



Variable Message Signs Project

02/21/2018

Presenters:

Kumar Neppalli, Traffic Engineer

Kevin Smith, Kimley-Horn & Associates

Recommendations

- Council may provide input on
 - Location of Variable Message Signs (VMS)
 - Number of VMS Signs
 - Aesthetic of VMS Signs
- Adopt Resolution #: 2018-02-21/R-3: Authorizing Municipal Agreement with NCDOT
- Enact the Budget Ordinances Amendments #: 2018-02-21/O-1 and 2018-02-21/O-2: Accepting the Federal and University funds

Project History

New Traffic Signal System Implemented in 2012:

- Fiber Communication Cable
- Traffic Monitoring Cameras
- Camera Access to Town Fire, Town Police, and UNC Public Safety Buildings
- Traffic Management Center at Public Works
- ~~Variable Message Signs~~

Project History




- University uses Temporary Message Boards to provide Special Events Information.
- In 2014, Town and University agreed to develop a Project for Implementation of Permanent Signs



Project History

- June 2014: Town Council adopted a Resolution and enacted a Budget Ordinance for Design Services of VMS Project
- Initial Design Funding: \$93,750 (\$75,000-Federal and \$18,750-Town)
- Design Consultant: Kimley-Horn and Associates

Project Team

| Agency | Department |
|---|--|
|  THE UNIVERSITY <i>of NORTH CAROLINA</i> <i>at CHAPEL HILL</i> | Transportation, Public Safety, Athletics, Facility Services, & Health Care |
|  NCDOT NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | Division 7 Office, Congestion Management, & Signal Systems Unit |
|  | Police, Fire, Transit, Planning and Development Services, & Public Works |

Project History



Purpose of VMS Signs

- Reduce vehicle congestion
- To convey information to drivers so they can make informed decisions
- To manage traffic operations by directing drivers to take a specific action
- Subject to NCDOT Policy for the Use of Variable Message Signs



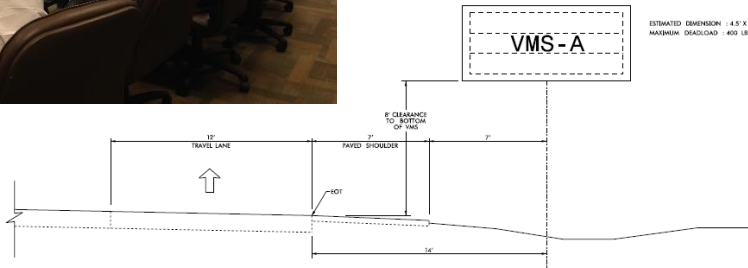
Project Design Phases

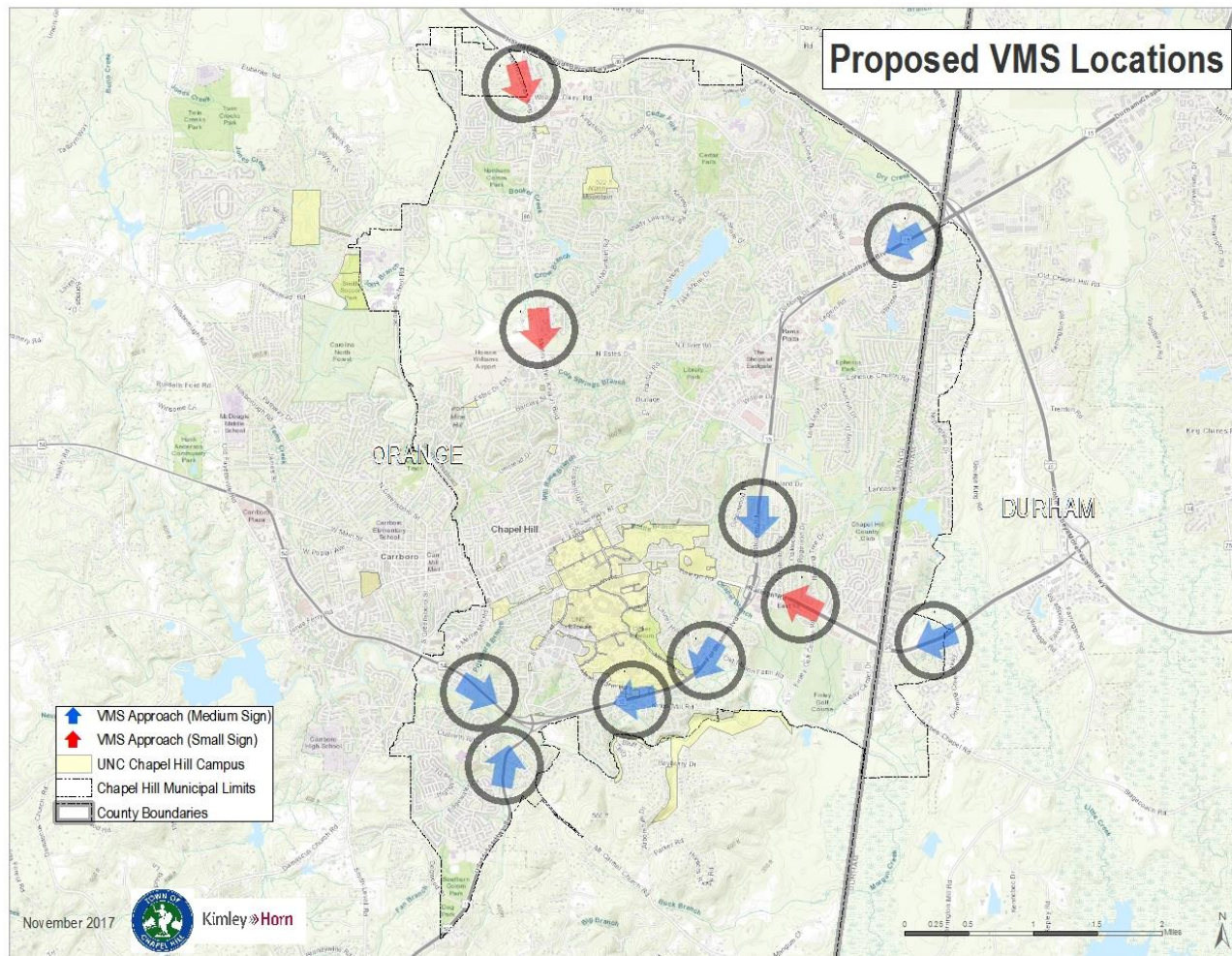
- **System Concept:** Completed
- **Preliminary Design:** Completed
- **Detailed Design:** 70% Completed



Location A: NC 86 (Martin Luther King Jr. Blvd) approaching Weaver Dairy Road

| | |
|------------------|--|
| Purpose and Need | This is a major decision point for travelers diverted from I-40 in the event of an incident. |
| Event Use | A sign at this approach could direct travelers to turn left onto Weaver Dairy Road to return to I-40 in the event of an incident that diverted them from I-40. |
| Daily Use | Provide information about special events, congestion, or alternate routes. |
| Target Traffic | Ingress traffic from I-40 and north of Chapel Hill |
| Sign Size | Approximately 4½ ft. by 10 ft. (mounted 8ft above roadway) |





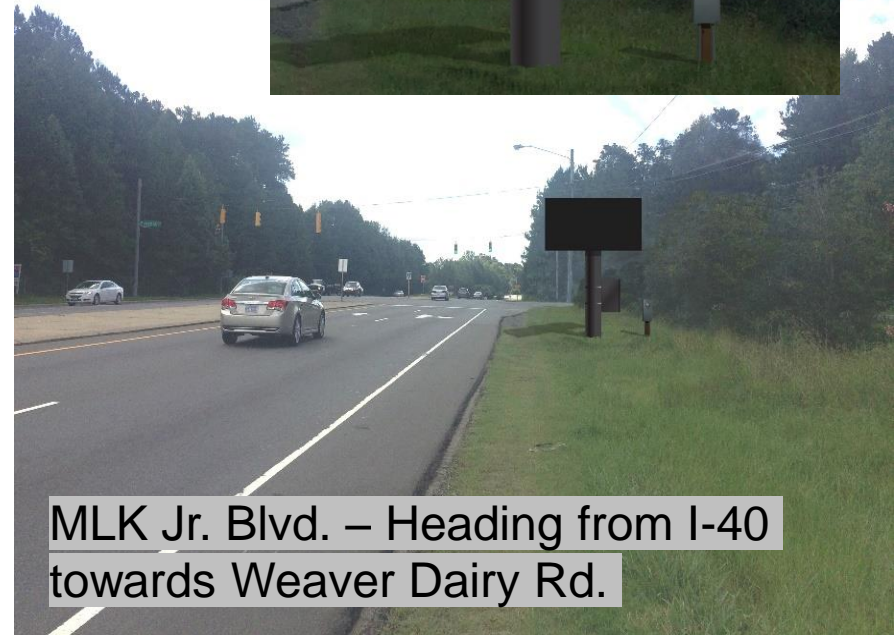
Proposed VMS Locations

List of Locations

- Stakeholders prioritized 10 VMS locations (7 medium size and 3 small size)
- NC 54 (east)
 - 1 medium sign
- NC 54 (west)
 - 1 medium sign
 - 1 small sign
- US 15-501 (north)
 - 2 medium signs
- US 15-501 (near UNC)
 - 2 medium signs
- US 15-501 (south)
 - 1 medium sign
- MLK Jr. Blvd. (north)
 - 2 small signs

“Small” VMS Signs

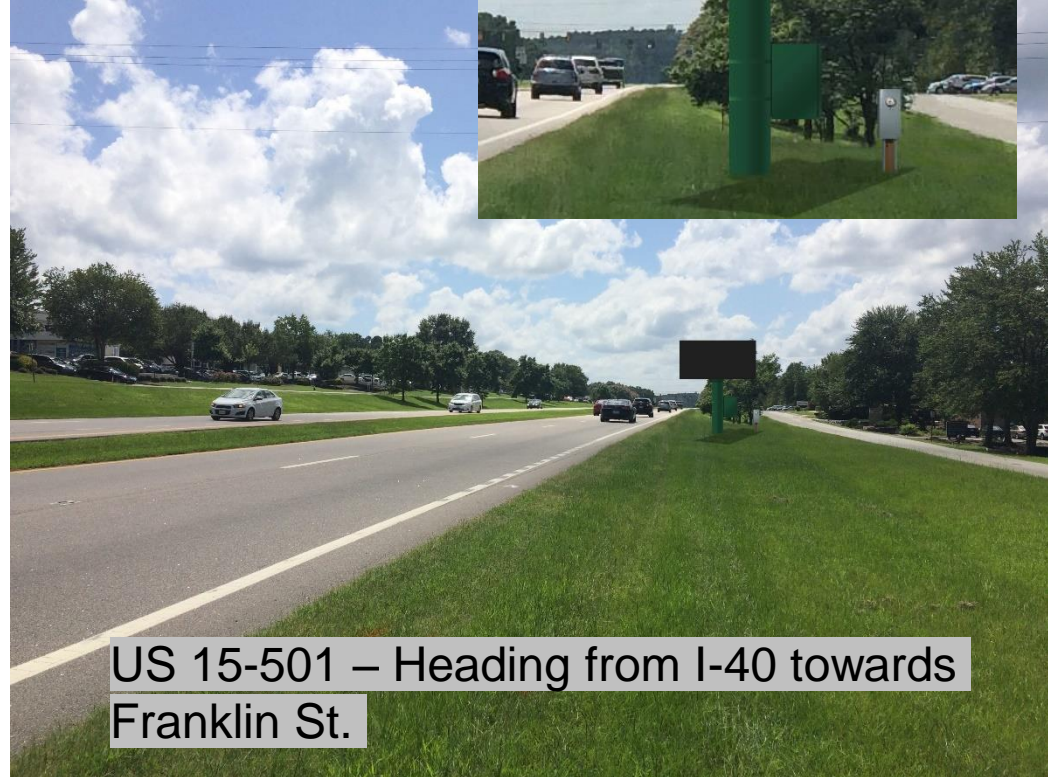
- For 35 mph approaches
- Sign is 4.5 ft. x 10 ft.
- 3 lines of text
- 12" character height
- Viewing range 450 ft.



MLK Jr. Blvd. – Heading from I-40
towards Weaver Dairy Rd.

“Medium” VMS Sign

- For 45 mph approaches
- Sign is 5.5 ft. x 11 ft.
- 3 lines of text
- 18" character height
- Viewing range 600 ft.



VMS Sign Designs



MLK Jr. Blvd. – Heading from Weaver Dairy Rd. towards Estes Dr.

- Limited Aesthetic Options
- Color – Black or green finish
- Structure – Single or double posts

Next Steps

- Finalize Design of Signs
- Complete 100% Design (June 2018)
- Construction (January 2019-December 2019)

Fiscal Impacts/Resources

| Fund Source | Federal Funds Amount | Reimbursement Rate | Non-Federal Match \$ | Non-Federal Match Rate |
|---|----------------------|--------------------|--|------------------------|
| STBG-DA (New supplemental agreement) | \$819,200 | 80% | \$204,800 (University: \$194,500 Town: \$10,300) | 20% |
| Total Estimated Cost: \$1,024,000 | | | | |

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