FINAL
FEASIBILITY STUDY ADDENDUM

For

MARTIN LUTHER KING, JR. DRIVE EXTENSION

Winston-Salem, North Carolina

Prepared For:

Winston-Salem
CITY OF WINSTON-SALEM
DEPARTMENT OF TRANSPORTATION

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# Table of Contents

## I. Introduction

## II. Background Information

## III. Preliminary Environmental Findings

   A. Wetlands
   B. Floodplains
   C. Historic Properties
   D. Contaminated Properties
   E. Archeological Sites
   F. Cultural / Community Resources
   G. Threatened / Endangered Species

## IV. Development of Improve Existing Roadway Concept

## V. Projected Traffic Volumes / Levels of Service

   A. Traffic Projections
   B. Level of Service Calculations

## VI. Corridor Alternatives Description

## VII. Public Involvement Summary

   A. Steering Committee Meeting #1
   B. Steering Committee Meeting #2
   C. Public Workshop #1

## VIII. Cost Estimates

## IX. Recommendations

## X. Conclusions

## XI. References
LIST OF TABLES

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Level of Service Criteria</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>Existing Conditions Level of Service Summary</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>Level of Service Summary</td>
<td>16</td>
</tr>
<tr>
<td>4</td>
<td>Preliminary Cost Estimates</td>
<td>20</td>
</tr>
</tbody>
</table>

LIST OF FIGURES

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Study Location Map</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>City of Winston-Salem Thoroughfare Plan</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>2010 Existing Peak Hour Traffic</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>2015 No-Build Peak Hour Traffic</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>2035 No-Build Peak Hour Traffic</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>2015 Build Peak Hour Traffic</td>
<td>11</td>
</tr>
<tr>
<td>7</td>
<td>2035 Build Peak Hour Traffic</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>Recommended Lane Configuration and Traffic Control</td>
<td>17</td>
</tr>
<tr>
<td>9A-9F</td>
<td>Preliminary Preferred Alternative</td>
<td>23A-23F</td>
</tr>
</tbody>
</table>

APPENDICES

Appendix A  Background Data
Appendix B  Capacity Software Output
Appendix C  Public Involvement Information
I. INTRODUCTION

The Feasibility Study for the MLK Jr. Drive Extension was completed in November 2009. This study examined the feasibility of constructing a major east-west connector road by extending the existing Martin Luther King, Jr. Drive westward from Trade Street to Northwest Boulevard in order to enhance the east-west connectivity in the study vicinity.

This Addendum addresses public comments received during the first study which questioned the feasibility of using the existing roadway network of University Parkway and Northwest Boulevard from W. 8th Street to east of Manly Street rather than extending Martin Luther King, Jr. Drive on new location.

This Addendum examines the feasibility of improving University Parkway and Northwest Boulevard in order to enhance the east-west mobility and connectivity in the study vicinity. This Alternative is hereafter referred to as Improve Existing Roadway Alternative.

This planning study examines the environmental features, traffic volumes, development, and travel patterns within the study area. Public input was used to assist the project team in the development of the Improve Existing Roadway Alternative.

The purpose of this Addendum is to develop information that can be used in determining future priorities by the City of Winston-Salem Department of Transportation and to move this project into a project implementation phase through the provision of the following information:

- Project Description
- Preliminary Environmental Screening Information
- Project Cost Estimate
- Identification of “project stopping concerns”

The project location is shown in Figure 1.

Northwest Boulevard @ Rundell Street (looking westbound)

Northwest Boulevard @ University Parkway (looking westbound)
II. BACKGROUND INFORMATION

The proposed Martin Luther King, Jr. Drive Extension is identified on the *Winston-Salem Urban Area Thoroughfare Plan* (shown on Figure 2). The proposed extension is designated to be a major east-west thoroughfare which will improve traffic flow and connectivity in the project vicinity. The Martin Luther King, Jr. Drive Extension is also expected to alleviate through traffic that is currently accessing the Historic West End District to get to the downtown area, making the West End District safer and more pedestrian friendly.

A *Constructability Assessment* was prepared by Wilbur Smith Associates in 2002. The findings of this assessment revealed that no project stopping issues were identified and recommended that the City of Winston-Salem move forward with the Martin Luther King, Jr. Drive Extension project.

III. PRELIMINARY ENVIRONMENTAL FINDINGS

Environmental considerations associated with highway construction are a central part of the planning process. More recently with the approval of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) bill in 2005, more emphasis has been placed on early consultation with environmental agencies.

Efforts were made to identify known or documented environmental constraints that may adversely impact the ability to move forward with this project. Please note the data collection efforts were preliminary in nature at this stage of the planning process. This involved researching available information from the City of Winston-Salem, Forsyth County, US Fish & Wildlife Service, NC Department of Environment and Natural Resources (NCDENR), National Wetland Inventory Maps (NWI), Federal Emergency Management (FEMA) mapping and local & national historic property inventories. Results of the environmental screening are shown below:

A. Wetlands

In general terms, wetlands are areas where saturation with water is the dominant factor in determining the nature of the soil development and the types of plant and animal communities living in the soil and on its surface. Wetlands are crucial ecosystems in our environment. Wetlands help regulate and maintain the hydrology of rivers, lakes, and streams and provide habitat for approximately one third of the plant and animal species that are federally listed as threatened or endangered.

The presence of wetlands along the corridor for the Martin Luther King, Jr. Drive Extension was determined through a review of the National Wetlands Inventory (NWI) mapping of the area, coupled with direct field observation by staff trained and experienced with the methods outlined in the United States Army Corps of Engineers 1987 Wetland Delineation Manual.

The NWI mapping does not indicate the presence of wetlands in the Martin Luther King, Jr. Drive corridor, which is to be expected in such a highly urbanized landscape. However, Peters Creek traverses the corridor and is presently crossed by two bridges in the corridor at Thurmond Street and Reynolda Road. The Reynolda Road Bridge over Peters Creek is considered by the City of Winston Salem to be historically significant.
Any temporary or permanent impacts or crossing of Peter’s Creek will require a Section 404/401 permit(s).

B. Floodplains

Floodplains are land areas adjacent to rivers and streams that are subject to recurring flooding. According to floodplain mapping obtained from the North Carolina Floodplain Mapping Program, the only floodplain area in the study area is associated with Peter’s Creek which has been known to flood regularly southwest of the intersection of Northwest Boulevard / Rundell Street.

C. Historic Properties

Federal and State laws require that special efforts are made to preserve historic sites or minimize impacts. The Area of Potential Effect (APE) for historic resources contains many historically noteworthy resources, ranging from properties that are listed on the National Register of Historic Places to properties that are likely eligible but require further research for a determination. The sources used to identify the historical features in the project area included direct correspondence with Forsyth County staff, internet research, field observation, and the Phase I Architectural Reconnaissance Survey for Martin Luther King, Jr. Drive Extension to Reynolda Road Area prepared by Mattson Alexander & Associates, Inc. in 2002.

The following properties are located in the study area for the Improve Existing Roadway Alternative and listed on the National Register of Historic Places.

Structures that deserve further research and have a high potential of eligibility:

- Chatham and Hanes Plants – 800 Chatham Road and Northwest Boulevard
- Row of 1930/1940s houses on Southeast side of Rundell Street

Historically Significant Bridges:

- Northwest Boulevard across Peters Creek
- Norfolk Southern Railroad across Northwest Boulevard

Further study should be completed in the area prior to any final decisions on the alternatives for the completion of Martin Luther King, Jr. Drive, given the preliminary data provided.

D. Contaminated Properties

A review of the report obtained from Environmental Data Resources (EDR), Inc. reveals that there is one (1) property / “area of concern” that was identified for reporting contamination or having hazardous substance disposed on site in the past. The following site was included in the report which may pose potential constraints when constructing future improvements:

- Abandoned 18,000 gallon underground fuel storage tank, located at Northwest Boulevard and Chatham Road (Industrial Building).
E. Archeological Sites

North Carolina has a goal to preserve archeological sites across the state; obtaining information about known sites is difficult at the feasibility study stage. The North Carolina State Historic Preservation Office archives were reviewed in order to identify any potential archaeological resources in the vicinity of the corridor. This file search did not reveal the presence of any archaeological resources.

F. Cultural / Community Resources

There were no cultural or community resources found within the study limits of the Improve Existing Roadway Alternative.

G. Threatened / Endangered Species

According to information obtained from the United States Fish and Wildlife Service, Forsyth County is currently home to one (1) federally threatened species and was historically home to two (2) federally endangered species. The Bog Turtle is on the federal threatened species list and has been seen in Forsyth County; however, there is no suitable habitat present in the Martin Luther King, Jr. Drive Extension corridor for this species of turtle. The Red-cockaded Woodpecker and the Small-anthered Bittercress are on the federal list of endangered species but are only known to exist in Forsyth County through historical records. Additionally, there is no suitable habitat for these species in the study area either. Since no suitable habitat for these three (3) species is present in the study area, the presence of these species is extremely unlikely and should not pose a concern for this project.

Based on a review of known resources, historical properties, or documented environmental elements, there are no known project stopping environmental impacts have been identified.

IV. DEVELOPMENT OF IMPROVE EXISTING ROADWAY CONCEPT

The study completed in 2009 determined that the best possible alternative for extending Martin Luther King Jr. Drive was Alternative A. However based on comments received from the public, it was decided that additional thought should be placed on whether MLK Jr. Drive could be extended using the existing roadways, namely using Northwest Boulevard. Improvements such as increasing the design speed from 25mph to 35mph, replacing the Peter’s Creek bridge, and providing additional turn lanes at Northwest Boulevard and Thurmond Street would be implemented with the additional alternative.

V. PROJECTED TRAFFIC VOLUMES / LEVELS OF SERVICE

A. Traffic Projections

Morning (7-9 am) and afternoon (4-6 pm) peak hour traffic counts were counted by WSA at the following locations:

- W. 8th Street / N. Cherry Street (02/13/08)
- W. 8th Street / N. Marshall Street (02/13/08)
- W. Northwest Boulevard / Thurmond Street / N. Broad Street (02/21/08)
- University Parkway / Northwest Boulevard (03/24/10)
- Northwest Boulevard / Chatham Road (03/25/10)
For the counts which were gathered in 2008, a 1.5% growth rate was used to determine the 2010 AM and PM peak hour traffic volumes. Existing AM and PM peak hour traffic volumes are shown on Figure 3.

Based on historic traffic trends in the area and feedback from the City of Winston-Salem, a 1.5% growth rate was used to estimate future 2015 and 2035 background traffic volumes. The following is a list of the study scenarios:

- 2010 Existing
- 2015 Opening Year No-Build
- 2015 Opening Year Build Out
- 2035 No-Build
- 2035 Build Out

The traffic volumes and capacity analysis results are included in Appendix B.

Below are the intersections that were included in the study area for the Improve Existing Roadway Alternative:

- W. 8th Street / N. Cherry Street
- W. 8th Street / N. Marshall Street
- W. Northwest Boulevard / Thurmond Street / N. Broad Street
- University Parkway / Northwest Boulevard
- Northwest Boulevard / Chatham Road
- Northwest Boulevard / Rundell Street

Morning and afternoon peak hour traffic volumes for the 2015 and 2035 No-Build conditions are shown in Figures 4 and 5.

Based on conversations and feedback from the City of Winston-Salem, it was determined that some amount of traffic should be assumed to divert onto the improved Northwest Boulevard and University Parkway to reflect the same analysis which took place for Alternative A. While this diversion of traffic would not be as large as the amount which was assumed for Alternative A, it was still determined that some commuters may divert onto Northwest Boulevard if the corridor was improved substantially enough to make it more desirable. Volumes for the 2015 and 2035 Build years were increased by approximately 50-75% over their respective No-Build years to account for the placement of wayfinding signage onto Northwest Boulevard. Morning and afternoon peak hour traffic volumes for the 2015 and 2035 Build conditions are shown in Figures 6 and 7.
B. Level of Service Calculations

The study area intersections were analyzed using the methods outlined in the *Highway Capacity Manual* and Synchro Version 7.0 Software. The *Highway Capacity Manual* defines capacity as “the maximum rate of flow at which persons or vehicles can be reasonably expected to traverse a point or uniform section of a lane or roadway during a specified time period under prevailing roadway, traffic, and control conditions, usually expressed as vehicles per hour or persons per hour”.

Level of service (LOS) is a term used to represent different traffic conditions, and is defined as a “qualitative measure describing operational conditions within a traffic stream, and their perception by motorist/or passengers”. Level of Service varies from Level A, representing free flow, to Level F where traffic breakdown conditions are evident. Level B represents good progression with minimal congestion. At Level C, the number of vehicles stopping is significant, although many still pass through the intersection without stopping. Level D represents more congestion, but the overall operations are acceptable. At Level E, freedom to maneuver within the traffic stream is extremely difficult with driver frustration being generally high.

For signalized intersections, service levels pertain to each approach as well as an overall value. The unsignalized intersection analysis method in the *Highway Capacity Manual* assigns LOS values for each movement that yields the right-of-way, but not to the overall intersection. This movement is generally a secondary movement from a minor street. At an unsignalized intersection, the primary traffic on the main roadway is virtually uninterrupted. Therefore, the overall level of service is usually much greater than what is represented by the results of the minor street movements. Synchro Version 7.0 will calculate an amount of delay for the overall intersection, but will not assign a LOS value.

Generally, Level of Service D is considered acceptable for signalized intersections in suburban areas during peak periods. With the current method of reporting levels of service for unsignalized intersections, it is not uncommon for some of the minor street movements to be operating at a LOS F during the peak hours.

Table 1 presents criteria of each level of service as indicated in the *Highway Capacity Manual*. 
TABLE 1: LEVEL OF SERVICE CRITERIA

<table>
<thead>
<tr>
<th>SIGNALIZED INTERSECTIONS</th>
<th>UNSIGNALIZED INTERSECTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level of Service</strong></td>
<td><strong>Stopped Delay Per Vehicle (sec)</strong></td>
</tr>
<tr>
<td>A</td>
<td>(\leq 10.0)</td>
</tr>
<tr>
<td>B</td>
<td>(&gt;10.0 \text{ and } \leq 20.0)</td>
</tr>
<tr>
<td>C</td>
<td>(&gt;20.0 \text{ and } \leq 35.0)</td>
</tr>
<tr>
<td>D</td>
<td>(&gt;35.0 \text{ and } \leq 55.0)</td>
</tr>
<tr>
<td>E</td>
<td>(&gt;55.0 \text{ and } \leq 80.0)</td>
</tr>
<tr>
<td>F</td>
<td>(&gt;80.0)</td>
</tr>
</tbody>
</table>


Synchro Version 7.0 calculates the level of service and delay for each intersection using methods outlined in the *Highway Capacity Manual*.

**Capacity Analyses Results**

- **2010 Existing Condition**
  Using the existing lane configurations and signal timings, levels of service for the existing 2010 scenario were calculated for the study area intersections. Overall, no capacity problems were identified in the study area as all study area intersections operate at LOS C or better during the AM and PM peak hours. The 2010 Existing Conditions capacity analyses results for the AM and PM peak hours for the study area intersections are included in Table 2.

Table 2: Existing Conditions Level of Service Summary

<table>
<thead>
<tr>
<th>Intersection</th>
<th>2010 Existing AM Peak Hour</th>
<th>2010 Existing PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLK Jr. Dr. / N. Cherry St.</td>
<td>C (31.2)</td>
<td>C (25.4)</td>
</tr>
<tr>
<td>MLK Jr. Dr. / N. Marshall St.</td>
<td>A (3.7)</td>
<td>A (4.2)</td>
</tr>
<tr>
<td>University Parkway/Northwest Blvd.</td>
<td>B (13.7)</td>
<td>B (16.9)</td>
</tr>
<tr>
<td>Northwest Blvd./Chatham Rd.</td>
<td># (0.1)</td>
<td># (0.3)</td>
</tr>
<tr>
<td></td>
<td>B (11.1) NB</td>
<td>B (13.2) NB</td>
</tr>
<tr>
<td>Northwest Blvd./Rundell St.</td>
<td># (1.2)</td>
<td># (0.7)</td>
</tr>
<tr>
<td></td>
<td>B (10.6) WB</td>
<td>B (11.1) WB</td>
</tr>
<tr>
<td>Broad St./Northwest Blvd.</td>
<td>B (14.1)</td>
<td>B (14.8)</td>
</tr>
</tbody>
</table>

# - No letter value assigned by Synchro, only overall intersection delay
2015 Opening Year No-Build Condition
The 2015 no-build analysis assumes that no improvements have been made to University Parkway and Northwest Boulevard. Using the existing signal timings, the 2015 No-Build levels of service were calculated for the study area intersections. The MLK Jr. Dr. / Cherry St. intersection is predicted to continue to operate at LOS C during the AM and PM peak hours. All other intersections in the study area are predicted to operate at acceptable levels of service. The 2015 No-Build Condition capacity analyses results for the AM and PM peak hours for the study area intersections are included in Table 3.

2015 Opening Year Build Out Condition
Under the 2015 Opening Year Build Out scenario, all intersections are expected to operate with acceptable levels of service. All of the signalized intersections are expected to operate with a LOS of C or better during both the AM and PM peak hours. The unsignalized intersections of Northwest Boulevard / Chatham Road and Northwest Boulevard / Rundell Street are both expected to operate with minimal delays during both peak hours. The 2015 Buildout Condition capacity analyses results for the AM and PM peak hours for the study area intersections are included in Table 3.

2035 No-Build Condition
The 2035 no-build analysis assumes that no improvements have been made to University Parkway and Northwest Boulevard. Using the existing signal timings, the 2035 No-Build levels of service were calculated for the study area intersections. The MLK Jr. Dr. / Cherry St. intersection is predicted to continue to operate at LOS E during the AM peak hour and LOS D during the PM peak hour. All other intersections in the study area are predicted to operate at acceptable levels of service. The 2035 No-Build Condition capacity analyses results for the AM and PM peak hours for the study area intersections are included in Table 3.

2035 Build Out Condition
Under the 2035 Build Out scenario, all intersections are expected to operate with acceptable levels of service. All of the signalized intersections are expected to operate with a LOS of D or better during both the AM and PM peak hours. The unsignalized intersections of Northwest Boulevard / Chatham Road and Northwest Boulevard / Rundell Street are both expected to operate with minimal delays during the AM peak hour. Delays will be slightly more moderate during the PM peak hour for both intersections but increased delays are common during the peak hours and usually do not require signalization. The 2035 Buildout Condition capacity analyses results for the AM and PM peak hours for the study area intersections are included in Table 3.

The recommended lane configurations and traffic control for the Improve Existing Roadway Alternative is shown on Figure 8.

Capacity analyses for all studied intersections are included in Appendix B.
### Table 3: Level of Service Summary

<table>
<thead>
<tr>
<th>Intersection</th>
<th>2015 No-Build</th>
<th>2015 Build</th>
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<td>AM Peak</td>
<td>PM Peak</td>
<td>AM Peak</td>
<td>PM Peak</td>
</tr>
<tr>
<td>MLK Jr. Dr. / N. Cherry St.</td>
<td>C (31.7)</td>
<td>C (26.7)</td>
<td>C (23.0)</td>
<td>C (24.6)</td>
</tr>
<tr>
<td></td>
<td>E (57.0)</td>
<td>D (35.9)</td>
<td>C (25.3)</td>
<td>C (29.4)</td>
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<tr>
<td>MLK Jr. Dr. / N. Marshall St.</td>
<td>A (4.0)</td>
<td>A (4.6)</td>
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<td>A (8.6)</td>
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<tr>
<td></td>
<td>A (5.1)</td>
<td>A (5.6)</td>
<td>B (11.0)</td>
<td>B (12.0)</td>
</tr>
<tr>
<td>University Parkway/Northwest Blvd.</td>
<td>B (14.7)</td>
<td>B (18.5)</td>
<td>C (26.2)</td>
<td>C (28.5)</td>
</tr>
<tr>
<td></td>
<td>C (20.7)</td>
<td>C (32.4)</td>
<td>D (53.1)</td>
<td>D (53.7)</td>
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<td>Northwest Blvd./Chatham Rd.</td>
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<td># (0.3)</td>
<td># (0.1)</td>
<td># (0.4)</td>
</tr>
<tr>
<td></td>
<td>B (11.4) NB</td>
<td>B (14.0) NB</td>
<td>C (18.9) NB</td>
<td>D (32.1) NB</td>
</tr>
<tr>
<td></td>
<td># (0.2)</td>
<td># (0.4)</td>
<td>B (13.3) NB</td>
<td>C (18.2) NB</td>
</tr>
<tr>
<td></td>
<td># (0.2)</td>
<td># (0.4)</td>
<td>D (27.3) NB</td>
<td>F (85.4) NB</td>
</tr>
<tr>
<td>Northwest Blvd./Rundell St.</td>
<td># (1.2)</td>
<td># (0.7)</td>
<td># (0.9)</td>
<td># (0.7)</td>
</tr>
<tr>
<td></td>
<td>B (10.9) WB</td>
<td>B (11.4) WB</td>
<td>C (15.0) WB</td>
<td>B (18.6) WB</td>
</tr>
<tr>
<td></td>
<td># (1.4)</td>
<td># (0.8)</td>
<td>B (12.4) WB</td>
<td>B (13.5) WB</td>
</tr>
<tr>
<td></td>
<td># (1.3)</td>
<td># (1.2)</td>
<td>C (19.2) WB</td>
<td>D (32.7) WB</td>
</tr>
<tr>
<td>Broad St./Northwest Blvd.</td>
<td>B (14.8)</td>
<td>B (16.1)</td>
<td>C (31.2)</td>
<td>C (31.5)</td>
</tr>
<tr>
<td></td>
<td>C (21.4)</td>
<td>D (40.7)</td>
<td>D (45.8)</td>
<td>D (51.7)</td>
</tr>
</tbody>
</table>

# - No letter value assigned by Synchro, only overall intersection delay
VI. CORRIDOR ALTERNATIVES DESCRIPTION

As a part of this study, several possible improvements were considered to be implemented with the proposed Improve Existing Roadway Alternative. Descriptions of the corridor improvements for the alternative are as follows:

- Realign Northwest Boulevard across Peter’s Creek, west of the existing bridge, and realign Chatham Street and Rundell Street.
- Restripe 8th Street at Cherry Street to provide for an exclusive right turn lane and a shared through/right lane.
- Provide an exclusive eastbound right turn lane on Northwest Boulevard at University Parkway with 150 feet of full width of storage.
- Extend 7th Street from Buxton Street to Chatham Street.
- Restripe Northwest Boulevard at Broad Street/Thurmond Street to provide for exclusive left turn lanes with 100 feet of full width storage.
- Optimize signal timings as necessary.

➢ Other Recommended Improvements

- Proposed Roundabout at the Reynolda Road/West End Boulevard intersection.
- Reconfiguration of the Broad Street/West End Boulevard/7th Street intersection.
VII. PUBLIC INVOLVEMENT SUMMARY

Three (3) meetings were held during the process of this study in order to obtain input from Steering Committee members, interested citizens, businesses, and special interest groups. The Steering Committee for this project was identified as representatives from the City of Winston-Salem Department of Transportation (WSDOT), Winston-Salem Urban Area Metropolitan Planning Organization (WSMPO), Winston-Salem City-County Planning Board (CCPB), North Carolina Department of Transportation (NCDOT), and Wilbur Smith Associates (WSA). Meeting minutes and agendas are attached in Appendix C. Two (2) Steering Committee Meetings and one (1) Public Workshop were held throughout the project process.

A. Steering Committee Meeting #1

Steering Committee Meeting #1 was held on April 20, 2010 to review the project schedule, discuss the reasons for the additional alternative, elicit project input from Steering Committee members. The Steering Committee members discussed several options including the replacement of the Peter’s Creek bridge on Northwest Boulevard and what added benefits would be felt for the corridor should Northwest Boulevard be chosen as the desired route for extending MLK Jr. Drive.

The minutes for this meeting are included in Appendix C.

B. Steering Committee Meeting #2

Steering Committee Meeting #2 was held on June 22, 2010 to review the base mapping and preliminary conceptual designs for the project area. The committee discussed topics which were likely going to come up at the following public workshop and how to best answer many of the potential questions.

Public Workshop #1 was scheduled June 22, 2010 (4:00 - 7:00 pm) at the YWCA on Glade Street. Wilbur Smith Associates was responsible for the preparation of the Corridor Alternatives Maps, mailing notices, sign-in sheets and public comment sheets for Public Workshop #1.

C. Public Workshop #1

Citizens had the opportunity to view and comment on the Improve Existing Roadway Alternative presented during Public Workshop #1 which was held on Tuesday, June 22, 2010 (4:00 - 7:00 pm) at the YWCA on Glade Street. Earlier that day a Steering Committee Meeting was held from 1:00 - 2:00 pm at the City Hall. Invitations to the public meeting were mailed to the residents in the project vicinity. A news article was also posted in the local newspaper to notify the public of the time and date of the meeting. Approximately 31 citizens attended the workshop. The purpose of the workshop was to present the Improve Existing Roadway Alternative conceptual design alternative for the Martin Luther King, Jr. Drive Extension project. The citizens had the opportunity to view the alternative along with the Alternative A (construct MLK Jr. Drive Extension on new location) and provide comments on each. Comment sheets as well as project information sheets were given out during the meeting.
A total of 14 comments were received as a result of the public workshop. Of the citizens who provided comments, approximately 50% preferred the Improve Existing Roadway Alternative while 29% preferred the original all new location (Alternative A) of MLK Jr. Drive which was recommended in the November 2009 study.

<table>
<thead>
<tr>
<th>Alternative A – 4 (29%)</th>
<th>Alternative A or Improve Existing Roadway – 1 (7%)</th>
<th>Do Nothing (Opposed) – 1 (7%)</th>
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<tbody>
<tr>
<td>Improve Existing Roadway Alternative – 7 (50%)</td>
<td>No Preferred Alternative Identified – 1 (7%)</td>
<td></td>
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</tbody>
</table>

A summary of the written comments received from Public Workshop #1 is included in Appendix C.

VIII. COST ESTIMATES

A summary of the planning level cost estimates for the Improve Existing Roadway Alternative are included in the Table 4:

<table>
<thead>
<tr>
<th>Table 4: Preliminary Cost Estimates</th>
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<tbody>
<tr>
<td>Improve Existing Roadway Alternative</td>
</tr>
<tr>
<td>Preliminary Engineering</td>
</tr>
<tr>
<td>Construction (Roadway &amp; Structures)</td>
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<tr>
<td>Right-of-Way</td>
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<tr>
<td>Project Total Estimate</td>
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IX. RECOMMENDATIONS

Based on the comments received from Steering Committee members and area residents, the following improvements are recommended to be implemented with the Improve Existing Roadway Alternative should this Alternative be the selected Alternative:

**Northwest Boulevard at Rundell Street and Chatham Street**
- Realign Northwest Boulevard across Peter’s Creek, west of the existing bridge, and realign Chatham Street and Rundell Street.

**Northwest Boulevard at University Parkway**
- Construct a eastbound right-turn lane on Northwest Boulevard with 150 ft of storage.

**8th Street / Cherry Street**
- Construct a eastbound right-turn lane and a shared through/right turn lane on 8th Street.

**7th Street Extension**
- Extend 7th Street from Buxton Street to Chatham Street.

**Northwest Boulevard / Thurmond Street / Broad Street**
- Restripe Northwest Boulevard at Broad Street/Thurmond Street to provide for exclusive left turn lanes with 100 feet of full width storage.

**Broad Street / West End Boulevard / 7th Street**
- Reconfigure intersection to allow the major free flow movement along Broad Street traveling north-south. West End Boulevard and 7th Street would be stop controlled.

**West End Boulevard / Reynolda Road**
- Construct a single lane roundabout.

A half scale conceptual design of the Improve Existing Roadway Alternative is illustrated in Figures 9A – 9F.

X. CONCLUSIONS

The Feasibility Study for the MLK Jr. Drive Extension was completed in November 2009. This study examined the feasibility of constructing a major east-west connector road by extending the existing Martin Luther King, Jr. Drive westward from Trade Street to Northwest Boulevard in order to enhance the east-west connectivity in the study vicinity.

Three (3) alternatives were studied in detail and Alternative A was chosen as the preliminary preferred alternative for the previous study. It was decided that after the completion of this study a future study to enhance the existing Northwest Boulevard corridor will be performed.

Many of the improvements recommended with the Improve Existing Roadway Alternative would add a great deal of safety and improve traffic operations at many of the study area intersections but would not provide direct east-west continuity and would not greatly increase east-west traffic.
capacity in the area. Also, the ability to obtain Section 404/401 Permits could be difficult with the Improve Existing Roadway Alternative due to the crossing of Peter’s Creek. In addition, the Improve Existing Roadway Alternative will impact more historic properties, such as the industrial properties along Chatham Road at Northwest Boulevard, than Alternative A.

XI. REFERENCES

