

MACK HATCHER



P A R K W A Y

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) roadway improvement and extension in Franklin, Tennessee is a unique project on which the Tennessee Department of Transportation (TDOT) has utilized the CSD process to improve and develop a roadway that complements its surroundings. This milestone project functions with interdependent stakeholders working together as a unified 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 evaluated possible context sensitive design solutions for the widening of existing sections of MHP and for a new western extension. 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 CSD 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 Mack Hatcher Parkway built upon CSD principles.

context sensitive design

I mmersed in history and culture while maintaining a contemporary appeal, Franklin 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 preserve that distinction by working to develop a functional, aesthetically-pleasing roadway that fits into its environment.

There are many benefits to using the CSD process, including promoting public acceptance, trust, and support by building positive relationships with stakeholders.

Including local stakeholders and involving the community of Franklin in the design process was central to understanding the importance of the context of MHP. The people that use the roadway everyday understand the effects proposed changes will have on their neighborhoods.

The CSD process works to maintain an important balance point between the region, user, community, and environment. It provides a sensitive design approach and 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.



the IMPORTANCE of CSD



process organization

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. 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. The consulting team listened to all stakeholders and then developed design recommendations for a roadway that corresponds 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 provided local perspective on the community's character and suggested how they thought MHP should be designed to maintain and enhance that character. The ART included representatives from key agencies that provided expertise and information to assist in the process. They brought 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 and issues that arose.



“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

Utilizing the various team members and the public to develop design recommendations for MHP was a multi-step process where each phase was dependent on the next. First the design team took an 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 provides the image for the finished product (please see the vision statement in the Consensus Memo located at the end of this document). Once the vision was established, everyone involved worked to see that this vision was realized by organizing goals and objectives that will help create 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 project. These meetings served as working sessions to discuss the various design issues, make informed decisions built upon group consensus, and lead to the formation of the following visualizations for the future extension and improvement of existing Mack Hatcher Parkway.

charactersegmentorganization

While the entire corridor relates to the historic City of Franklin, MPH contains four visually and quantitatively distinct areas. These notable differences resulted in the formation of four Character Segments, which are referred to as: Existing Corridor, Southall Hills, West Harpeth, and Harpeth River Crossings. Each segment is based on identified, existing, or planned context that is 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.

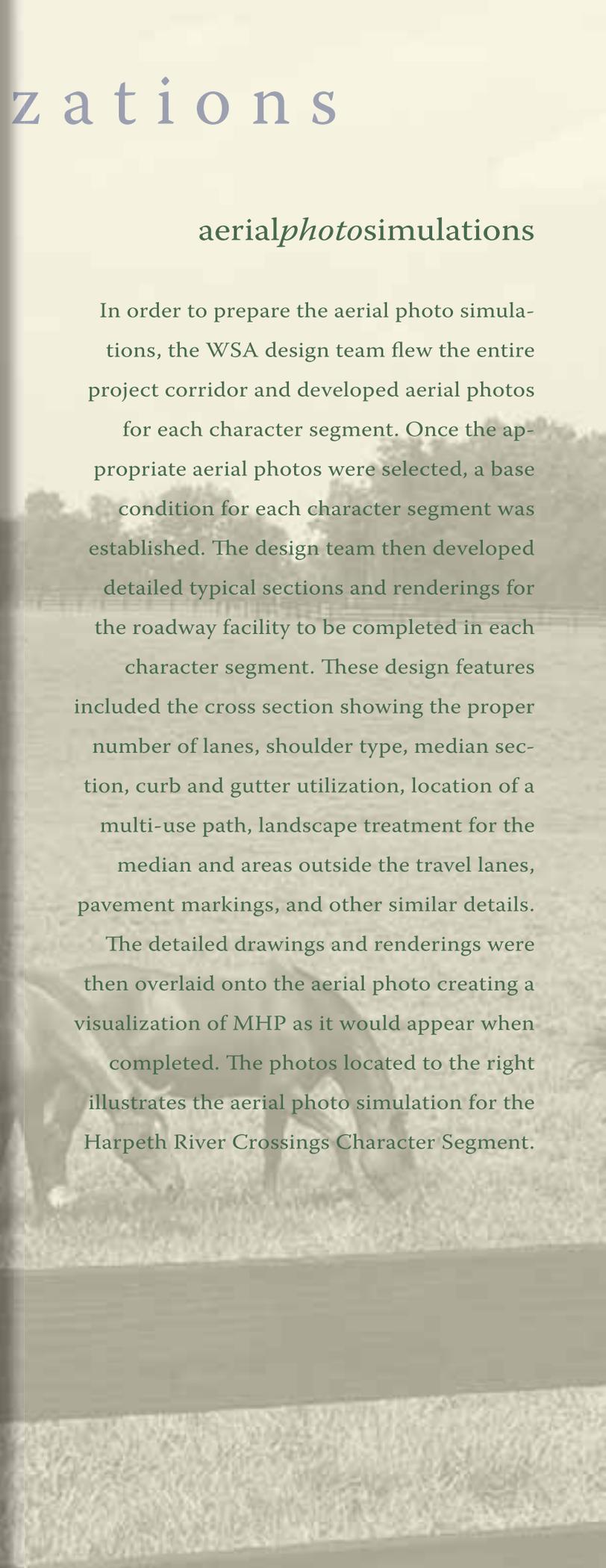
visualizations

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 help the CDT members and general public visualize the MHP facility. These visuals helped affirm that the design team's recommendations were the best ones for the MHP environment. These visuals also allowed the design team to prepare effective presentations for public meetings, which led to informed public input and ultimately 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 video.

aerial *photosimulations*

In order to prepare the aerial photo simulations, the WSA design team flew the entire project corridor and developed aerial photos for each character segment. Once the appropriate aerial photos were selected, 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 a multi-use path, landscape treatment for the median 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 MHP as it would appear when completed. The photos located to the right illustrates the aerial photo simulation for the Harpeth River Crossings Character Segment.



HARPEATH RIVER CROSSING
CHARACTER SEGMENT

before

after



MHP / FRANKLIN ROAD
INTERSECTION

before

after



visualizations

aerialphotosimulations

Aerial photo simulations were also developed for two Gateway intersections to the City of Franklin: Mack Hatcher Parkway / Franklin Road intersection and the Mack Hatcher Parkway / Highway 96 East intersection. These aerial photo simulations were created utilizing the same methodology as described above for the character segment simulations. The CDT recommended that the Mack Hatcher Parkway / Highway 96 East intersection be an at-grade, signalized intersection and that the Mack Hatcher Parkway / Franklin Road intersection be a Single Point Urban Interchange (SPUI), shown in the illustrations on the facing page.

groundlevelsimulations

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 previously discussed. Ground level simulations appear on the following page.

visuallizations



before



before



before

groundlevel simulations



after

MHP / HIGHWAY 96
WEST ROUNDABOUT



after

HILLVIEW LANE AT
COLUMBIA AVENUE



after

MHP AT
DEL RIO PIKE

vide simulations

The design team also utilized two different video visualization techniques to further communicate with the CDT and the public. These included a documentary of the CSD process with personal interviews of various CDT members and representatives of the Tennessee Department of Transportation, Hawkins Partners, Inc., and Wilbur Smith Associates, as well as a video animation which gave a virtual “drive around” tour of the fully completed Mack Hatcher Parkway.

For the documentary of the CSD process, *Mack Hatcher Parkway: Realizing the Vision*, video was captured that documented the current context of the Mack Hatcher Parkway corridor and the City of Franklin. This was important to confirm Franklin’s contextual sense of place that would be preserved and enhanced by the completed Mack Hatcher Parkway CSD process. This 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 improvement project.



scenes from *Imagining the Mack Hatcher Parkway*

v i s u a l i z a t i o n s

visualizations



scenes from *Mack Hatcher Parkway: Realizing the Vision*

A second video was produced to further highlight the visualizations prepared for aerial photo simulations and ground level simulations. This video, *Imagining the Mack Hatcher Parkway*, features a virtual tour of the proposed Mack Hatcher Parkway corridor. A virtual model of the City of Franklin was created utilizing Geographic Information Systems (GIS) and other graphics / modeling tools. The model included the city limits and Urban Growth Boundary (UGB) of Franklin as well as the entire Mack Hatcher Parkway corridor. The model was built such that the animation could be captured and presented at various perspectives above the city. The virtual tour began with a high level look at the city including the transportation system, residential and commercial areas, and undeveloped areas. The alignment of MHP was then superimposed on the model showing the entire route of the completed Parkway. The virtual tour then moved the viewer around the project corridor while featuring the previously developed aerial photo and ground level simulations. Narration and interview segments with CDT members and with TDOT, Hawkins Partners, Inc., and WSA representatives were included with the photo simulations. The narration and interviews described the simulation features being presented to the viewer.

The videos were extremely well received by the CDT members and the general public and served as a very effective tool in further communicating the ideas developed for Mack Hatcher Parkway. By presenting these visual tools showcasing the design team's ideas to the public, they 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 the public would heartily support. 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.

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

c o n s e n s u s m e m o

- ♦ 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*

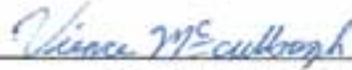
- BRIDGE TYPES:
 - Two parallel bridge structures that are continuous over both river crossings
 - Steel Girder – Both bridge structures are to be steel structures with a single column pier whenever possible; concrete girder sections could be utilized between the river crossings if necessary but should 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 Hatcher 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 Hatcher Parkway (State Route 397) and the proposed extension of Mack Hatcher 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.



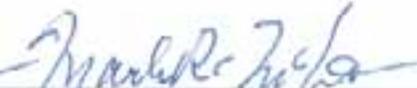
Dorie Bolze, Franklin Resident,
Harpeh River Watershed Association



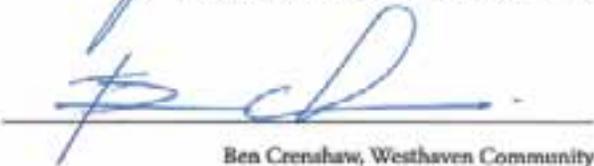
Vience McCullough, Carters Creek Community



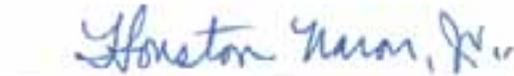
Terry Chandler, Franklin Green Community



Mark McCutcheon, Westhaven Community



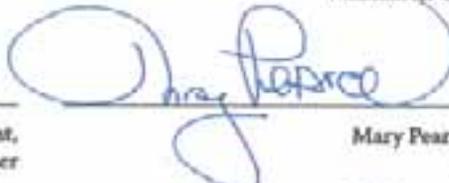
Ben Crenshaw, Westhaven Community



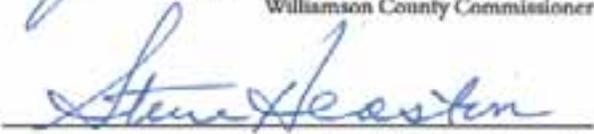
Houston Naron, Jr., Franklin Resident,
Williamson County Commissioner



John Hancock, Franklin Resident,
Williamson County Commissioner



Mary Pearce, Franklin Resident,
Heritage Foundation



Steve Heaston, Franklin Green Community



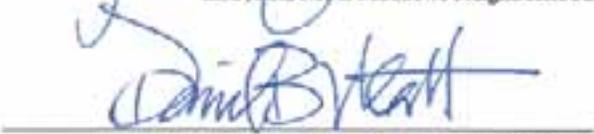
Rory Rowan, Whitehall Farms Community



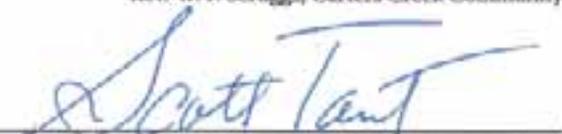
Lisa Judd, Rebel Meadows Neighborhood



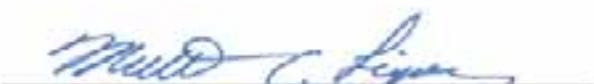
Rev. W. F. Scruggs, Carters Creek Community



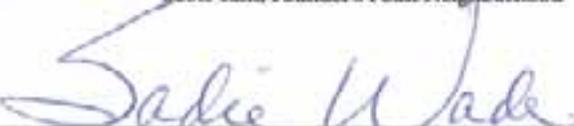
Dan Klatt, Franklin Resident,
City of Franklin Alderman



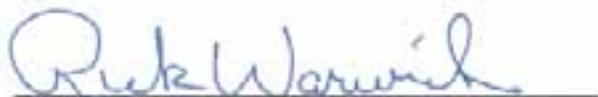
Scott Tant, Founder's Point Neighborhood



Matt Ligon, Franklin Resident



Sadie Wade, Hillview Lane Resident



Rick Warwick, Franklin Resident,
Williamson County Historical Society

TD  T
Go.

prepared by

WilburSmith
ASSOCIATES

