A Day in the Life of NCDOT
LRS Editors
Erin Lesh, Ryan Koschatzky, Tim Sheldon
March 22, 2018
Editing Environment

• 5 Stages
• 12 network editors who also maintain 6 events
• 15 event-only editors from 6 business units
• Supporting systems and integrations
  – WMX (desktop and web)
  – Data Reviewer
  – Agile Assets
  – MS2
Network Editors

• 5 WMX Job Types

• Current assignments
  – System Road Editors
  – Non-system Road Editors
Non-System Road Assignments
Tools Used by Network Editors

Esri Tools
- Workflow Manager
- ArcMap/R&H
- Data Reviewer

Custom Tools
- Tracking Database
- Spatially Derived Tool
- Division Letters
- Documentation/User Guide
Versioning Structure

Default

LockRoot

Ryan’s TIP Job

Tim’s Petitions Job

Editor Job

Job

Job

Job
Oh Ryan!

I have a fun assignment for you!

Yes Boss
Can you process U-2800.
1. Looking for TIP folder
   - SR assignment map
   - Dgn
   - Full set of plans or coversheet with let date
2. Find project in tracking db – looking for Open to Traffic or Completion date

- Tracking DB
- WMX
- ArcMap/R&H
- DataReviewer
- SD Tool
- DE Letters
- User Guide
### TIP (U-2800)

<table>
<thead>
<tr>
<th>County Name</th>
<th>TIP #</th>
<th>Proj / Contract</th>
<th>Let Date</th>
<th>WBS Element #</th>
<th>Linework Status</th>
<th>Photo Revised</th>
<th>Completion Date</th>
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<tbody>
<tr>
<td>Forsyth</td>
<td>U-2800</td>
<td>C202853</td>
<td>7/17/2012</td>
<td>34658.3.3</td>
<td>Production</td>
<td>Yes</td>
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**Project Location (Sh# F2):**
KERNERSVILLE - SR 2001 (MACY GROVE ROAD) FROM SOUTH OF SR 4319 (INDUSTRIAL PARK DRIVE) TO NORTH OF SR 1005 (EAST MOUNTAIN STREET) IN KERNERSVILLE

**Type of Work:**
GRADING, DRAINAGE, PAVING, STRUCTURES, SIGNALS, SIGNING, LIGHTING, AND ITS

**Date Open to Traffic:** 5/21/2015

**Completion Notice Document (Ctrl+R):**

- Tracking DB
- WMX
- ArcMap/R&H
- DataReviewer
- SD Tool
- DE Letters
- User Guide
3. Review plans and get familiar with the project
TIP (User Guide)

DCG Roads and Highways User Guide

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Tracks DB
WMX
ArcMap/R&H
DataReviewer
SD Tool
DE Letters
User Guide
TIP (User Guide)

- Tracking DB
- WMX
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3. Review plans and get familiar with the project

Sheets to study: Title page, Pavement schedule (sheet number 2), Plan Sheet/s (sheet number 4 to end), Pavement Marking (sheet PMP) and Signing Plans (sheet Sign)

Things to look for as this items can impact R&H operations: roundabouts, medians (small concrete or grass), hatching, loops, lollipops, and fish routes

Ensure plans and dgn match, mainly looking at L line alignment

Add in LRSE_Surface, looking at unpaved roads in project area
4. Identify any primary routes—ensure we are authorized to move through email or HTO (ask Ryan, that’s me)

Highway Traffic Ordinances (HTO) – January 2018

1. Local Traffic Engineer submits request to State Signing Engineer
2. Goes through internal review process including the Route Change committee
3. Goes through external review and approval process
   • Interstates – FHWA and AASHTO
   • US Routes – AASHTO only
   • NC Routes – none (no external review)
4. Traffic Safety Unit writes up HTO and drafts changes in TEAAS
5. Local Traffic Engineer approves draft changes
6. State Traffic Engineer signs and releases HTO
7. GIS processes HTO
8. GIS releases DE Letter

General Timeline from start to finish:
Interstate – 30 months
US/NC- outside a municipality 12 months, inside a municipality 29 months

A resource to find some of the current proposed route changes and approved HTO’s.
https://connect.ncdot.gov/resources/safety/Pages/Route-Changes.aspx
5. Open Arcmap and acquire locks need for the project
6. Photo revise existing linework if necessary
7. Opps, before we can process this project we need to process an earlier project because R&H doesn’t like out of order edits.
8. Project 1 steps
   a. Build exiting roundabout SR 1005, 2042 (WBS 42727, 9C.034069 - 6/24/2011) (apply updates after each realign)
      i. Realign SR 1005 inv
      ii. Realign SR 1005 opp inv
      iii. Realign SR 2042 inv (4 segments)
      iv. Add SR 2042 opp inv (9 segments, flip geometry)
TIP (U-2800 Lars Plan)

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1. Refine AOI
2. Establish Editing Workspace
3. Launch ArcMap with DP Session
4. Assign SR Numbers
TIP (U-5832 Lars Plan)

- Tracking DB
- WMX
- ArcMap/R&H
- DataReviewer
- SD Tool
- DE Letters
- User Guide

Refine AOI
Establish Editing Workspace
Launch ArcMap with DR Session
Assign SR Numbers
9. Project 2 steps
   B. Realign I-40 Business WB (use project date 5/21/2015 going forward)(apply updates after each realign)
      i. Realign US-421 inv
   C. Add SR 4608
      Extend SR-4319
   D. Add SR 4609 (match to ortho, not plans at intersection with SR 2601)
   E. Add SR 4610
   F. Delete portion of NS 91907
   G. Reassign portion of SR 2042 inv to SR 4579 inv
      i. Add culdesac portion of SR 2042 inv
   H. Delete portion of SR 2042 opp inv
      i. Add culdesac portion of SR 2042 opp inv (watch for negative numbers)
   I. Delete portion of SR 4579 inv
   J. Realign portion of SR 4579 inv (watch for zero from measure)
   K. Retire portion of SR 2601-inv (watch route direction)
   L. Add portion of SR 2601 opp inv (saving event data)
   M. Realign portion of SR 2601 inv
   N. Add SR 4580 inv
   O. Add SR 4580 opp inv
   P. Get 4 Ramp numbers
      i. Add 4 ramps 6462, 6463, 6464, 6465
   Q. Realign SR 1005 inv at new roundabout
   R. Realign SR 1005 opp inv at new roundabout
   S. Retire SR 1005 inv at beginning of route
   T. Retire SR 1005 opp inv at end of route
   U. Retire NS 98057
   V. Realign NS 93170 (watch route direction, watch for zero measure)
   W. Reassign SR 2045 inv to SR 1005 inv beginning of route (watch for zero measure and recalibrate downstream)
   X. Add SR 1005 opp inv end of route
   Z. Centerline attribution
TIP (U-2800)

- Tracking DB
- WMX
- **ArcMap/R&H**
- DataReviewer
- SD Tool
- DE Letters
- User Guide

1. Refine AOI
2. Establish Editing Workspace
3. Launch ArcMap with DP Session
4. Assign SR Numbers
10. Run Data Reviewer checks in WMX workflow
11. Run Spatially Derived in WMX workflow
12. Launch RCE/EE from WMX
   i. add DCG events
13. Run RCE/EE Data Reviewer checks in WMX workflow
14. Once all Data Reviewer checks are fixed, post data
15. Create Deletter
TIP (U-2800 De Letter)

Maps

- Document Number: U-2800
- Map Date: 10/12/16
- Approval Date: 05/21/15
- County: FORSYTH
- Route Number(s): 4608 4609 4610 4580 4592 2601 1005

- Document Number: U-2800
- Map Date: 10/12/16
- Approval Date: 05/21/15
- County: FORSYTH
- Route Number(s): 4579 2045 1005

- Tracking DB
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Launch ArcMap with DR Session
Create DE Letter

DE Letter Errors Found?

Yes

No

Reconcile & Post
TIP (U-2800)

16. Update tracking db

- Tracking DB
- WMX
- ArcMap/R&H
- DataReviewer
- SD Tool
- DE Letters
- User Guide
Hi Tim, lowly contractor!

I have a fun assignment for you!

Yes Ms. Lesh?

☺
Can you process Some petitions?
Petition Processing

• **Before** the Board of Transportation (BOT) Meeting
  – Evaluate recommended route length and location
  – Draft linework and create a map

• **After** the Board of Transportation Meeting
  – Generate Secondary Road numbers
  – Process into the LRS (R&H)
  – Create a letter and map
Petitions (Pre-BOT)

- Tracking DB
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Petitions (Pre-BOT)

- Tracking DB
- WMX
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Legend:
- System Roads
- Parcels
- Municipal Boundary
- County Boundary
- Petition Roads:
  - A: No Adjustment Needed
  - B: Minor Adjustment Needed
  - C: Clarification from Field Needed
  - N: Cannot be Verified
Petitions (Pre-BOT)

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![Diagram showing software interfaces and process flow](image)
Petitions (Post-BOT)

- Tracking DB
- WMX
- ArcMap/R&H
- DataReviewer
- SD Tool
- DE Letters
- User Guide
Petitions (Post-BOT)

- Tracking DB
- WMX
- ArcMap/R&H
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- SD Tool
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- User Guide

Reconcile Version

Edit DCC Events

Run Event DR Checks

Event Errors Found?

Yes

No
Petitions (Post-BOT)

- Tracking DB
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Petitions (Post-BOT)

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
Governor

JAMES H. TIETJENS
Secretary

DATE: February 15, 2018
TO: Mr. Mike Mills, PE
Division Engineer
Division 7
FROM: Mr. John C. Fairley, GISP, CPM
Manager
Geographic Information Systems Unit
SUBJECT: 2018 District 1 Road System Changes

The GIS Unit’s Data Conversion Group has been authorized to make the changes indicated below to the state road system. We request that you update the related maps and files in your offices and install appropriate road number signs, if necessary. If our system changes do not conform to the actual conditions in the field, please return this memorandum with recommendations.

<table>
<thead>
<tr>
<th>Petition</th>
<th>County</th>
<th>Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALAMANCE_2018_02_51538</td>
<td>ALAMANCE</td>
<td>2/1/2018</td>
</tr>
</tbody>
</table>

Questions or concerns about changes should be referred to the GIS Help Desk at GISHelp@ncdot.gov. Thank you for your assistance.

2018 ROAD SYSTEM CHANGES

<table>
<thead>
<tr>
<th>PETITION</th>
<th>COUNTY</th>
<th>APPROVAL DATE</th>
<th>ROUTE NUMBER</th>
<th>PORTION REASSIGNED TO</th>
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<tr>
<td>ALAMANCE_2018_02_51538</td>
<td>ALAMANCE</td>
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<td>SR 2671</td>
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</tbody>
</table>

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Launch ArcMap with DR Session

Create DE Letter

DE Letter Errors Found?

Yes

No

Reconcile & Post
Contact Information

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