVE

MACK HATCHER



P A R K W A Y

## CONSENSUS DECISIONS AND CONCLUSION

## 5.1 :: consensus memo

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The following is a list of consensus decisions reached by the CDT / ART in the Mack Hatcher Parkway CSD process:

- **DESIGNATION AND DESCRIPTION OF THE FOUR CHARACTER SEGMENTS:**  
Existing Corridor, Southall Hills, West Harpeth, and Harpeth River Crossings. This description includes the beginning and ending limits and the title of each character segment (see Final Report, Figure 2-A)
- **THE FINAL VISION STATEMENT:**  
“The Citizen Design Team will recommend Mack Hatcher Parkway solutions that strive to preserve and enhance not only safety and mobility, but also the natural and historic character, community, and environmental assets that contribute to Franklin’s quality of life. The recommended design elements will utilize an appropriate sense of scale; provide for an enjoyable experience for MHP users; be harmonious with the contextual surroundings; and be scenic, efficient, unique, and a source of pride for the community for many years.”
- **OPPORTUNITIES AND CONSTRAINTS FOR EACH CHARACTER SEGMENT**  
For more information, see Final Report, Chapter 2
- **FIVE GOALS LISTED BELOW, EACH WITH RESPECTIVE OBJECTIVES FOR EACH CHARACTER SEGMENT:**
  - To be environmentally sensitive to the native landscape of Franklin, and employ solutions compatible with known ecological systems
  - Provide adequate capacity for safe and improved mobility throughout the corridor for multiple modes of transportation, while considering access management
  - Maintain and enhance Franklin’s cultural heritage
  - Contribute to the community’s greater “Sense of Place” with a strong identity that is consistent with Franklin, Tennessee
  - Respect and integrate into land use patterns / community fabric, while facilitating appropriate future uses
  - See Final Report, Chapter 2, for a complete list of objectives
- **CONTEXTUAL UNDERSTANDING REPORT**  
See Final Report, Appendix for more information
- **FACILITY TYPE:**  
MHP will be a 4-lane, limited access facility for its full alignment

- ACCESS POINTS:
  - Those access points defined in the Draft Environmental Impact Statement (DEIS) were the only ones to be considered in the CSD process
  - The group decided that future analysis of additional access points would be recommended between Highway 96 West and Carters Creek Pike and in the Hillview Lane area
  - The defined access points were as follows: Hillsboro Road, Spencer Creek Road, Franklin Road, Cool Springs Boulevard, Liberty Pike, Highway 96 East, Royal Oaks Boulevard, Lewisburg Pike, Polk Place, Southeast Parkway, Columbia Avenue, Carters Creek Pike, Highway 96 West, and Del Rio Pike
- CROSS SECTION CONSENSUS:
  - Existing Segment – curb and gutter with the consideration of additional landscaping in the buffer area where feasible
  - Southall Hills – since no survey has been conducted, MHP should be minimally invasive by maintaining as tight a cross section as possible
  - West Harpeth – narrow road with curb and gutter, and to slide the alignment as far away from existing neighborhoods as possible
    - *After revisiting the cross section type for this character segment, the CDT decided that a grass shoulder from Highway 96 West to the Harpeth River bridges would be a better fit for the historic context in this area and was recommended*
  - Harpeth River Crossings – match the improved existing corridor, which is proposed curb and gutter, with a raised median
- BICYCLE / PEDESTRIAN FACILITIES (MULTI-USE PATH) CONSENSUS:
  - Existing Corridor – multi-use path with the understanding that there may be instances when it is not feasible and bikes and pedestrians will need to be accommodated by bike lanes and sidewalks
  - Hillview Lane – the multi-use path will be on the outside of the roadway, but should cross back over to the inside of MHP at the closest intersection.
  - Southall Hills – multi-use path
  - West Harpeth – multi-use path
  - Harpeth River Crossings: Hillsboro Road to Spencer Creek Road – multi-use path
    - *There was also consensus that the section from Hillsboro Road through both river crossings should have a multi-use path on the eastbound bridge and a sidewalk on the westbound bridge. The section from the end of the bridges to Del Rio Pike should be multi-use path only to match the West Harpeth character segment*
  - Sidewalks are only to be used on the bridges or in those areas where multi-use paths are not feasible

- INTERSECTION TYPES CONSENSUS:

Based on projected traffic volumes and an attempt to balance local priorities, MHP will have a mix of at grade signalized intersections and roundabouts:

- *Hillsboro Road – signalized intersection*
- *Spencer Creek Road – roundabout at this intersection*
- *Franklin Road – While the initial consensus was for a signalized intersection with further analysis of grade separation with Franklin Road passing over MHP, after further consideration, the group consensus was to recommend a Single Point Urban Interchange (SPUI) at this intersection.*
- *Cool Springs Boulevard – signalized intersection with only 3 legs*
- *Liberty Pike – signalized intersection*
- *Highway 96 East – signalized intersection*
- *Royal Oaks Boulevard – signalized intersection*
- *Lewisburg Pike – signalized intersection*
- *Polk Place – stop controlled*
- *Southeast Parkway – signalized intersection*
- *Columbia Avenue – signalized intersection with existing Hillview Lane operating as a multi-use path*
- *Carters Creek Pike – five-leg roundabout at this intersection, pending the topographic findings in this area once the survey is completed for design purposes*
- *Highway 96 West – roundabout with the understanding that based on projected traffic volumes, the intersection is likely to operate at a Level of Service “F” by the year 2030*
- *Del Rio Pike – roundabout at this intersection*

- ADDITIONAL ACCESS POINTS AND CROSSINGS:

Any additional access points to the MHP facility should be located to serve the transportation needs of the residents and development in the community and be consistent with the State and City of Franklin’s Major Thoroughfare Plans. The group recommended consideration of additional access points not previously identified in the DEIS, at the following locations:

- *Between Highway 96 West and Carters Creek Pike*
- *Hillview Lane Area*
- MHP CROSSINGS:
  - Lula Lane and Old Charlotte Pike should remain functional, consistent with the City’s MTP, and continue to be accessible to residents while addressing each crossing in the following order of preference:
    1. *Cul-de-sac each end of Old Charlotte Pike at the intersection of MHP*
    2. *Lula Lane or Old Charlotte Pike could go under MHP*
    3. *Lula Lane or Old Charlotte Pike could go over MHP*
- BRIDGE TYPES:
  - Two parallel bridge structures that are continuous over both river crossings
  - Steel Girder – Both bridge structures are to be steel structures with a single column pier whenever possible; concrete girder sections could be utilized between the river crossings if necessary but should be designed to be consistent in appearance with the steel girder sections
    - When bridge width requires multiple column piers, they should be designed to be consistent in appearance with the single column piers*
  - The typical section of the west bound bridge should include a sidewalk and the east bound bridge should include a multi-use path
- LANDSCAPE TREATMENT:
  - The group consensus was to accept the landscape recommendations for each character segment as presented in Final Report, Section 3.6
  - The CDT also reached consensus to recommend the consideration of additional landscape buffering and noise walls where deemed appropriate by TDOT during design; if noise walls are required, they should be of an aesthetic design type

## STATEMENT OF CONSENSUS

We, the members of the Mack Hatchler Parkway Context Sensitive Citizen Design Team, request that the Tennessee Department of Transportation accept and carry forward the recommendations described in this document for the improvement of the existing section of Mack Hatchler Parkway (Shore Route 494) and the proposed extension of Mack Hatchler Parkway. We have reached consensus on design features noted herein and submit this set of recommendations to TDOT. We appreciate the opportunity provided by TDOT to participate in this CSD process, and we further recommend that the department continue to utilize local participation in this project as it moves forward through subsequent engineering and construction phases.



Darie Byles, Franklin Resident,  
Harped River Watershed Association



Dan Klatt, Franklin Resident,  
City of Franklin Alderman



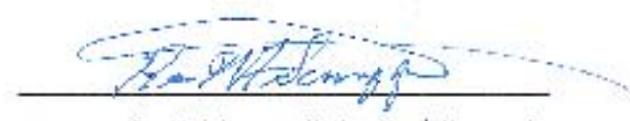
Roy Rowan, Whitehall Farms Community



Tony Chandler, Franklin Green Community



Matt Lyons, Franklin Resident



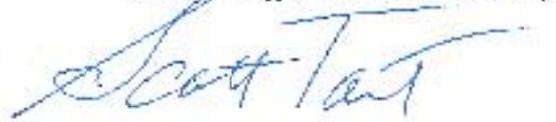
Rev. W. J. Scruggs, Carters Creek Community



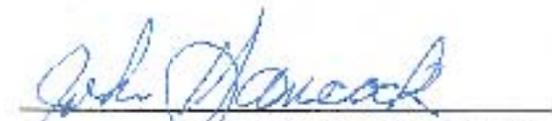
Ben Cozadaw, Westhaven Community



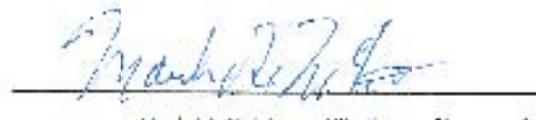
Vince McCullough, Carters Creek Community



Scott Tant, Towner's Point Neighborhood



John Hancock, Franklin Resident,  
Williamson County Commissioner



Mark McCutcheon, Westhaven Community



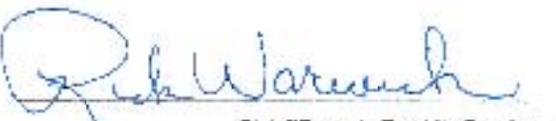
Sadie Wade, Hillview Lane Resident



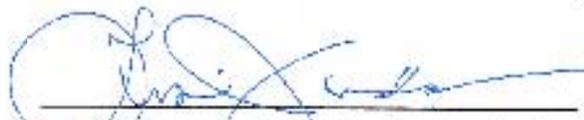
Steve Hewston, Franklin Green Community



Houston Naron, Jr., Franklin Resident,  
Williamson County Commissioner



Rick Warwick, Franklin Resident,  
Williamson County Historical Society



Lisa Judd, Rebel Meadows Neighborhood



Mary Pearce, Franklin Resident,  
Heritage Foundation

## 5.2 :: conclusion

Realizing the vision for Mack Hatcher Parkway through Context Sensitive Design was a collaborative effort that required cooperation and community consensus building. The recommendations set forth within this document significantly influence the extension of MHP and enhancements to the existing sections while respecting the unique context that surrounds MHP. The CSD process is a vital means of maintaining the important balance between the goals of safety and mobility and the preservation and enhancement of aesthetic, historic, environmental and community resources.

Beginning with the introductory training workshop, and building session by session, contextual understanding of the corridor was developed. This careful and incremental process worked to build consensus among the CDT, ART, TDOT, the public, the consulting team, and other stakeholders in the project by informing and involving all participants. Recommendations from the CSD process seek to strengthen the unique local and regional character of Franklin, Tennessee by providing guidance for future design decisions that reflect the desires of the community. With full support by the CDT, the recommended design elements resulting from this CSD process are appropriate to

the region, recognize the unique character of the area, and create a safe and engaging user environment.

It is the recommendation of the CDT that the Context Sensitive process be continued throughout the design and construction phases of this very important project. Continued citizen involvement would help to ensure that design recommendations, and the principles upon which these recommendations were based, are considered throughout the project. This will lead to a community supported project that improves traffic mobility and quality of life for the residents of the area.

### APPENDIX MATERIALS

Additional materials referred to throughout this report as “Appendix” can be obtained from TDOT. The Appendix contains Conceptual Design sections (including a cost estimate for the entire route, typical sections, intersection layouts, and functional layouts that illustrate the design recommendations), the Contextual Understanding Report, and public meeting documentation.