APPENDIX 7.2 - B: Consultation with Resource Agencies

Preliminary Consultation with Resource Agencies—June 2015

Environmental Agencies/Persons Contacted—June 2015

- N.C. Department of Agriculture and Consumer Services: Maximillian Merrill and Daniel Madding
- NC State Historic Preservation Office: Rene Gledhill-Early and Delores Hall
- Forsyth County Historic Resources Commission: Michelle McCullough
- NC Department of Environment and Natural Resources, CGIA (NC One Map): David Giordano
- NC Division of Water Quality, Transportation Permitting Branch: David Wainwright, Amy Chapman
- NC Division of Water Quality, Winston-Salem Regional Office: Amy Euliss
- NC Department of Crime Control and Public Safety: H. Douglas Hoell, Director
- US Environmental Protection Agency, Region 4 Environmental Services Information Branch: Rick Durbrow
- US Environmental Protection Agency, Region 4 NEPA Program: Christopher Mititscher
- US Environmental Protection Agency, Region 4 Wetlands Regulatory Office: Eric Alsmeyer, Elizabeth Porter, John Thomas
- US Fish & Wildlife, NC Field Office, Asheville: Marella Buncick
- NC Wildlife Resources Commission: Marla Chambers, Shannon Deaton

Sample Email Sent June 2015 to Environmental Resource Agencies

From: Margaret Bessette
Sent: Tuesday, June 09, 2015 10:27 AM
To: 'renee.gledhill-earley@ncdcr.gov'; 'dolores.hall@ncdcr.gov'
Cc: Michelle McCullough
Subject: Winston-Salem MPO 2040 Metropolitan Transportation Plan

Ms. Gledhill-Early and Ms. Hall:

The Winston-Salem Urban Area MPO is updating its long range transportation plan, the 2040 Metropolitan Transportation Plan. Our planning area includes most of Forsyth and parts of Stokes, Davie and Davidson Counties. A map of our planning area (bounded in dark green) is included for your information.

As part of our transportation system planning efforts, we seek to consult with environmental resource agencies and use agencies' data to identify environmental factors and appropriate mitigation measures.

We request your assistance by confirming or updating contact information and available data (inventories, plans, links) to use in our environmental analysis and mitigation strategy. Below is the information we currently have for historic resources:
<table>
<thead>
<tr>
<th>Agency</th>
<th>Division</th>
<th>Contact Information</th>
<th>Available Data</th>
<th>Format / Location</th>
</tr>
</thead>
</table>
| N.C. Department of Cultural Resources (DCR) | State Historic Preservation Office (SHPO) Office of State Archeology (OSA) | Renee Gledhill-Earley Environmental Review Coordinator renee.gledhill-earley@ncdcr.gov 919-733-4763 x 246  
Dolores Hall  
Deputy State Archaeologist  
dolores.hall@ncdcr.gov  
919-807-6553  
4617 Mail Service Center, Raleigh, NC 27699 environmental.review@ncdcr.gov | Historic Properties and Archeological Sites | http://www.hpo.ncdcr.gov/gis/CountyDisclaimers.html#DataDownload  
Available in SHPO and OSA Offices by appointment |
| Forsyth County Historic Resources Commission |                                      | Michelle McCullough Section 106 Coordinator  
City-County Planning Board  
Po Box 2511  
Winston-Salem, NC 27102  
336/747-7063  
michellem@cityofws.org | Historic Properties and Archeological Sites | Historic Properties Inventory Database  
USGS Quad Sheet Maps |

Please respond to the following:
1. Is the contact and other information listed above correct and up to date? If not, please provide new information.
2. Is the data listed sufficient for our analysis? If not, please list the data we should also obtain and how/where we may obtain the data.
3. Are there any big picture items we should pay attention to when reviewing the environmental data and transportation projects?

We would appreciate your response by June 24, 2015.

We will contact you or the designated contact person from your agency again in early July 2015 when we have a draft plan available for review which will include mapping of projects and environmental factors. We anticipate having a formal public review period from July 16 to August 20, 2015 and consideration by the Transportation Advisory Committee of the Winston-Salem Urban Area MPO in September 2015.

Thank you for your time and response.

Margaret
Margaret C. Bessette, AICP  
Assistant Planning Director  
City-County Planning Board  
P.O. Box 2511  
Winston-Salem, NC 27102  
Direct: 336.747-7058  
Fax: 336.748-3500  
margb@cityofws.org
## Compilation of Responses (in date order)

<table>
<thead>
<tr>
<th>Date</th>
<th>From</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/9/15</td>
<td>Dolores A. Hall, Deputy State Archaeologist - Land Office of State Archaeology</td>
<td>My contact information is good. I don’t think any changes need to be made at present.</td>
</tr>
<tr>
<td>6/9/15</td>
<td>Renee Gledhill-Earley, Environmental Review Coordinator NC State Historic Preservation Office</td>
<td>This appears to be correct.</td>
</tr>
<tr>
<td>6/9/15</td>
<td>David Giordano, NC OneMap Database Administrator</td>
<td>Corrections in red below. CGIA is not in an environmental resource agency. We may not be able to provide much input. Better consultation may be provided by the contact people for each of the available data you listed below. Their contact information is in the metadata for each of the data layers in the NC OneMap geoportal – data.nconemap.com.</td>
</tr>
<tr>
<td></td>
<td>N.C. Department of Environment and Natural Resources (DENR) Office of Information Technology Services 1601 Mail Service Center 3700 Wake Forest Rd. Raleigh, NC 27699 27609 919-733-2090 or 919-715-3770 919-754-6580</td>
<td></td>
</tr>
<tr>
<td>6/9/15</td>
<td>Amy Euliss, NC Division of Water Quality, Winston-Salem Regional Office</td>
<td>I no longer work for DWR. Your contact is Dave Wanucha. <a href="mailto:Dave.wanucha@ncdenr.gov">Dave.wanucha@ncdenr.gov</a>.</td>
</tr>
<tr>
<td>6/9/15</td>
<td>Cynthia F. Van Der Wiele, Ph.D., Sr. Environmental Scientist USEPA Region 4 NEPA Program Office</td>
<td>I am Chris Militscher’s replacement at the USEPA Region 4 NEPA Program Office (and NCDOT Inter-Agency Merger Team). Kindly add me to your list. Thanks very much, Cynthia Cynthia F. Van Der Wiele, Ph.D., Sr. Environmental Scientist USEPA Region 4 NPO c/o 715 Shepherd Street Durham, NC 27701 Phone: 919.450.6811</td>
</tr>
<tr>
<td>6/9/15</td>
<td>David R. Cox, Habitat Conservation Program Supervisor NC Wildlife Resources Commission</td>
<td>Please replace Shannon Deaton with my contact information. Also Brooke Massa works with the NCWRC Green Growth Toolbox which has a conservation map that may answer most of you questions. I suggest giving Brooke, Piedmont Land Conservation Biologist, a call (919-630-3086). She will have some good insights about transportation planning, land use and conservation. Please feel free to contact me with any questions. – David David R. Cox, Habitat Conservation Program Supervisor NC Wildlife Resources Commission NCWRC – Rogers Depot 1718 NC Hwy. 56 West Creedmoor, NC 27522 Phone: 919-707-0366 Fax: 919-528-2524 <a href="mailto:david.cox@ncwildlife.org">david.cox@ncwildlife.org</a></td>
</tr>
<tr>
<td>Various</td>
<td>Daniel Madding, Information Support Services Director</td>
<td>6/9/15: Max has not worked here for several years. I am asking who should handle. In the meantime can you tell me if you are an ArcMap user?</td>
</tr>
</tbody>
</table>
6/10/15 Hope Morgan, GIS Manager NC Flood Mapping Program
This information is correct.

6/10/15 David Wainwright NCDENR, Division of Water Resources
A few corrections to the information below:
Mr. Dave Wanucha in our Winston-Salem Regional Office should be the NCDWR contact. His contact information is:
Dave Wanucha
NCDENR, Division of Water Resources
Winston-Salem Regional Office
450 West Hanes Mill Road, Suite 300
Winston-Salem, NC 27105
336-776-9703
dave.wanucha@ncdenr.gov

Amy Chapman’s information has changed as well:
Amy Chapman
NCDENR, Division of Water Resources
1617 MSC
Raleigh, NC 27699-1617
919-707-8784
Amy.chapman@ncdenr.gov

I think the data included below is still applicable. You may also want to consider the Nation Wetlands Inventory (NWI). It is produced by the USFWS as a broad scale wetlands mapping tool. It is available at the NC OneMap Geospatial Portal: (http://data.nconemap.gov/geoportal/catalog/main/home.page)

As for “big picture items,” it is difficult for us to provide much information at the scale you are probably talking about. We usually deal with the impact level details. However, at this scale I would consider surface water classifications. Depending upon the classification, we may have various protection requirements which are above what we may normally require. Some of these classifications include Outstanding Resource Waters (ORW), High Quality Waters (HQW), Wild and Scenic Rivers, Water Supply, and critical areas/municipal surface water intakes (CA). Since these classifications usually apply to long reaches or larger bodies of water they can be considered at a broader scale. Classification information is also available at the NC OneMap portal.

6/17/15 Marella Buncick US Fish & Wildlife, Asheville Office
I am the contact person. As far as the National Wetlands Inventory---NWI data, I need to check with our GIS person about whether or not that is correct. I think that has changed. He is on vacation this week so it will be next week before I can confirm. I think the data that should be by my name would be federally listed species and migratory bird information, which is why I am cc’ing Dan Thomas on this email. Dan has this information been updated?
<table>
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<tr>
<th>Date</th>
<th>Name</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/17/15</td>
<td>Dan Thomas, PE</td>
<td>The data we have identified in our GIS data layer spreadsheet appears to be older than the data from the link provided below. We are checking with Project Development to see which data set should be used. We will confirm with you, as soon as possible, which data set we would recommend using. <strong>Hope this helps.</strong></td>
</tr>
<tr>
<td>6/25/15</td>
<td>Brooke Massa, Piedmont Land Conservation</td>
<td>Great. Thanks for sharing this with me!</td>
</tr>
</tbody>
</table>
|            | Biologist NC Wildlife Resources Commission | NC Wildlife Resources Commission has a dedicated program involved with sharing information and data to land use and transportation planners so that natural resource, biodiversity, and wildlife habitat conservation can be taken into account in decision making in planning and policy.  

In addition to the layers you are using, I recommend using the following layers:
- Conservation Planning Tool Biodiversity and Wildlife Habitat Assessment layer
- Natural Heritage Program Element Occurrences
- Streams within Subwatersheds with Federally Listed Fish and Mussels
- Outstanding Resource Waters and High Quality Waters
- Smoke Awareness Areas

Chapter 2 of our handbook ([http://www.ncwildlife.org/Portals/0/Conserving/documents/GGT/Manual/GreenGrowth%20Toolbox_Section%202.pdf](http://www.ncwildlife.org/Portals/0/Conserving/documents/GGT/Manual/GreenGrowth%20Toolbox_Section%202.pdf)) describes these data layers in detail and provides guidance on how to interpret them and use them in planning projects. The most useful data layer for transportation planning (from a wildlife perspective) is the Biodiversity and Wildlife Habitat Assessment. A lot of communities have used this layer in their transportation plans because it prioritizes areas on a scale from 1 – 10, with 10 being the most important to conserve. So, communities can use the data layer to avoid placing roads in areas that are very high priority for conservation and to avoid fragmenting areas of high priority. The highest priority areas are 7 – 10, but mid-value areas also have known important resources. Values of 1-3 also have resources but they can probably handle some impact than higher priority.

You can download most these data layers from our website: [http://www.ncwildlife.org/Conserving/Programs/GreenGrowthToolbox/ConservationData/Triad.aspx](http://www.ncwildlife.org/Conserving/Programs/GreenGrowthToolbox/ConservationData/Triad.aspx)

Or, you can use the Natural Heritage Data Explorer to view these layers online: [https://ncnhde.natureserve.org/](https://ncnhde.natureserve.org/)

There is subscription access with which you can save projects in, or you can view the Data Explorer without a subscription too.

This may be a lot of information to digest, I would be very happy to go over the different data layers with you. I am also happy provide maps, point out areas of concern from a wildlife perspective, provide feedback… if you wish to share the plans with me.

Let me know if you’d like the meet to discuss further. I will be available next week for a call or a visit.

Thank you! Brooke
Follow Up Consultation with Resource Agencies—July 2015

Environmental Agencies Contacted—July 2015
- N.C. Department of Agriculture and Consumer Services: Daniel Madding
- NC State Historic Preservation Office: Rene Gledhill-Early and Delores Hall
- Forsyth County Historic Resources Commission: Michelle McCullough
- NC Division of Water Quality, Transportation Permitting Branch: Amy Chapman
- NC Division of Water Quality, Winston-Salem Regional Office: David Wanucha
- NC Department of Crime Control and Public Safety: H. Douglas Hoell, Director
- NC Floodplain Mapping Program: Hope Morgan, GIS Manager
- US Environmental Protection Agency, Region 4 Environmental Services Information Branch: Rick Durbrow
- US Environmental Protection Agency, Region 4 NEPA Program: Cynthia Van Der Wiele, Ph.D.
- US Environmental Protection Agency, Region 4 Wetlands Regulatory Office: Eric Alsmeyer, Elizabeth Porter, John Thomas
- US Fish & Wildlife, NC Field Office, Asheville: Marella Buncick
- NC Wildlife Resources Commission: Marla Chambers, David Cox, Brooke Massa
- Forsyth County Office of Environmental Assistance and Protection: Cary Gentry

Sample Email Sent in July 2015 to Environmental Resource Agencies

July 17, 2015

Dear Mr. Durbrow and Dr. Van Der Wiele:

The Winston-Salem Urban Area Metropolitan Planning Organization’s (MPO) draft long range transportation plan, the 2040 Metropolitan Transportation Plan (MTP) Update, and the Air Quality Conformity Determination Report, were released on July 16, 2015. The plan and determination report are available on the MPO’s website at:

We would appreciate your review and comment on the draft plan by Thursday, August 20, 2015, the close of the review and comment period. The plan will be revised based on comments received. The revised plan is scheduled to be considered for adoption by the Transportation Advisory Committee of the Winston-Salem Urban Area MPO on September 17, 2015 and submitted for Federal approval.

Your agency and others were contacted earlier this summer as part of our resource agency consultation process and identification of environmental data to compare against system level transportation projects. We have used the information provided by resources agencies to prepare four maps that include proposed MTP projects and environmental factors: two natural factors maps, Hydrology and Land Management & Wildlife; a cultural factors map; and an agricultural factors map. The MTP Projects and Environmental Factors Maps are at the end of Chapter 7, Section 2. Links to the specific environmental factors maps are available on the webpage listed above.

We have reviewed each proposed project and determined whether a significant environmental impact could be anticipated based on the mapped information (no field investigation was conducted.) Projects determined likely to have impacts were identified with an “E” in the “Other Significant Factors” column of the Street and Highway Project lists. When a project is ready to move forward, detailed and field analysis will be conducted and appropriate avoidance and/or mitigation...
strategies implemented in consultation with resource agencies. The Street and Highway Project lists and maps by horizon year are in Chapter 3, Section 2 of the document.

We appreciate your review and comment. Please send comments via email or regular mail to me or to Fred Haith (FREDRICKH@cityofws.org) with the Winston-Salem Department of Transportation.

Margaret C. Bessette, AICP
Assistant Planning Director
City-County Planning Board
P.O. Box 2511
Winston-Salem, NC 27102
Direct: 336.747-7058
Fax: 336.748-3500
margb@cityofws.org

Other Resource Agencies Contacted—July 2015
- Office of Information Technology Services, NC One Map: David Giordano
- Piedmont Land Conservancy: Kevin Redding
- Conservation Trust for North Carolina: Reid Wilson
- Federal Highway Administration: Bill Marley, Eddie Dancausse, Loretta Barren
- NCDOT, Transportation Planning Branch: J. Andy Bailey
- Smith Reynolds Airport: Mark Davidson
- Northwest Piedmont Rural Planning Organization: Elizabeth Jernigan
- Federal Transit Administration: Dr. Yvette Taylor
- City-County Planning Board (Winston-Salem/Forsyth County): Paul Norby, Margaret Bessette
- Davidson County: Guy Cornman, Linda Hairston-Erwin
- Davie County: Andrew Meadwell
- Stokes County: David Sudderth
- Community and Business Development, City of Winston-Salem: Ritchie Brooks, Mellin Parker
- Housing Authority of Winston-Salem: Troy DeHaven
- Forsyth County Housing Program: Dan Kornelis
- Winston-Salem Chamber of Commerce: Gayle Anderson, Wendy Poteat
- Winston-Salem Business, Inc.: Bob Leak, Kathleen Hess
July 21, 2015

The Winston-Salem Urban Area Metropolitan Planning Organization (MPO) has developed several of our most important transportation planning documents for public review. The **2040 Metropolitan Transportation Plan** (MTP) is the financially constrained, 20 year plan for all modes of transportation for our community. The MTP is being done in conjunction with the **2016-2025 Metropolitan Transportation Improvement Program** (MTIP) which is the detailed funding schedule for highway, bridge, safety, rail, aviation, transit, bicycle and pedestrian transportation improvements. Both the MTP and the MTIP must meet **Air Quality Conformity**. The documents are out for public review and comment from July 16th through August 20th and are available online at [www.dot.cityofws.org](http://www.dot.cityofws.org) and in all town halls and public libraries in the area.

Join us at one of our Drop-In meetings throughout the community at the following locations:

- **Thursday, July 23rd**, 5 pm to 7 pm at the Booe House, 5135 Sullivantown Rd, Walkertown or 4 pm to 7 pm, Village of Clemmons Town Hall, 3715 Clemmons Rd, Clemmons
- **Tuesday, July 28th**, 11 am to 2 pm, Clark Campbell Transportation Center, 100 W. Fifth Street, Winston-Salem*
- **Thursday, July 30th**, 4 pm to 6 pm, Tanglewood Farmers Market, 4061 Clemmons Road, Clemmons
- **Saturday, August 8th**, 10 am to 12 pm, Dixie Classic Farmers Market, 421 W. 27th St, Winston-Salem
- **Saturday, August 15th**, 10 am to 3 pm, Honeybee Festival, 702 W Mountain St, Kernersville
- **Tuesday, August 18th**, 10 am to 3 pm, Forsyth County Health Department, 799 N Highland Ave., Winston-Salem*
  *Spanish language translation available at these meetings*

Please see the attached MPO newsletter for more information about transportation projects and programs. Send written comments on the **2040 MTP** and **2016-2025 MTIP** via mail, fax or e-mail by August 20 to: Fredrick Haith, Winston-Salem Dept. of Transportation, P.O. Box 2511, Winston-Salem, NC 27102, 336-748-3370 (fax), fredrickh@cityofws.org

Margaret C. Bessette, AICP
Assistant Planning Director
City-County Planning Board
P.O. Box 2511
Winston-Salem, NC 27102
Direct: 336.747-7058
Fax: 336.748-3500
margb@cityofws.org
<table>
<thead>
<tr>
<th>Date</th>
<th>From</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/20/15</td>
<td>Amy Chapman, NCDENR, Water Quality Division</td>
<td>Thank you for the information. However, David Wainwright has moved to a different Unit. Please include Dave Wanucha at <a href="mailto:Dave.Wanucha@ncdenr.gov">Dave.Wanucha@ncdenr.gov</a> on any future correspondence. Thank you.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Response:</strong> We had previously added Dave Wanucha and have now removed David Wainwright.</td>
</tr>
<tr>
<td>7/20/15</td>
<td>Renee Gledhill-Early SHPO</td>
<td>Please resend your request for our review to our environmental review email box at the address shown in the note below my contact information. This will expedite our review. Thank you.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Response:</strong> A request for review was resent on July 21 to <a href="mailto:environmental.review@ncdcr.gov">environmental.review@ncdcr.gov</a>. A receipt confirmation was received.</td>
</tr>
<tr>
<td>8/12/15</td>
<td>Dr. Cynthia Van Der Wiele USEPA Region 4 NEPA Program Office NC Field Office</td>
<td>See attached email of August 12 with comments on various sections of the MTP.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Response:</strong> See email attached to Dr. Van Der Wiele dated September 16, 2015.</td>
</tr>
<tr>
<td>8/14/15</td>
<td>Dave Wanucha NC DENR Division of Water Resources Winston Salem Region Office</td>
<td>The Plan is very comprehensive and professionally prepared. As transportation projects proceed to the permitting phase, our Division will be involved at the very beginning ensuring that streams and wetlands impacted by the proposed projects do not violate State Water Quality Standards (15A NCAC 2B.0200) and other applicable Rules related to the Clean Water Act Section 401/404 including mitigation. The only change you may want to consider is very minor. The Ecosystem Enhancement Program (EEP) is now a program within the Division of Mitigation Services (DMS) <a href="http://portal.ncdenr.org/web/eep">http://portal.ncdenr.org/web/eep</a>. Thanks for the opportunity to comment. Please let me know if you need additional information.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Response:</strong> The NC DENR Division of Mitigation Services has been added to the Resource Agency list and the EEP program listed as their program/data source.</td>
</tr>
<tr>
<td>8/20/15</td>
<td>Michelle McCullough Forsyth County Historic Resources Commission</td>
<td>I have reviewed the MPO and do not have any changes or edits to make at this time.</td>
</tr>
<tr>
<td>8/20/15</td>
<td>Marla Chambers, Western NCDOT Permit Coordinator Brooke Massa Piedmont Land Conservation Biologist NC Wildlife Resources Commission</td>
<td>See attached email of August 20 with comments on various sections of the MTP.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Response:</strong> See attached email to Ms. Chambers and Ms. Massa dated September 16, 2015.</td>
</tr>
<tr>
<td>9/10/15</td>
<td>Renee Gledhill-Early SHPO NC Department of Cultural Resources</td>
<td>See attached letter referencing project reviews, dated September 10, 2015.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Response:</strong> MPO will work with NCDOT and other project partners to complete all required historic and archaeological reviews as part of project planning. As indicated in the text of the plan, the MPO has a strong working relationship the Forsyth County Historic Resources staff. In 2009, the MPO provided funding to assist with the update of the Winston-Salem/Forsyth County historic architectural inventory.</td>
</tr>
</tbody>
</table>
Dear Dr. Van Der Wiele, Ph.D.:

Thank you for your comments on the draft Winston-Salem 2040 Metropolitan Transportation Plan (MTP). We appreciate your review and recommendations to protect natural resources in the Winston-Salem Urban Area.

**General**
The references to resources and websites are helpful. We already use some of these resources, but many are new and we will utilize them for planning and project development. We have added some of the references to the data/resource listings in the Resource Agency Contact list in Appendix 7.2 A of the MTP.

**Chapter 5 Bicycle and Pedestrian Element**
We agree that our bicycle and pedestrian plans are due for update. The Winston-Salem Urban Area MPO staff will start work on a comprehensive combined bike/ped/greenway master plan during the 2015-16 fiscal year.

**Chapter 7 Human and Natural Environment, Section 7.2 Natural Environment**
Thank you for the recommendations for Table 7.2, Potential Environmental Impacts and Mitigation Measures. We also received comments from the NC Wildlife Resources Commission and have extensively updated the mitigation measures in the table, particularly for Fragmented Animal Habitats, Streams, Threatened & Endangered Species, and Wetlands.

Thank you again for your review and recommendations. We look forward to continuing to work with you on Winston-Salem Urban Area MPO initiatives.

Margaret Bessette, AICP
Assistant Planning Director
City-County Planning Board
P.O. Box 2511
Winston-Salem, NC 27102
Direct: 336.747-7058
Fax: 336.748-3500
margb@cityofws.org
From: Van Der Wiele, Cynthia  
Sent: Wednesday, August 12, 2015 3:29 PM  
To: Margaret Bessette  
Cc: Militscher, Chris  
Subject: RE: Winston-Salem MPO 2040 Transportation Plan: Request for Review and Comment  
Importance: High

Dear Ms. Bessette and Mr. Haith:

The USEPA has reviewed the above-referenced transportation plan and has the following comments:

Chapter 3 Street and Highway Element
Policies and Strategies (Page 3): USEPA recognizes the progressive policies and strategies adopted by the Winston-Salem MPO in coordination with the City-County Planning Board’s 2030 Legacy Update. The USEPA encourages the implementation of smart growth land use patterns and designing roadways to support all modes of transportation including public transportation, pedestrians, and bicyclists. “Right-sizing” existing roadways along with incorporating sidewalks, crosswalks, transit stops, bicycle lanes, bicycle-activated traffic lights and other infrastructure in new roadways provides significant quality of life benefits for citizens along with congestion mitigation, air quality conformity improvements, and safer conditions for all users of streets and highways.

- FHWA provides substantial resources such as case studies, tools, webinars, etc. through their Livability Initiative website: [http://www.fhwa.dot.gov/livability/](http://www.fhwa.dot.gov/livability/)
- Smart Growth America ([www.smartgrowthamerica.org](http://www.smartgrowthamerica.org)) provides programs, workshops, research, and publications to aid communities in developing Complete Streets policies, evaluating Complete Streets projects, measuring the fiscal implications of development patterns, and designing safer streets for the public.

Chapter 4 Public and Private Transportation Element
Providing better access to transit and additional transit options can have significant impacts on air quality and congestion mitigation.

Local Public Transportation Problems and Conditions (pages 3 – 5): Low density land use patterns mean that expansion of public transportation into suburban areas is challenging. Rural areas, however, can greatly benefit from transit by providing access to employment opportunities and medical facilities. USEPA supports the WSUAMPO’s efforts to expand the current fixed route system into Tobaccoville, Rural Hall, Walkertown, Kernersville, and Clemmons during the 2016-2025 planning period.

Resources and tools available for rural transit planning include:


Chapter 5 Bicycle and Pedestrian Element
USEPA supports the incorporation of bicycle and pedestrian facilities into existing and new roadways. These facilities provide the most benefit when they are part of a comprehensive master plan such as the one developed by the WSUA, integrated into the overall transportation system, and ensuring that each project has logical termini so that they meet user expectations (i.e., a bicycle lane or sidewalk doesn’t suddenly end leaving a person without safe options). The WSUA Comprehensive Bicycle Master Plan was adopted in September 2005 (10 years ago) and the Sidewalk and Pedestrian Facilities Plan was adopted in July 2007. As a rapidly-growing metropolitan area, the WSUA would benefit from updating both plans.
In addition to the AASHTO 2012 and NACTO 2011 references noted in Objective 3 (page 5), there are other excellent design manuals, including:


The Watch for Me NC program (NCDOT) has been implemented in several cities across NC. This may be a program that could help meet the Plan’s goals to promote traffic enforcement campaigns to better protect bicyclists and pedestrians.

**Chapter 7 Human and Natural Environment**

7.1 Human Environment—Title VI and the Environmental Justice (EJ) Plan

USEPA understands that the MPO’s EJ compliance goal is to enhance their analytical capabilities to ensure that the long-range transportation plan and the TIP comply with Title VI. In June 2015, the USEPA released EJSCREEN, a data and mapping tool that provides environmental and demographic information at a high geographic resolution. This pre-decisional tool is useful for transportation planning purposes to consider EJ issues. This tool is available at: [http://www.epa.gov/ejscreen](http://www.epa.gov/ejscreen)

In addition, FHWA published the *Environmental Justice Reference Guide* in April 2015 as a resource for transportation planning and the public participation process to aid in compliance with Executive Order 12898.

7.2 Natural Environment/Environmental Planning

USEPA supports land use and transportation planning that follows the three tiered process of: 1. avoidance, 2. minimization of impacts, and 3. mitigation. Several tools are available to assist in identifying environmental data and natural resources features to be able to develop alternatives to impacting them. These include:

- The USEPA tool, NEPAssist: [http://nepassisttool.epa.gov/nepassist/entry.aspx](http://nepassisttool.epa.gov/nepassist/entry.aspx)
- The NCDENR Natural Heritage Program’s Data Explorer Program: [https://ncnhde.natureserve.org/](https://ncnhde.natureserve.org/)

Table 7.2 provides a list of potential environmental impacts and mitigation measures. USEPA encourages the WSUA MPO to work with the NC Wildlife Resources Commission and US Fish & Wildlife Service to design measures to avoid and minimize impacts to wildlife such as innovative wildlife crossings and other measures as development moves into formerly rural areas. Additionally, light pollution can have deleterious consequences for wildlife as well as diminish quality of life. The International Dark Sky Association [darksky.org](http://darksky.org) provides resources for designing outdoor lighting and lighting ordinances as well as public outreach materials to promote outdoor lighting that effectively illuminates roadways while protecting the natural nighttime environment. Regional or county-wide conservation plans are useful in providing a template for guiding land use and transportation planning.

Thank you for the opportunity to comment on the Winston-Salem Urban Area MPO’s draft long range transportation plan. We look forward to working with you on this and other WSUAMPO initiatives.

Kind regards,

Cynthia

Cynthia F. Van Der Wiele, Ph.D.
USEPA Region 4 NEPA Program Office
NC Field Office / NCDOT Inter-Agency Merger Team
From: Margaret Bessette [mailto:margb@cityofws.org]
Sent: Friday, July 17, 2015 5:14 PM
To: Van Der Wiele, Cynthia; Durbrow, Rick
Cc: Fredrick Haith
Subject: Winston-Salem MPO 2040 Transportation Plan: Request for Review and Comment

Dear Mr. Durbrow and Dr. Van Der Wiele:

The Winston-Salem Urban Area Metropolitan Planning Organization’s (MPO) draft long range transportation plan, the 2040 Metropolitan Transportation Plan (MTP) Update, and the Air Quality Conformity Determination Report, were released on July 16, 2015. The plan and determination report are available on the MPO’s website at: http://www.cityofws.org/departments/transportation/planning/plans-and-studies/2040-metro-transportation-plan

We would appreciate your review and comment on the draft plan by Thursday, August 20, 2015, the close of the review and comment period. The plan will be revised based on comments received. The revised plan is scheduled to be considered for adoption by the Transportation Advisory Committee of the Winston-Salem Urban Area MPO on September 17, 2015 and submitted for Federal approval.

Your agency and others were contacted earlier this summer as part of our resource agency consultation process and identification of environmental data to compare against system level transportation projects. We have used the information provided by resources agencies to prepare four maps that include proposed MTP projects and environmental factors: two natural factors maps, Hydrology and Land Management & Wildlife; a cultural factors map; and an agricultural factors map. The MTP Projects and Environmental Factors Maps are at the end of Chapter 7, Section 2. Links to the specific environmental factors maps are available on the webpage listed above.

We have reviewed each proposed project and determined whether a significant environmental impact could be anticipated based on the mapped information (no field investigation was conducted.) Projects determined likely to have impacts were identified with an “E” in the “Other Significant Factors” column of the Street and Highway Project lists. When a project is ready to move forward, detailed and field analysis will be conducted and appropriate avoidance and/or mitigation strategies implemented in consultation with resource agencies. The Street and Highway Project lists and maps by horizon year are in Chapter 3, Section 2 of the document.

We appreciate your review and comment. Please send comments via email or regular mail to me or to Fred Haith (FREDRICKH@cityofws.org) with the Winston-Salem Department of Transportation.
Margaret C. Bessette, AICP
Assistant Planning Director
City-County Planning Board
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City of Winston-Salem
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Committed to Excellence

All e-mails including attachments sent to and from this address are subject to being released to the media and the public in accordance with the North Carolina Public Records Law.
Dear Ms. Chambers and Ms. Massa:

Thank you for your comments on the draft Winston-Salem 2040 Metropolitan Transportation Plan (MTP). We appreciate your review and recommendations to enhance natural resources and wildlife habitat protection in the Winston-Salem Urban Area.

**General:**
As per section 7.2 of the draft MTP, our priority is to avoid impacts on natural resources. When impacts cannot be avoided, we will seek to minimize and then to mitigate. We appreciate your extensive recommendations and standards related to project planning and construction, as they will help us achieve these goals. We will share your recommendations/standards for roads, greenways and bridges with staff from NCDOT and with the City of Winston-Salem Engineering Department who are responsible for project development and construction.

**Comments on Specific Projects:**

**Ebert/Stratford Connector (30-12)**
Thank you for the information about the potential for impacts to the Checkered White butterfly (Pontia protodice) from the Ebert-Stratford Connector project in the Salem Creek area. During the preliminary planning for the roadway, we did an environmental analysis and feasibility study which included impacts to the wetlands, endangered species, and potential issues from old landfills and treatment ponds located within the Elledge Wastewater Treatment Plant property. We will incorporate your comments into the Comprehensive Transportation Plan project data sheet for the Ebert-Stratford Road Connector for future study and environmental evaluation prior to the project moving forward.

**Piedmont Regional Greenway (15-G01)**
The Piedmont Regional Greenway is currently being designed by the City of Winston-Salem Engineering Department. The new trail starts at the existing Salem Lake Trail at Linville Road. The Engineering Department recently contracted with a consultant to delineate the wetland area so the trail can be located outside of the wetland area. The Engineering Department did not have mapping of the Salem Lake Natural Heritage Natural Area, so we will provide it to them and ask them to consider locating the trail towards the edge of the natural area to minimize the impact on wildlife corridors.

**Chapter 7 Human and Natural Environment, Section 7.2 Natural Environment**
Thank you for the recommendations for Table 7.2, Potential Environmental Impacts and Mitigation Measures. We also received recommendations from the USEPA Region 4 NEPA Program Office/NC Field Office. Based on the recommendations, we have extensively updated the mitigation measures in the table, particularly for Fragmented Animal Habitats, Streams, Threatened & Endangered Species, and Wetlands.

We have also added the resource links for wildlife crossing structures (http://www.wildlifeandroads.org/decisionguide/) and the NC Wildlife Action Plan (http://www.ncwildlife.org/Plan) to the data/resource listings in the Resource Agency Contact list in Appendix 7.2 A.
Thank you again for your review and recommendations. We look forward to continuing to work with you on Winston-Salem Urban Area MPO initiatives.

Margaret C. Bessette, AICP
Assistant Planning Director
City-County Planning Board
P.O. Box 2511
Winston-Salem, NC 27102
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margb@cityofws.org

From: Massa, Brooke E [mailto:brooke.massa@ncwildlife.org]
Sent: Thursday, August 20, 2015 4:44 PM
To: Margaret Bessette
Cc: Fredrick Haith; Chambers, Marla J; Cox, David R.
Subject: RE: Winston-Salem MPO 2040 Transportation Plan: Request for Review and Comment

Ms. Bessette,

Hope you’re well. Thank you for the opportunity to review the 2040 Metropolitan Transportation Plan (MTP) Update. Please see our attached comments.

Feel free to call me with any questions,
Brooke

-----
Brooke Massa // Piedmont Land Conservation Biologist

NC Wildlife Resources Commission
1751 Varsity Drive, Raleigh, NC 27606
office: 919-707-0054 // mobile: 919-630-3086

ncwildlife.org/greengrowth

Get NC Wildlife Update -- news including season dates, bag limits, legislative updates and more -- delivered to your inbox from the N.C. Wildlife Resources Commission.

From: Margaret Bessette [mailto:margb@cityofws.org]
Sent: Friday, July 17, 2015 5:16 PM
To: Chambers, Marla J; Cox, David R.; Massa, Brooke E
Cc: Fredrick Haith
Subject: FW: Winston-Salem MPO 2040 Transportation Plan: Request for Review and Comment

Dear Ms. Chambers, Mr. Cox, and Ms. Massa:
The Winston-Salem Urban Area Metropolitan Planning Organization’s (MPO) draft long range transportation plan, the 2040 Metropolitan Transportation Plan (MTP) Update, and the Air Quality Conformity Determination Report, were released on July 16, 2015. The plan and determination report are available on the MPO’s website at: http://www.cityofws.org/departments/transportation/planning/plans-and-studies/2040-metro-transportation-plan

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We have reviewed each proposed project and determined whether a significant environmental impact could be anticipated based on the mapped information (no field investigation was conducted.) Projects determined likely to have impacts were identified with an “E” in the “Other Significant Factors” column of the Street and Highway Project lists. When a project is ready to move forward, detailed and field analysis will be conducted and appropriate avoidance and/or mitigation strategies implemented in consultation with resource agencies. The Street and Highway Project lists and maps by horizon year are in Chapter 3, Section 2 of the document.

We appreciate your review and comment. Please send comments via email or regular mail to me or to Fred Haith (FREDRICKH@cityofws.org) with the Winston-Salem Department of Transportation.

Margaret C. Bessette, AICP
Assistant Planning Director
City-County Planning Board

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margb@cityofws.org
Email correspondence to and from this sender is subject to the N.C. Public Records Law and may be disclosed to third parties.
Subject: Winston-Salem Urban Area MPO 2040 Metropolitan Transportation Plan (MTP)

Dear Ms. Bessette,

Thank you for the opportunity to review and provide comments on the Winston-Salem Urban Area MPO 2040 Metropolitan Transportation Plan (MTP). The NC Wildlife Resources Commission (NCWRC) reviews transportation plans and individual projects to provide recommendations on ways to reduce impacts of roads on fish and wildlife populations. Roads are barriers to many of our wildlife species, causing significant mortality and isolating populations across the landscape. Impacts on wildlife populations can be reduced by avoiding building or widening roads through sensitive natural areas, such as those shown in the Biodiversity and Wildlife Habitat Assessment in your MTP. Roads also have a degrading impact on aquatic wildlife habitat in streams and wetlands. Like all impervious surfaces, run-off from roads leads to increased sediment loads that destroy spawning habitats, suffocate eggs, and clog the gills of aquatic species. When roads cannot be avoided in these sensitive natural areas, steps can be taken to minimize impacts to the habitats. The following recommendations are provided to enhance natural resources and wildlife habitat protection in the Winston-Salem Urban Area MPO 2040 Metropolitan Transportation Plan.

**Highways and Roads**

We reviewed all new road building projects proposed from 2016 to 2040. In an urban setting, stormwater management is important for the protection of water quality, wildlife habitat, and the quality of life for area citizens. Numerous studies have shown that when 10–15% of a watershed is converted to impervious surfaces, there is a serious decline in the health of receiving waters (Schueler 1994) and the quality of fish habitat and wetlands are negatively impacted (Booth 1991, Taylor 1993). New roadways and widening of existing roads should minimize impacts to sensitive natural areas by avoiding wetlands and rare or protected animal species, minimizing stream crossings, and reducing the fragmentation of natural areas. When impacts to wildlife habitat cannot be avoided; some impacts can be mitigated through on-site environmental engineering or off-site mitigation.

We encourage the use of Low Impact Development (LID) techniques and other important measures to minimize negative impacts from development. Information on Low Impact Development practices and measures can be found at [www.lowimpactdevelopment.org](http://www.lowimpactdevelopment.org), [http://water.epa.gov/polwaste/green/](http://water.epa.gov/polwaste/green/) and [http://www.stormwatercenter.net/](http://www.stormwatercenter.net/) NCWRC’s Guidance Memorandum to Address and Mitigate Secondary and Cumulative Impacts to Aquatic and Terrestrial Wildlife Resources and Water Quality
http://www.ncwildlife.org/Portals/0/Conserving/documents/2002_GuidanceMemorandumforSecondar yandCumulativeImpacts.pdf is another useful resource for learning more about reducing impacts to our wildlife. Local authorities and NCDOT should work together to develop strategies that prevent further degradation of area streams, improve water quality, and ensure proper management of secondary growth.

In general, we recommend the following for road construction projects:

- Protection and restoration of area streams and water quality will be important to many of these road projects. Stream crossings should be evaluated for the opportunity to include floodplain pipes in the roadway fill adjacent to the stream crossing structures to spread out flood flows and minimize stream channel degradation and damage to properties and structures in the area. Mitigation efforts should focus on improving the habitat, water quality, and stream channel conditions of project area streams.
- We recommend strong sedimentation and erosion control and stormwater management requirements, protection (or restoration) of natural forested riparian areas, limits on impervious coverage, minimizing project footprints, and considering full control of access for major new-location road projects.
- We recommend that tree clearing for the project occur outside of bird nesting periods to the extent practicable, to protect migratory birds, many of which are in decline.
- We also recommend maintaining a minimum 100-foot undisturbed, native, forested buffer along perennial streams, a 50-foot buffer along intermittent streams and a 50-foot buffer around wetlands.
- Improvements, retrofits, and stream restoration efforts should be implemented in previously developed areas to improve already degraded streams and water quality.
- Alternatives to traditional curb and gutter should be used to provide better treatment of stormwater and we encourage the use of non-impervious materials whenever possible, particularly in developing watersheds and those already having a high percentage of impervious surfaces.

The following projects have been reviewed in the past:

- 21-01 U-2925 Salem Creek Connector
- 21-02 U-2728B Business I-40 (US 421)
- 21-03, 21-05, 21-07, 21-08 U-2579, R-2247 Winston-Salem Northern Beltway
- 21-04 U-4734 Macy Grove Road Extension
- 21-06 U-2707 Idols Road Extension
- 30-04 I-0911A Interstate 40
- 30-05 R-2577 US 158
- 30-06 R-2568C NC 109
- 40-03 U-2826 US 52

The comments for the 2021 projects are attached to this letter. Comments for the 2030 and 2040 projects can be provided on request. In addition to these comments, the following projects may have impacts on fish and wildlife species.

2022-2030 Projects

30-12 – Ebert/Stratford Connector The proposed connector road is adjacent to a recent occurrence record of a state-rare butterfly, Checkered White (Pontia protodice). The proposed road will bisect an undeveloped area, adjacent to the Archie Elledge Water Treatment Plant, where it is likely that the vegetation (plants in the mustard family (Brassicaceae)) that the butterfly requires is present. In addition to fragmenting the habitat, the road may bring secondary development into this area and reduce the
amount of habitat available to this butterfly. There are very few documented occurrences of rare species in Winston-Salem, transportation alternatives to building this road should be considered to avoid impacts to this butterfly habitat.

Greenways

Greenways provide an opportunity for wildlife corridor protection through developed land uses. The proposed greenway through the Salem Lake Natural Heritage Natural Area could provide more wildlife habitat benefits if it built with the pathway towards the edge of the natural areas to avoid fragmenting the natural areas, rather than through the center of the natural area and adjacent to the wetland, as it is currently planned. To gain maximum wildlife habitat benefits from greenways, we recommend the following measures for all greenways:

- Greenways should be maintained as natural areas which are at least 150’ wide. This corridor width will provide an adequate travel corridor for many wildlife species and may increase opportunities for observation of a greater diversity of wildlife.
- Greenways should minimize impacts to the natural areas that they pass through by keeping pathways towards the edges of natural areas and away from streams.
- NCWRC prefers porous pavement over asphalt, as it facilitates stormwater infiltration rather than direct runoff.
- We strongly recommend maintaining a minimum 100-foot undisturbed, native, forested buffer along perennial streams, and a 50-foot buffer along intermittent streams and a 50-foot buffer around wetlands.

These measures will reduce impacts to aquatic and terrestrial wildlife resources, water quality, and aquatic habitats within and downstream of the project.

Bridges

Our standard recommendations for bridge projects are as follows:

- We generally prefer spanning structures. Spanning structures usually do not require work within the stream and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allows for human and wildlife passage beneath the structure, does not block fish passage, and does not block navigation by canoeists and boaters.
- The natural dimension, pattern, and profile of the waterway above and below the crossing should not be modified by widening the channel or changing the depth of the waterway.
- Bridge deck drains should not discharge directly into the stream.
- Live concrete should not be allowed to contact the water in or entering into the stream.
- If possible, bridge supports (bents) should not be placed in the stream.
- If temporary access roads or detours are constructed, they should be removed back to original ground elevations immediately upon the completion of the project. Disturbed areas should be seeded or mulched to stabilize the soil and native tree species should be planted with a spacing of not more than 10’x10’. If possible, when using temporary structures the area should be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact, allows the area to revegetate naturally and minimizes disturbed soil.
- A clear bank (rip rap free) area of at least 10 feet should remain on each side of the stream underneath the bridge.
- Sedimentation and erosion control measures sufficient to protect aquatic resources must be implemented prior to any ground disturbing activities. Structures should be maintained regularly, especially following rainfall events.
• Temporary or permanent herbaceous vegetation should be planted on all bare soil within 15 days of ground disturbing activities to provide long-term erosion control.
• All work in or adjacent to stream waters should be conducted in a dry work area. Sandbags, rock berms, cofferdams, or other diversion structures should be used where possible to prevent excavation in flowing water.
• Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams.
• Only clean, sediment-free rock should be used as temporary fill (causeways), and should be removed without excessive disturbance of the natural stream bottom when construction is completed.
• During subsurface investigations, equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
• In most cases, we prefer the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure should be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed down to the natural ground elevation. The area should be stabilized with grass and planted with native tree species. Tall fescue should not be used in riparian areas. If the area that is reclaimed was previously wetlands, NCDOT should restore the area to wetlands. If successful, the site may be used as wetland mitigation for the subject project or other projects in the watershed.
• If culvert installation is being considered, conduct subsurface investigations prior to structure design to determine design options and constraints and to ensure that wildlife passage issues are addressed.

If corrugated metal pipe arches, reinforced concrete pipes, or concrete box culverts are used:

• The culvert must be designed to allow for aquatic life and fish passage. Generally, the culvert or pipe invert should be buried at least 1 foot below the natural streambed (measured from the natural thalweg depth). If multiple barrels are required, barrels other than the base flow barrel should be placed on or near stream bankfull or floodplain bench elevation (similar to Lyonsfield design). These should be reconnected to floodplain benches as appropriate. This may be accomplished by utilizing sills on the upstream end to restrict or divert flow to the base flow barrel. Silled barrels should be filled with sediment so as not to cause noxious or mosquito breeding conditions. Sufficient water depth should be provided in the base flow barrel during low flows to accommodate fish movement. If culverts are longer than 40-50 linear feet, alternating or notched baffles should be installed in a manner that mimics existing stream pattern. This should enhance aquatic life passage: 1) by depositing sediments in the barrel, 2) by maintaining channel depth and flow regimes, and 3) by providing resting places for fish and other aquatic organisms. In essence, the base flow barrel should provide a continuum of water depth and channel width without substantial modifications of velocity.
• If multiple pipes or cells are used, at least one pipe or box should be designed to remain dry during normal flows to allow for wildlife passage.
• Culverts or pipes should be situated along the existing channel alignment whenever possible to avoid channel realignment. Widening the stream channel must be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
• Riprap should not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be professionally designed, sized, and installed.
**Wildlife Crossing Structures**

Widening a roadway from a two-lane roadway to a four-lane divided facility or constructing one at a new location will increase habitat fragmentation and the potential for vehicle collisions with wildlife. Wildlife crossings should be provided, when appropriate, in the form of bridges, overpasses, or underpasses to reduce habitat fragmentation. Habitat fragmentation is a significant concern for road projects. Maintaining connectivity within and between wildlife populations is vital to the health of the species and individual populations. Large species, which tend to have larger roaming territories, also present a safety concern for the traveling public when they cross a road at grade. Wildlife crossing structures are also helpful in preventing collisions with wildlife, and reducing associated injuries, deaths, and vehicle repair costs. Properly designed wildlife crossings for the various species should be included in project designs. For more information on engineering considerations and design standards needed to benefit wildlife, please see: [http://www.wildlifeandroads.org/decisionguide/](http://www.wildlifeandroads.org/decisionguide/)

**Potential Environmental Impacts and Mitigation Measures (Chapter 7)**

As stated in the MTP, the best approach to protecting environmental resources is to avoid disturbing them as much as possible. In the case when impacts cannot be avoided, mitigation on-site or compensatory mitigation off-site can help alleviate some of the impacts of development on fish and wildlife. The following additions to Table 7.2 will provide more information on mitigation measures to consider.

**Fragmented Animal Habitats**

- Construct wildlife overpasses or underpasses that facilitate movement of terrestrial and aquatic species through the landscape, see the recommendations above and the following link: [http://www.wildlifeandroads.org/decisionguide/](http://www.wildlifeandroads.org/decisionguide/) for more information on engineering considerations and design standards needed to benefit wildlife.
- Plant only native species to provide habitat for our native insects and animal species.
- Control invasive species infestations.
- Encourage the adoption of zoning, ordinances, and development standards that protect connected natural areas, see the Green Growth Toolbox for more information: [http://www.ncwildlife.org/Conserving/Programs/GreenGrowthToolbox.aspx](http://www.ncwildlife.org/Conserving/Programs/GreenGrowthToolbox.aspx)

**Streams**

- Vegetative buffer zones that have a minimum 100-foot undisturbed, native, forested buffer along perennial streams, and a 50-foot buffer along intermittent streams will provide habitat for terrestrial species and provide a natural tree canopy over the stream to protect stream temperatures.
- Plant only native species in riparian areas to provide habitat for our native insects and animal species.
- Control invasive species infestations.

**Threatened and Endangered Species**

- Habitat for all listed species (including state-listed species) and species of conservation concern that are not listed should be protected. For more information on species of conservation concern, please see the NC Wildlife Action Plan: [http://www.ncwildlife.org/Plan](http://www.ncwildlife.org/Plan)
- Development of incentives to protect habitat in developing landscapes, see the Green Growth Toolbox for more information: [http://www.ncwildlife.org/Conserving/Programs/GreenGrowthToolbox.aspx](http://www.ncwildlife.org/Conserving/Programs/GreenGrowthToolbox.aspx)
- Establishment of protected corridors to facilitate movement of species across the landscape
- Best management practices for habitat protection, see NCWRC’s *Conservation*
Recommendations for Priority Terrestrial Wildlife Species and Habitats in North Carolina
(http://www.ncwildlife.org/Portals/0/Conserving/documents/ConservingTerrestrialHabitatsandSpecies.pdf) for more information.

- Vegetative buffer zones that have a minimum 200-foot undisturbed, native, forested buffer along perennial streams, and a 100-foot buffer along intermittent streams in watersheds with federally-listed threatened and endangered aquatic species will help protect their habitats.

**Wetlands**

- For enhanced protection of wildlife, conserve a minimum 150-foot undisturbed “critical habitat zone” around wetlands. Ideally, protect an additional 600-foot naturally vegetated “secondary upland habitat zone” for a total core terrestrial habitat of 750-feet from the wetland boundary.
- Use silt fencing to keep amphibians out of active construction areas.
- Plant only native species to provide habitat for our native insects and animal species.
- Control invasive species infestations.

Thank you for the opportunity to provide comments on the Winston-Salem Urban Area MPO 2040 Metropolitan Transportation Plan. The NCWRC supports the Winston-Salem Urban Area MPO in its efforts to plan for transportation projects that protect our natural areas for our declining wildlife species. The NC Wildlife Action Plan lists priority species of mammals, birds, amphibians, reptiles, fish, mussels, and crayfish that should be targeted for conservation efforts throughout the state. For more information on this plan, see http://www.ncwildlife.org/Plan. If I can be of further assistance, please contact us at 919-707-0054.

Sincerely,

Marla Chambers, Western NCDOT Permit Coordinator
North Carolina Wildlife Resources Commission

Brooke Massa, Piedmont Land Conservation Biologist
North Carolina Wildlife Resources Commission

**Literature Cited:**


TO: Melba McGee, Environmental Coordinator  
Office of Legislative and Intergovernmental Affairs, DENR

FROM: Marla Chambers, Western NCDOT Permit Coordinator  
Habitat Conservation Program, NCWRC

DATE: March 12, 2007

SUBJECT: Supplemental Final Environmental Impact Statement for the proposed Western Section and Final Environmental Impact Statement for proposed Eastern Section and Eastern Section Extension of the Winston-Salem Northern Beltway, Forsyth County, North Carolina. TIP No.R-2247, U-2579 and U-2579A. OLIA Project No. 07-0269, original due date: 03/07/2007, revised due date: 03/12/2007.

North Carolina Department of Transportation (NCDOT) has submitted a Supplemental Final Environmental Impact Statement (SFEIS) for the proposed Western Section and Final Environmental Impact Statement (FEIS) for proposed Eastern Section and Eastern Section Extension of the Winston-Salem Northern Beltway. Staff biologists with the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the information provided and have participated in the Section 404/NEPA merger process, including field and concurrence meetings, for the subject project. These comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

NCDOT proposes to construct three projects, commonly known as the Winston-Salem Northern Beltway, as a multi-lane, median divided facility with full access control on new location for a total project length of approximately 34.2 miles. The western portion of the Beltway (Project R-2247) extends from US 158 west of the City northward to US 52. The eastern portion of the Beltway (Projects U-2579 and U-2579A) extends from US 52 north of Winston-Salem to US 311 southeast of Winston-Salem. Preferred Alternatives have been chosen for all three segments. Current estimates of direct project impacts include 53,352 linear feet (lf) of stream (35,665 lf of which is USACE mitigatable streams), 6,189 lf of stream relocations, 7.48 acres (ac) of...
wetlands, 24.71 ac of ponds, 936 ac of forested lands, and 1,380 ac of prime, statewide, and local important farmland.

The western section (R-2247) study area is in the Yadkin River basin and is drained by Muddy Creek and its named and unnamed tributaries, except for Bashavia Creek, which flows directly to the Yadkin River. All streams in this section are designated Class C waters by the NC Division of Water Quality (NCDWQ), with the possible exception of Bashavia Creek. Drainages in the western section study area have scoured deep channels from two to ten feet deep and some streams are experiencing noticeable increases in peak flows, likely due to localized subdivision development. The majority of the waters in the Muddy Creek subbasin exhibit some level of impacts to water quality due to both point and non-point sources and the subbasin has one of the highest number of impaired streams within the Yadkin-Pee Dee River basin. Muddy Creek, and therefore all of its unnamed tributaries, is on the Section 303(d) list of impaired waters, primarily attributed to stormwater runoff from construction sites and developed areas. Reynolds Creek is also on the 303(d) list. NCDWQ’s Use Support rating system also designates Muddy Creek as Impaired. Silas Creek is mentioned as having “notable impacts” in NCDWQ’s 2003 Yadkin-Pee Dee Water Quality Basin Management Plan. Most of this section of the project lies just east of the designated Yadkin River water supply watershed; the Yadkin River supplies the majority of the county’s drinking water.

The study areas for the eastern sections (U-2579 and U-2579A) are primarily in the Yadkin River basin, with a small part in the north draining into the Dan River in the Roanoke River basin. A number of federal and state listed species inhabit the Dan River. Salem Lake, a water supply reservoir for the City of Winston-Salem located in the eastern section study area, flows to Muddy Creek via Salem Creek, which is also on the Section 303(d) list and designated as Impaired in NCDWQ’s Use Support rating system. The lake received nutrient status indicating high nutrient levels and was listed as Support Threatened. Mill creek was another stream mentioned as having “notable impacts”. Salem Lake, Martin Mill Creek, Lowery Mill Creek, Smith Creek, Fishers Branch, and their associated tributaries are classified as Water Supply Watershed III (WS-III) streams. Kerners Mill Creek, another tributary to Salem Lake, is classified WS-II and is a critical area within the watershed. The remaining streams in the study area are Class C waters. The eastern extension study area is on the border of a WS-III area associated with Abbotts Creek, significant portions of which are still undeveloped agriculture and forest lands. Sediment and erosion control measures should adhere to the design standards for sensitive watersheds in all portions of the project that drain to Water Supply waters. Special efforts should also be employed to minimize further degradation of impaired streams.

Considerable direct impacts will also occur to terrestrial wildlife habitat, not only through forest destruction but also loss of agricultural land. Patches of agricultural land interspersed with escape and shelter habitats can provide exceptional value for wildlife, such as deer and turkey. The right-of-way for the preferred alternative for the western segment, R-2247, is comprised of about 41% forested area and 22% agricultural and pine plantation. The right-of-way for the preferred alternative for the eastern segment, U-2579, consists of approximately 46% forested and 11% agricultural and successional pine. Habitat fragmentation, by introducing a large barrier to animal migration, further degrades the high quality habitat that remains. This barrier is most evident in the west where the Beltway will divide the habitat along the Yadkin River from
Muddy Creek and in the northeast where it separates the Yadkin River Basin from the Dan River Basin.

Wildlife losses will occur from direct losses of non-mobile species, displacement and subsequent competition for remaining resources by mobile species, and road kills. The latter also has serious human safety concerns, which underscores the need for wildlife crossings throughout the project. We appreciate NCDOT working cooperatively with the Merger Team and agreeing to provide bridges at key stream crossings that will accommodate wildlife passage and for their commitment to continue to consider additional wildlife crossings where appropriate. Measures, such as longer bridges and use of floodplain drains (pipes or culverts), will provide some additional habitat connectivity, as well as spread out flood flows, which reduces flood damage. We request that the clearing of trees and vegetation for this project be avoided the breeding season as much as possible in order to reduce direct loss of wildlife. We also appreciate NCDOT’s commitment to accommodating proposed greenways though the project corridor.

Air quality is another important concern. Forsyth County currently is a maintenance area for the one-hour ozone standard and for the carbon monoxide standard, and has been declared nonattainment for the eight-hour ozone standard. Both Guilford and Davidson County have been listed as nonattainment areas for the fine particulate matter standard. The Union Cross community that sits between these two counties in southeast Forsyth County may already have air quality issues due to prevailing southwest and westward winds without additional traffic and development. However, this area is the location of the new Dell computer manufacturing facility and a project to widen Union Cross Road to a multi-lane divided roadway is proposed. This area is experiencing rapid growth and it is expected to continue. Air quality should be monitored and other measures should be employed to manage the growth in this area, which was originally expected to have a low potential for induced development. Burning of land clearing debris should be minimized.

The Winston-Salem/Forsyth County City-County Planning Board initiated a community-wide planning process that resulted in the development of the Legacy Comprehensive Plan, which includes a Growth Management Plan. The document indicated that the City-County Planning Board realized the need to manage growth through curbing urban sprawl by creating more compact and efficient development patterns that still accommodate growth, while maintaining environmental quality, making more efficient use of the land that has already been developed, encouraging reuse, and preserving open space and rural character. The County plans to institute provisions for the protection of farmlands, natural areas, and rural character. We applaud these efforts to manage growth and protect natural areas, which will benefit wildlife, water quality, and the quality of life for residents; however, we feel more could be done to ensure these plans are fully implemented.

Secondary and cumulative impacts will likely have more serious effects than direct impacts and are a major concern for the project. A study commissioned by Smart Growth America, Measuring Sprawl and Its Impact (Ewing, et. al., 2002) identified the Piedmont Triad as ranking second in the nation for urban sprawl. In the secondary and cumulative impacts analysis we found few details about existing regulations and to what extent growth will be limited and water quality will be protected. No estimation of impervious surface coverage currently existing or
expected at build-out was noted, nor when build-out is likely to occur. Numerous studies have shown that when 10–15% of a watershed is converted to impervious surfaces, there is a serious decline in the health of receiving waters (Schueler 1994) and the quality of fish habitat and wetlands are negatively impacted (Booth 1991, Taylor 1993). One ordinance change was mentioned in the document; in November 2005 the Forsyth County Board of Commissioners increased the riparian buffer width from 30’ to 50’ in the Abbotts Creek watershed, a water supply watershed with Abbotts Creek being on the 303(d) list. We appreciate this improvement; however our standard recommendation is 100’ buffers on perennial streams and 50’ buffers on intermittent streams. Additional regulations or ordinances will be necessary to adequately protect water quality and preserve wildlife habitat and open space, which is very important to the health of the area and is a main focus of local plans.

The project study area, which lies just outside the highly urbanized City of Winston-Salem, consists primarily of rural residential and agriculture uses with undeveloped wooded tracts and numerous streams. We believe the land surrounding the project corridor will become much more attractive to industrial, commercial and residential development and that secondary and cumulative impacts will be substantial. Development, especially commercial, is likely near proposed interchanges and is anticipated in local plans. The NCDOT 2006-2012 Transportation Improvement Program lists over 40 road projects for Forsyth County not including bridge replacements, rail, transit, bike and pedestrian, or other miscellaneous projects. Some local groups are proposing additional road projects in the area, such as a four-lane parkway from High Point to the Piedmont Triad International Airport proposed by consultants working on the Heart of the Triad plan. Planned private development projects in the area are numerous. The Northern Beltway, combined with other public and private projects, places additional pressures from induced development, induced travel, and impacts on communities, natural habitat, and water quality.

NCDOT should ensure the Winston-Salem Northern Beltway is consistent with local plans to protect environmental quality, forested lands, open space, and the rural nature of the area. Our concurrence with the permits to construct this project will be strongly influenced by the mitigation measures adopted and put into practice to offset the direct, secondary, and cumulative impacts related to this project and the degree to which they will protect the natural resources of the county. As the SFEIS/FEIS indicated, the responsibility of mitigating the secondary and cumulative effects will fall primarily on local and state governments, with participation of private sector developers. Measures to mitigate secondary and cumulative impacts can be found in the Guidance Memorandum to Address and Mitigate Secondary and Cumulative Impacts to Aquatic and Terrestrial Wildlife Resources and Water Quality (NCWRC 2002). Substantial stormwater management controls and impervious surface limits should be required for all new development. Recommended riparian buffers would provide important water quality and wildlife protection. Improvements, retrofits, and stream restoration efforts should be implemented in previously developed areas to improve already degraded streams and water quality. Alternatives to traditional curb and gutter should be developed to provide better treatment of stormwater and we encourage the use of non-impervious materials to construct sidewalks, parking lots, and other facilities. Low impact development techniques to manage stormwater quantity and quality should be incorporated into both new and existing development (see www.lowimpactdevelopment.org for information).
Loss of trees through both direct and secondary impacts, added to the cumulative impacts of the numerous projects in the study area substantially reduces their benefits to the community and the environment. Some of the benefits provided by trees include: wildlife habitat, stabilization of stream banks, soil stabilization, air quality improvements, aesthetics, and shade, which not only moderates stream and habitat temperature changes, but can reduce the residential cooling costs in warmer months. These losses should be mitigated by preserving forested areas and planting native trees and vegetation in previously disturbed areas. Water supply watersheds, riparian areas and floodplains, large tracts of natural and rural areas, and sites containing listed species should be focused on for enhancement and preservation measures.

We strongly recommend NCDOT work with local authorities to ensure these mitigative measures are in place prior to submitting a permit application and these measures are clearly identified in the application to avoid any delays. Thank you for the opportunity to review and comment on this project. If you have any questions regarding these comments, please contact me at (704) 545-3841.

Literature Cited:


cc: Marella Buncick, USFWS
Sue Homewood, NCDWQ
Chris Militscher, USEPA
TO: Melba McGee, Environmental Coordinator  
Office of Legislative and Intergovernmental Affairs, DENR

FROM: Marla Chambers, Western NCDOT Permit Coordinator  
Habitat Conservation Program, NCWRC

DATE: November 30, 2010

SUBJECT: Review of the Environmental Assessment for NCDOT’s proposed project to improve and extend Macy Grove Road (SR 2601), including converting a grade separation at I-40 Business/US 421 to an interchange, Kernersville, Forsyth County. TIP Nos. U-2800 and U-4734. OLIA Project No. 11-0107, due 11/30/2010.

The North Carolina Department of Transportation (NCDOT) has submitted for review an Environmental Assessment (EA) for the subject project. Staff biologists with the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the information provided in the EA and are participating in the Merger process for the development of the project. These comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)), the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d), and the Clean Water Act of 1977 (33 U.S.C. 466 et seq.).

The NCDOT proposes to widen Macy Grove Road (SR 2601) to multi-lanes, convert a grade separation at I-40 Business/US 421 to an interchange, and extend Macy Grove Road to NC 150 (North Main Street) north of Kernersville. The project is a component of the Town of Kernersville Loop Road System. The extension portion of the project (U-4734) will cross Reedy Fork and a large, high quality wetland complex, which was previously fish hatchery ponds, within Triad Park. Reedy Fork and its unnamed tributaries in the project study area are classified WS III, NSW (Nutrient Sensitive Waters) and receive protection under the Jordan Lake Water Supply Watershed Buffer Rules. The remaining jurisdictional streams, West Fork Deep River and its unnamed tributaries, are on the 2010 Draft 303(d) list of impaired waters and fall under the Randleman Lake Water Supply Watershed Buffer Rules. Highly protective sediment and erosion control measures will be needed to minimize direct impacts to these waters.
An on-site Merger Team meeting, held September 16, 2009, resulted in recommendations for a minimum hydraulically-required bridge to cross Reedy Fork and the wetland complex and potential on-site mitigation options, such as kudzu removal and berm alterations to enhance wetland connectivity. NCDOT has coordinated with Triad Park regarding the location of the roadway through the park and providing for the planned greenway crossing, which is proposed as a concrete path under the Reedy Fork bridge, above the 10-year storm elevation. We also encourage any mitigating actions that would protect the surrounding wooded areas or add them to the park’s property in this highly urbanized and rapidly developing region.

Indirect and cumulative impacts are major concerns for this project. As the EA stated, “Industrial and residential in-filling is expected to continue in the area with or without the proposed project; however, increased development pressure and an increased growth rate will occur if the proposed project is constructed and access is improved to current and future industrial areas.” Industrial and commercial uses are planned for the majority of the project area and the project is expected to open up additional developable lands. Numerous transportation improvement projects and non-residential development projects are planned or under construction in the vicinity, including the Triad Business Park and Kernersville Medical Center.

We strongly recommend strict growth management, stormwater management, and sediment and erosion control measures be implemented by NCDOT and local authorities to minimize negative indirect and cumulative impacts to water quality and to fish and wildlife habitats. Numerous studies have shown that when 10–15% of a watershed is converted to impervious surfaces, there is a serious decline in the health of receiving waters (Schueler 1994) and the quality of fish habitat and wetlands are negatively impacted (Booth 1991, Taylor 1993). Measures to mitigate secondary and cumulative impacts can be found in the Guidance Memorandum to Address and Mitigate Secondary and Cumulative Impacts to Aquatic and Terrestrial Wildlife Resources and Water Quality (NCWRC 2002). Information on Low Impact Development (LID) practices and measures can be found at www.lowimpactdevelopment.org, http://www.epa.gov/owow/nps/lid/lidnatl.pdf and http://www.stormwatercenter.net/.

Thank you for the opportunity to review and comment on this project. If you have any questions regarding these comments, please contact me at (704) 485-8291.

cc: Polly Lespinasse, NCDWQ
    Marella Buncick, USFWS
    Christopher Militscher, USEPA

Literature Cited:


http://www.ncwildlife.org/Wildlife_Species_Con/documents/pg7c3_impacts.pdf (February 2010).


TO: John T. Thomas, Jr., NCDOT Division 9 Coordinator  
Raleigh Regulatory Field Office, USACE

FROM: Marla Chambers, Western NCDOT Permit Coordinator  
Habitat Conservation Program, NCWRC

DATE: September 27, 2013

SUBJECT: Review of NCDOT’s application for a Section 404 Permit and Section 401 Water Quality Certification for the proposed Salem Creek Connector, a four-lane facility on new location from SR 4326 (Rams Drive (formerly Stadium Drive) to SR 4325 (Martin Luther King Jr. Drive), Winston-Salem, Forsyth County. TIP No. U-2925.

The North Carolina Department of Transportation (NCDOT) has submitted an application to obtain a Section 404 Permit from the U.S. Army Corps of Engineers (USACE) and a Section 401 Water Quality Certification from the Division of Water Quality (NCDWQ). Staff biologists with the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the information provided and have participated in interagency Merger meetings for the project. These comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)), the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d), and the Clean Water Act of 1977 (33 U.S.C. 466 et seq.).

NCDOT proposes to construct the Salem Creek Connector, a one-mile long four-lane median divided facility on new location, from SR 4326 (Rams Drive (formerly Stadium Drive) to SR 4325 (Martin Luther King Jr. Drive) in Winston-Salem. The project also includes reconstruction and realignment of the Diggs Boulevard/US 52-311/NC 8 interchange and removal of the ramps at the Rams Drive/US 52-311/NC 8 interchange. Permanent impacts total 1,039 linear feet (lf) of streams and 321 lf of temporary impacts. No wetland impacts are proposed.

NCWRC commented on the Environmental Assessment (EA) in a letter dated January 13, 2012. As stated then, we understand that the impacted streams, Salem Creek and its unnamed tributaries, are on the 303(d) list of impaired waters. The Stormwater Plan was the only place we noted indicating this impairment in the application package and it only listed two of the four impairment causes that
NCDWR (NCDWQ) listed in their comment letter reviewing the EA dated December 28, 2011. We continue to recommend Design Standards in Sensitive Watersheds apply to minimize further degradation of these waters.

Our previous comment letter also indicated our concerns regarding increasing impervious coverage in this highly developed landscape and recommended measures to minimize this impact. We have attached our EA comments to this letter, as the concerns still apply. We continue to recommend to NCDOT and local officials that highly effective measures that treat stormwater and reduce imperviousness be used both during construction and subsequent development activities.

Thank you for the opportunity to review and comment on this project. If you have any questions regarding these comments, please contact me at (704) 485-8291.

cc: Marella Buncick, USFWS
Chris Militscher, USEPA
Amy Euliss, NCDWR
TO:       Melba McGee, Environmental Coordinator  
Department of Environment and Natural Resources  

FROM:     Marla Chambers, Western NCDOT Permit Coordinator  
Habitat Conservation Program, NCWRC  

DATE:     January 13, 2012  

SUBJECT:  Review of the Environmental Assessment of NCDOT’s proposed Salem Creek Connector, a four-lane facility on new location from SR 4326 (Rams Drive (formerly Stadium Drive) to SR 4325 (Martin Luther King Jr. Drive), Winston-Salem, Forsyth County. TIP No. U-2925. DENR Project No. 12-0144, due 1/4/2012, extended.

The North Carolina Department of Transportation (NCDOT) has submitted for review an Environmental Assessment (EA) for the subject project. Staff biologists with the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the information provided. These comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)), the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d), and the Clean Water Act of 1977 (33 U.S.C. 466 et seq.).

NCDOT proposes to construct the Salem Creek Connector, a one-mile long four-lane median divided facility on new location, from SR 4326 (Rams Drive (formerly Stadium Drive) to SR 4325 (Martin Luther King Jr. Drive) in Winston-Salem. The project also includes reconstruction and realignment of the Diggs Boulevard / US 52-311 / NC 8 interchange and removal of the ramps at the Rams Drive / US 52-311/NC 8 interchange. The document indicated approximately 0.02 acres of wetlands and 957 linear feet of streams will be directly impacted. The impacted streams, Salem Creek and its unnamed tributaries, are on the 303(d) list of impaired waters.

A stream restoration project recently occurred on Salem Creek. NCDOT should coordinate with those involved in the stream restoration to ensure minimal damage to it and that the project is compatible with the restoration efforts. In addition to the streams, other valuable resources that should be provided protection include several parks, the Salem Creek Greenway Trail and other planned greenways.
Approximately 90.8 percent of the Future Land Use Study Area (FLUSA) is currently developed with mostly industrial, institutional, and public land uses, according to the EA. The percent of impervious coverage was not provided. It appears that the project adds a significant amount impervious area to a highly developed landscape. Numerous studies have shown that when 10–15% of a watershed is converted to impervious surfaces, there is a serious decline in the health of receiving waters (Schueler 1994) and the quality of fish habitat and wetlands are negatively impacted (Booth 1991, Taylor 1993).

Special stormwater treatment or sediment and erosion control measures were not offered in the document. Significant stormwater treatment, preferably using Low Impact Development (LID) designs, should be incorporated into the U-2925 project and be required on new, infill, or redevelopment projects to minimize further degradation of impaired area streams and to minimize flooding. Where impervious area exceeds ten (10) percent, stormwater management strategies that restore pre-development hydrograph conditions are recommended. We also recommend pervious pavement or other LID techniques for sidewalks, parking lots, and other facilities. Retrofit opportunities should also be analyzed throughout the project area for potential stormwater treatment improvements. Sediment and erosion control measures should adhere to the Design Standards for Sensitive Watersheds.

Well-designed low impact treatment measures could also help ameliorate air quality concerns, improve urban aesthetics, and provide songbird habitats. Information on Low Impact Development (LID) practices and measures can be found at www.lowimpactdevelopment.org, http://www.epa.gov/owow/nps/lid/lidnatl.pdf and http://www.stormwatercenter.net/. Measures to mitigate secondary and cumulative impacts can be found in the Guidance Memorandum to Address and Mitigate Secondary and Cumulative Impacts to Aquatic and Terrestrial Wildlife Resources and Water Quality (NCWRC 2002). We also note that in Figure 8, it appears that portions of the Project Design fall outside of the U-2925 Study Area. Please explain.

Thank you for the opportunity to review and comment on this project. If you have any questions regarding these comments, please contact me at (704) 485-8291.

cc: John Thomas, USACE
Amy Euliss, NCWRC

Literature Cited:


TO: Lyn Hardison, Environmental Assistance and SEPA Coordinator
Division of Environmental Assistance & Customer Services, NCDENR

FROM: Marla Chambers, Western NCDOT Coordinator
Habitat Conservation Program, NCWRC

DATE: July 1, 2015

SUBJECT: Review of the Finding of No Significant Impact (FONSI) document for
NCDOT’s proposed US 421 pavement rehabilitation, replacement of bridge
numbers 178, 278, 286, 288, 293, 305, 312, 313, 336, and various safety
improvements from west of Fourth Street to east of Church Street, Forsyth
County, North Carolina. TIP No. U-2728B. NCDENR Project No. 15-0643, due
06/29/2014, extended.

North Carolina Department of Transportation (NCDOT) has submitted for review a Finding of
No Significant Impact (FONSI) document for the subject project. Staff biologists with the North
Carolina Wildlife Resources Commission (NCWRC) have reviewed the information provided.
These comments are provided in accordance with the provisions of the state and federal
Environmental Policy Acts (G.S. 113A-1 through 113-10; 1 NCAC 25 and 42 U.S.C. 4332(2)(c),
respectively), the Clean Water Act of 1977 (33 U.S.C. 466 et seq.) and the Fish and Wildlife
Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d), as applicable.

The NCDOT proposes US 421 pavement rehabilitation, replacement of bridge numbers 178,
278, 286, 288, 293, 305, 312, 313, 336, and various safety improvements from west of Fourth
Street to east of Church Street for a project length of 1.2 miles. NCWRC submitted scoping
comments on October 8, 2004. Brief email comments on the Environmental Assessment (May
12, 2014) referred to our scoping comments and indicated that “Our concerns and
recommendations regarding stormwater management remain valid.” We are disappointed that
our concerns have never been addressed. We found no mention of the impaired streams that
will receive runoff from the project, or any efforts to improve stormwater treatment in this highly
developed, urbanized setting. No measures to protect or improve water quality, beyond the Best
Management Practices (BMPs) standard to all projects. Stormwater treatment that will result in
improvements to water quality downstream are important to this project.
We also are concerned regarding the resulting Level of Service (LOS) on major roads in the project area. Table 14 shows the significant reduction in LOS for major road segments from building the project (LOS D and F) compared to the No-Build alternative (LOS A-C). No explanation was provided in the FONSI, despite this being the opposite result desired for most NCDOT road projects.

Thank you for the opportunity to review and comment on this project. Our previous comments are attached. If you have any questions regarding these comments, please contact me at marla.chambers@ncwildlife.org or (704) 982-9181.

cc: Marella Buncick, USFWS
    Cynthia Van Der Wiele, USEPA
    Amy Chapman, NCDWR
TO: Melba McGee, Environmental Coordinator
Office of Legislative and Intergovernmental Affairs, DENR

FROM: Marla Chambers, Western NCDOT Permit Coordinator
Habitat Conservation Program, NCWRC

DATE: October 8, 2004

SUBJECT: Scoping review of the REVISED SCOPE OF WORK for NCDOT’s proposed improvements to US 421/I-40 Business from west of 4th Street to east of Church Street, Winston-Salem, Forsyth County. TIP No. U-2827 B.

North Carolina Department of Transportation (NCDOT) is requesting comments from the North Carolina Wildlife Resources Commission (NCWRC) regarding impacts to fish and wildlife resources resulting from the subject project. Staff biologists have reviewed the information provided and have the following preliminary comments. These comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

The NCDOT proposes to address safety concerns, traffic flow issues and structural deficiencies by pavement rehabilitation and replacement, replacing or removing several bridges over existing roadways, and removing and reconfiguring certain ramps. No information was provided on direct impacts to waterways, but streams draining the project area are degraded and eroding. The project area and a large part of the City of Winston-Salem drains to Salem Creek, which is on the 303(d) list of impaired waters. The area is highly developed with a large percentage covered with impervious surfaces. Numerous studies have shown that when 10–15% of a watershed is converted to impervious surfaces, there is a serious decline in the health of receiving waters (Schueler 1994) and the quality of fish habitat and wetlands are negatively impacted (Booth 1991, Taylor 1993).

Improved stormwater management incorporated into this project would be an important step in improving water quality in the area. We strongly recommend that NCDOT provide
significantly improved stormwater treatment and use low impact development techniques (LID’s) where practicable in the project. Data and information about LID practices and measures can be found at www.lowimpactdevelopment.org. NCDOT should work with local authorities to manage stormwater quantity and quality in the area.

NCWRC understands many of the issues related to safety in the project area and is concerned about the impacts that accidents involving spills can have on water quality and the environment. We understand that there are issues with safety and driver confusion, particularly when making left turns from westbound US 421/I-40 Business. We encourage NCDOT to do a full scale analysis on the safety issues in the area, including those on the intersecting roadways and incorporate additional Transportation Systems Management (TSM) techniques, such as traffic signals and signal coordination, as appropriate.

In addition, to help facilitate document preparation and the review process, our general information needs are outlined below:

1. Description of fishery and wildlife resources within the project area, including a listing of federally or state designated threatened, endangered, or special concern species. Potential borrow areas to be used for project construction should be included in the inventories. A listing of designated plant species can be developed through consultation with the following programs:

   The Natural Heritage Program
   http://www.ncsparks.net/nhp
   1601 Mail Service Center
   Raleigh, N. C. 27699-1601

   and,

   NCDA Plant Conservation Program
   P. O. Box 27647
   Raleigh, N. C. 27611
   (919) 733-3610

2. Description of any streams or wetlands affected by the project. If applicable, include the linear feet of stream that will be channelized or relocated.

3. Cover type maps showing wetland acreage impacted by the project. Wetland acreage should include all project-related areas that may undergo hydrologic change as a result of ditching, other drainage, or filling for project construction. Wetland identification may be accomplished through coordination with the U. S. Army Corps of Engineers (USACE). If the USACE is not consulted, the person delineating wetlands should be identified and criteria listed.

4. Cover type maps showing acreage of upland wildlife habitat impacted by the proposed project. Potential borrow sites and waste areas should be included.
5. Show the extent to which the project will result in loss, degradation, or fragmentation of wildlife habitat (wetlands or uplands).

6. Include the mitigation plan for avoiding, minimizing or compensating for direct and indirect degradation in habitat quality as well as quantitative losses.

7. Address the overall environmental effects of the project construction and quantify the contribution of this individual project to environmental degradation.

8. Provide a discussion of the probable impacts on natural resources, which will result from secondary development, facilitated by the improved road access.

9. If construction of this facility is to be coordinated with other state, municipal, or private development projects, a description of these projects should be included in the environmental document, and all project sponsors should be identified.

Thank you for the opportunity to provide input in the early planning stages of this project. If you have any questions regarding these comments, please contact me at (704) 485-2384.

cc: Marella Buncick, USFWS
    Brian Wrenn, NCDWQ

Literature Cited:


TO:            John T. Thomas, Jr.  
               Raleigh Regulatory Field Office, USACE

FROM:         Marla Chambers, Western NCDOT Permit Coordinator  
               Habitat Conservation Program, NCWRC

DATE:         June 25, 2012

SUBJECT:      Review of NCDOT’s application for a Section 404 Individual Permit and Section 401 Individual Water Quality Certification for the proposed extension of Idols Road (SR 3000) from Hampton Road (SR 2999) to Clemmons Road (US 158), Forsyth County.  TIP No. U-2707.

North Carolina Department of Transportation (NCDOT) has submitted an application to obtain a Section 404 Individual Permit from the U.S. Army Corps of Engineers (USACE) and a Section 401 Individual Water Quality Certification from the Division of Water Quality (NCDWQ). Staff biologists with the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the information provided and have participated in field, mitigation and hydraulics meetings for the project.  These comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 4332(2)(c)).

NCDOT proposes to extend Idols Road (SR 3000) approximately 2 miles from Hampton Road (SR 2999) to Clemmons Road (US 158) in Forsyth County.  Our previous comments on the 2004 Finding of No Significant Impact document are attached and remain appropriate.  We are pleased to see that natural channel design is proposed for the stream relocation and that fish passage issues are being addressed in one of the unnamed tributaries (UTs).  We are, however, disappointed that increased protection of water quality was not proposed despite the fact that project streams, Muddy Creek and two of its UTs, are on the State’s 303(d) list of impaired waters.  The waters are impaired due to levels of copper and zinc and compromised biological integrity.  It seems that a stream system with multiple issues causing impairment and negatively affecting the stream’s biota would be particularly sensitive to additional pollution from sediment.  We prefer sediment and erosion control that meets the design standards for sensitive watersheds.
We are also disappointed that no action was taken toward mitigating or addressing the cumulative and secondary impacts of the project. Part of the purpose and need for the project was to provide access to a proposed industrial park. Another project, the Winston-Salem Northern Beltway will be constructed close by, making the area more accessible and attractive for industrial and commercial development. NCDOT claims that the project will have little effect on water quality or future stormwater runoff and that the regulations covering watershed and floodplain protection and stormwater management should greatly mitigate stormwater concerns. No specifics or additional information on those regulations were provided. We believe development in the project area, facilitated by two NCDOT road projects, in an area planned for industrial use has the potential to further degrade an already impaired watershed unless significant water quality protection and stormwater management measures are required for both the road project and all subsequent development.

Thank you for the opportunity to review and comment on this project. If you have any questions regarding these comments, please contact me at (704) 485-8291.

cc: Marella Buncick, USFWS
David Wainwright, NCDWQ
Christopher Militscher, USEPA
TO: Melba McGee, Environmental Coordinator  
Office of Legislative and Intergovernmental Affairs, DENR

FROM: Marla Chambers, Western NCDOT Permit Coordinator  
Habitat Conservation Program, NCWRC

DATE: September 9, 2004

SUBJECT: Review of NCDOT’s “Finding of No Significant Impact” document for the construction of SR 3000 (Idols Road) Extension from SR 2999 (Hampton Road) to US 158 (Clemmons Road), Clemmons, Forsyth County, North Carolina. TIP No.U-2707.

North Carolina Department of Transportation (NCDOT) has submitted a “Finding of No Significant Impact” document for the subject project. Staff biologists with the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the information provided. These comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

NCDOT proposes to construct SR 3000 (Idols Road) Extension on new location from SR 2999 (Hampton Road) to US 158 (Clemmons Road) in Clemmons, NC, as a two-lane facility with shoulders on an estimated 100-foot right of way. Stream impacts are estimated to be 1,362 linear feet (lf) for the preferred alternative, B, which includes an 800-foot “rechannelization” of an unnamed tributary (UT) and a bridge, estimated at 300 feet in length, that would cross Muddy Creek and two UT’s at their convergence. NCWRC supports Alternative B, which will result in less habitat fragmentation, since the alignment will closely parallel the existing railroad, and it appears to avoid the use of culverts, opting for the use of a single bridge which will span the three streams and provide a potential crossing for wildlife. Muddy Creek and its tributaries are Class C waters and flow to WS-IV waters and the Yadkin River. Part of the WS-IV protected area lies within the project impact area. No wetland impacts are expected. The stream rechannelization should be conducted using natural channel design.
An Indirect and Cumulative Effects analysis is included in the Revisions to the Environmental Assessment section. The project corridor is undeveloped and predominantly forested with wetland areas along the streams. The Potential Growth Impact Area is mostly single-family residential. The demographic area’s population grew 35.8% between 1990 and 2000, compared to the county’s growth rate of 15.1%. Plans for the project area and vicinity include industrial development. The Village of Clemmons indicates it plans to rezone much of the land to industrial use upon completion of the project. While the forecasted traffic volumes on area roads for the year 2025 show a decrease on some roads, such as Hampton Road North and US 158, an increase in traffic volume for others, such as Idols Road and Hampton Road South, is forecast when compared to the No-build scenario. The Level Of Service (LOS) is not expected to have major improvements, but the project is expected to meet the purposes of routing through traffic and truck traffic off of Hampton Road (apparently just Hampton Road North), and improve access to existing and planned development in the project area.

Cumulative effects will likely play a significant role in the area’s land development with the construction of the proposed Winston-Salem Beltway, which would create an interchange with US 158 less than a mile from the project terminus and another interchange with I-40 one exit north of US 158. All these factors lead to the conclusion that induced growth impacts are highly likely. The project promotes urban sprawl and significant losses of open space, farmland, and wildlife habitat are expected. This will lead to water quality degradation, impacting the water supply, aquatic life, and recreation, such as boating and fishing, downstream. Numerous studies have shown that when 10–15% of a watershed is converted to impervious surfaces, there is a serious decline in the health of receiving waters (Schueler 1994) and the quality of fish habitat and wetlands are negatively impacted (Booth 1991, Taylor 1993).

Secondary and cumulative development in the area is the major concern for this project. We strongly encourage local authorities and NCDOT to work together to adopt regulations and measures that would provide significant protection to the area’s natural resources prior to any rezoning. A lack of LOS improvement would indicate the need for future widening and improvements to the Idols Road Extension. A project document from our files indicated that NCDOT will purchase right of way to accommodate possible future multilane widening. We strongly support that and any measures taken by NCDOT and/or local authorities to protect a corridor surrounding the proposed roadway from future development, such as structure and building setbacks, in order to facilitate the future widening of the road. Planning for future widenings will not only reduce future impacts to the human environment, in the form of homes and businesses, but will lessen the potential need for constructing other new-location facilities to bypass congested areas, which would likely result in more impacts to wildlife habitat, waterways, and open space, as well as additional human impacts.

In addition, we strongly encourage the use low impact development techniques (see www.lowimpactdevelopment.org for information) to manage stormwater quantity and quality in developed and developing areas. Alternatives to curb and gutter should be explored to provide better treatment of stormwater. We would also like to encourage the use of non-impervious materials to construct sidewalks and parking lots, particularly in developed or developing watersheds. Important measures to mitigate secondary and cumulative impacts can be found in
the Guidance Memorandum to Address and Mitigate Secondary and Cumulative Impacts to Aquatic and Terrestrial Wildlife Resources and Water Quality (NCWRC 2002).

Thank you for the opportunity to review and comment on this project. If you have any questions regarding these comments, please contact me at (704) 485-2384.

Literature Cited:


cc: Marella Buncick, USFWS
    Brian Wrenn, NCDWQ
    Chris Militscher, USEPA
September 10, 2015

Margaret Bessette, AICP
Assistant Planning Director
City-County Planning Board
PO Box 2511
Winston-Salem, NC 27102

Re: Winston-Salem MPO 2040 Transportation Plan, Forsyth County, ER 12-2148

Dear Ms. Bessette:

Thank you for your submittal of July 20, 2015, transmitting information for our review concerning the above project. We apologize for the following comments being late.

The following projects have been reviewed with regard to archaeological resources, and either no archaeological investigations was needed or those investigations have been completed and no additional investigation is warranted:

Map Codes 21-02, 21-04, 21-06, 30-03, 30-04, 30-06 and 40-03.

The following projects have not been reviewed for potential effects upon archaeological resources:

Map Codes 30-01, 30-02, 30-09, 30-10, 30-11, 30-12, 30-13, 30-14, 30-15, 30-16, 30-17, 30-18, 30-19, 30-20, 30-21, 40-01, 40-06, 40-07, 40-08 and 40-09. It is likely that the majority of these projects will not have effects upon archaeological resources given their nature and extent. We will be glad to review project plans when they are available and evaluate the potential effects.

The following projects are currently being investigated by archaeological consultants under contract with the NC Department of Transportation:

Map Codes 30-05 and 40-02.

The following projects have had some archaeological investigations conducted, but additional monitoring, testing and/or data recovery excavations may be needed prior to project implementation:

Map Codes 21-01, 21-03, 21-05, 21-07, 21-08, 30-07, 30-08, 40-04 and 40-05. We have been in consultation with the NC Department of Transportation for all of these projects and will coordinate with them as these projects progress.
The locations of historic structures and districts are available on our GIS website at http://gis.ncdcr.gov/hpoweb/. These are up-to-date and should be helpful to your planners.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation’s Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

[Signature]

Ramona M. Bartos