

SCOPE OF ENGINEERING SERVICES
Albemarle County
Project Order No. XX
Seminole Trail (US 29) Pedestrian Crossing Feasibility Study

The following project order will be completed in accordance with the Contract for Professional Engineering Services for discrete projects, Numbered 2011-12163-10, dated March 21, 2011, between Albemarle County (hereinafter referred to as the County and/or the Client) and KIMLEY-HORN & ASSOCIATES, INC (hereinafter referred to as Kimley-Horn).

BACKGROUND/UNDERSTANDING:

Kimley-Horn understands that the County desires to complete a pedestrian bridge crossing feasibility study on Seminole Trail (US 29) generally between Hydraulic Road (Route 743) and Rio Road (Route 631) and in the vicinity of the Timberwood Boulevard intersection. The purpose of this study is to:

1. Determine where a pedestrian bridge crossing on Seminole Trail is needed within the corridor generally between Hydraulic Road and Rio Road. Potential locations include but are not limited to the following intersections:
 - a. Seminole Trail (US 29) at Greenbriar Drive
 - b. Seminole Trail (US 29) at Westfield Road
 - c. Seminole Trail (US 29) at Dominion Drive
 - d. Seminole Trail (US 29) at Timberwood Boulevard
2. Determine the feasibility and type of pedestrian bridge improvement needed to facilitate pedestrians crossing Route 29 at the recommended location. It is assumed that pedestrian crossings at grade within the study limits are not feasible due to traffic volumes, pedestrian crossing length, highway speeds and pedestrian safety.

PROJECT SCOPE

CONSULTANT SERVICES

Assumptions

The following assumptions were made in preparing this scope of services:

- It is assumed that pedestrian crossings at grade within the study limits are not feasible due to traffic volumes, pedestrian crossing length, highway speeds and pedestrian safety.
- The County will coordinate with Virginia Department of Transportation (VDOT) to identify representatives from the VDOT Charlottesville Residency and NWRO Traffic Engineering to participate in this study.
- No public involvement outreach will be conducted for this project other than two meetings with the US 29 North Advisory Council(s).

- Available historical pedestrian and vehicle traffic counts at intersections along US 29 generally between Hydraulic Road and Rio Road, to be provided by VDOT or the County, will be reviewed and utilized as part of this study. Historic turning movement counts are not available for the following two intersections and will be collected as part of this study (refer to **Figure 1**):
 1. Seminole Trail (US 29) at Westfield Road
 2. Seminole Trail (US 29) at Dominion Drive
- The County will coordinate with the US 29 North Advisory Council(s) to schedule the dates and locations of the meetings with the US 29 North Advisory Council(s) to present project findings by County staff.
- Operational analysis or simulation will not be conducted as part of this study
- It is anticipated that the overall study duration will be approximately 7 months from the notice-to-proceed. It is anticipated that notice-to-proceed will be issued in January 2016.
- Traffic count data will be collected by subconsultant Peggy Malone & Associates.
- Report deliverables prepared by Kimley-Horn will be sent to the County and VDOT in electronic format only using the project FTP site. Materials for project meetings will be sent electronically to the County project manager and project representatives from VDOT.

The following information will be provided by the County and/or VDOT:

- Latest five years (2010 - 2014) of traffic crash data
- Available as-built traffic signal plans, signal installation date information and existing signal timing information for intersections identified as potential pedestrian bridge crossings to be determined during the study.
- All relevant traffic and/or planning studies completed within the vicinity of the study corridor within the past 5 years

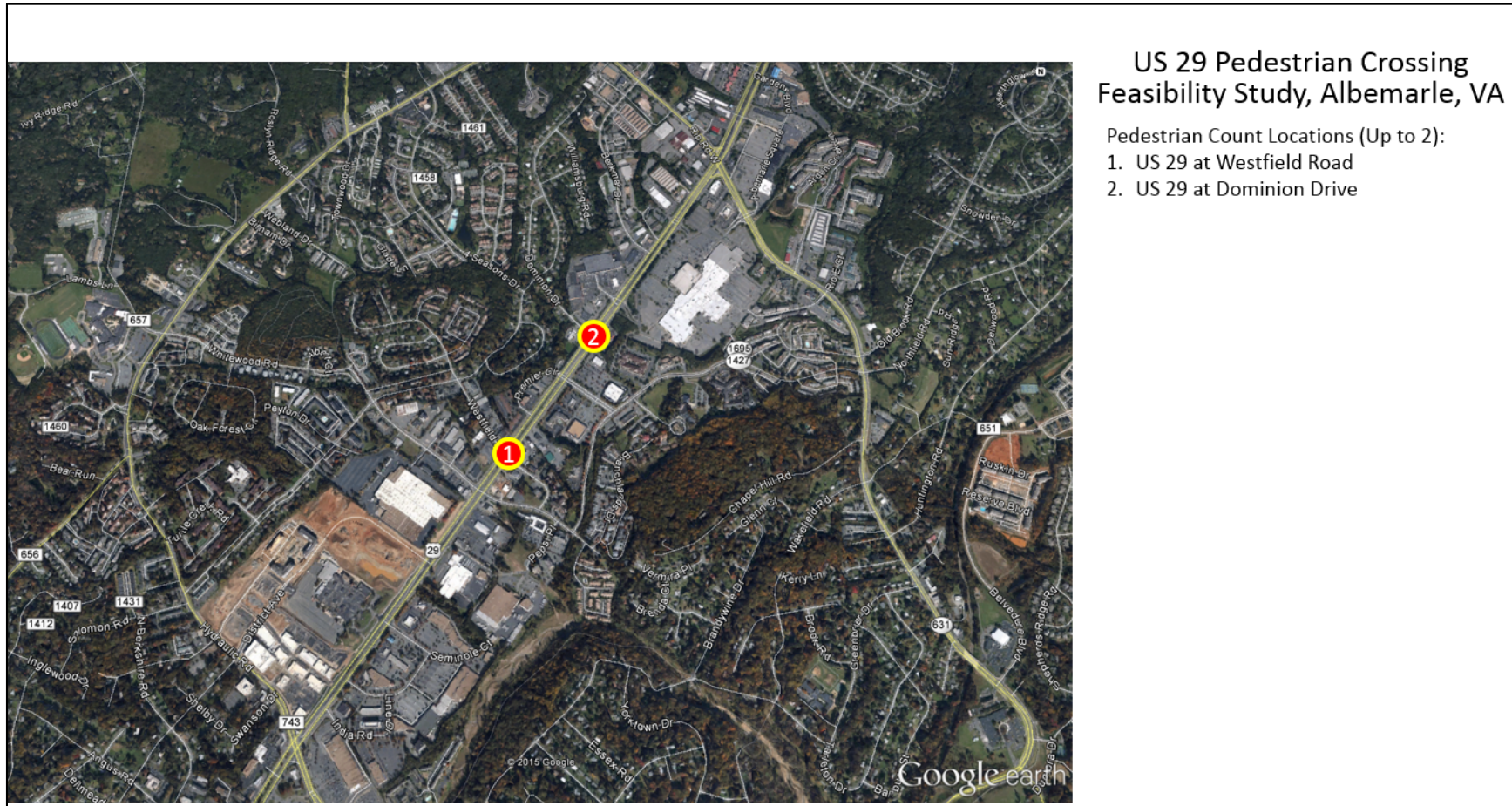
Task 1 – Project Management and Meetings

Task 1.1 – Project Management, Coordination & Meetings

This task consists of time required to administer the project including contracting; internal coordination and coordination with County and VDOT staff; supervision and general quality control; and project management responsibilities, including project organization and scheduling.

Kimley-Horn will develop a Microsoft Excel-based project work plan itemizing the project tasks and schedule required to complete each task. The project work plan will also identify milestones and essential elements for quality control and quality assurance. The project work plan will reflect a mutually agreeable schedule. For budget purposes, this task assumes a seven (7) month delivery of the project from Notice to Proceed (NTP) to delivery of the final report.

Figure 1: Pedestrian Count Locations



Task 1.2 – Meetings***Task 1.2.1 – Project Meetings***

Up to two Kimley-Horn staff members will attend the following two project meetings during the course of the project.

1. Kick-Off Conference Call – Up to two (2) Kimley-Horn staff will conduct a kick-off conference (teleconference) call with County and VDOT staff to review the project scope, goals of the project, and to discuss key issues (i.e., overall project schedule, perceived problems/complaints regarding pedestrian activity within the corridor, etc.). The kick-off conference will be held after receipt of Notice to Proceed and based on County, VDOT, and Kimley-Horn staff availability. Meeting minutes will be summarized by Kimley-Horn and shared with County staff via email submittal.
2. Technical Meeting – Up to two (2) Kimley-Horn staff will attend one technical meeting with County staff following the substantial completion of the subsequent tasks. The intention of this meeting is to discuss findings and recommendations and allow for input from County and VDOT staff. It is assumed that this meeting will be held at the Albemarle County Office Building.

Task 1.2.1 – US 29 North Advisory Council(s) Meetings

Kimley-Horn will prepare and brief County staff in advance of County's staff's presentation to the US 29 North Advisory Council(s) for the following two meetings:

- Meeting #1 – The County will meet with the US 29 North Advisory Council(s) to gain input on proposed bridge crossing locations.
- Meeting #2 – The County and Kimley-Horn will meet with the US 29 North Advisory Council(s) prior to finalizing the technical memorandum and recommendations.

Each meeting is assumed to be a joint meeting between the affected advisory councils (individual meetings to each council will not be conducted). These meetings are assumed to be open to the public but will be directed at the committee. It is assumed that the County will be responsible for coordinating with the affected councils and securing the meeting location. Kimley-Horn will provide presentation materials in PowerPoint format to the County at least two weeks prior to the proposed meeting dates for review. Kimley-Horn will make one round of revisions to the meeting materials pending receipt of comments from the County. Comments from each meeting will be collected and summarized in electronic format by the County following the meeting. Kimley-Horn, in coordination with the County and VDOT, will make one round of revisions to the proposed recommendations based on comments received from each meeting.

One Kimley-Horn staff member will accompany the County to Meeting #2. This task does not include preparation and attendance of Kimley-Horn staff at Meeting #1 with the US 29 North Advisory Council, Planning Commission, Board of Supervisors meeting, additional citizen's information meetings, and/or public meetings. If additional meetings are required, those will be considered as Additional Services.

Task 1 Deliverables

- Monthly progress reports to accompany invoices
- Microsoft Excel-based project work plan itemizing the project tasks and schedule
- Coordination calls with County project manager
- Kick-Off conference summary submitted in electronic PDF format
- Two Kimley-Horn representatives will attend the Technical Meeting
- PowerPoint materials for the two US 29 North Advisory Council meetings
- One Kimley-Horn representative will attend US 29 North Advisory Council Meeting #2

Task 1 Project Meetings

- Kick-Off Conference Call (up to 2 Kimley-Horn staff)
- Technical Meeting (up to 2 Kimley-Horn staff)
- US 29 North Advisory Council(s) Meeting #2 (up to 1 Kimley-Horn staff)

Task 2 – Data Collection

The purpose of this task is to collect relevant field data to be utilized in the subsequent project tasks.

Task 2.1—Data Collection

- Turning Movement Counts (TMCs) – Available historical pedestrian and vehicle traffic counts at intersections along US 29 generally between Hydraulic Road and Rio Road, to be provided by VDOT or the County, will be reviewed and utilized as part of this study. Historic turning movement counts are not available for the following two intersections. Kimley-Horn's subconsultant, Peggy Malone & Associates, Inc., will conduct one weekday (Tuesday, Wednesday, or Thursday) twelve-hour TMCs at these two intersections. To capture the AM, Midday, and PM peak hours the proposed data collection time period is from 7:00 AM to 7:00 PM.
 1. Seminole Trail (US 29) at Westfield Road
 2. Seminole Trail (US 29) at Dominion Drive

Kimley-Horn will confirm count locations and times with the County and VDOT prior to beginning data collection efforts. TMCs will be conducted when schools are in session and will summarize vehicle (including heavy vehicles and buses) and pedestrian activity at each intersection.

1. Annual Average Daily Traffic (AADT) - Kimley-Horn will research recently published VDOT AADT counts (2014) for Seminole Trail (US 29), Greenbrier Drive, Westfield Road, Branchlands Boulevard, Dominion Drive, and Timberwood Boulevard within the vicinity of the study corridor.
2. Crash Data Analysis - Kimley-Horn will coordinate with VDOT to obtain the five most recent years of crash data (assumed to be January 1, 2010 to December 31, 2014) on US 29 within a 250 foot radius of up to four intersections to be identified in coordination with the County. Sources from which the crash data is available consists of police reports (FR-300s) and the latest VDOT RNS-based crash tables.

Kimley-Horn will analyze and summarize the following crash data at up to four intersections to be determined in coordination with the County.

- Kimley-Horn will summarize intersection crash data in tabular format for up to ten factors such as weather conditions, lighting conditions, type of collision, severity of crash, and other pertinent crash factors as necessary to aid in identifying crash patterns.
 - Kimley-Horn will develop collision diagrams for up to four intersections to be determined in coordination with the County.
 - Crash rates for Seminole Trail within the vicinity of up to four intersections, to be identified in coordination with the County, will be developed and compared with statewide average crash rates for the appropriate functional classification of roadway.
3. Review of Existing Studies and Area Plans - Kimley-Horn will compile and review relevant studies and plans provided by the County and/or VDOT to supplement development of study recommendations and document in the final report.

Task 2.2—Field Inventories

Once data collection has been completed, Kimley-Horn will conduct a site field review of each intersection to observe potential safety and operational issues. Kimley-Horn will also conduct a site field review during the AM and PM peak periods to review the existing conditions in the corridor. Kimley-Horn will note observed pedestrian activity along the corridor. Potential preliminary pedestrian improvement recommendations will be noted during the site field review for further discussion with the County and VDOT.

Kimley-Horn will document the following information at up to 4 intersections to be determined in coordination with the County:

- Roadway and intersection configurations
- Traffic signal phasing and signal head displays
- Turning restrictions by time of day

- Documentation of safety-related issues (notes and photographs)
- Speed limits on each approach
- Sight distance issues will be identified and measured for up to four intersections
- Pedestrian and bicycle accommodations will be identified, if applicable
- Observation of traffic operations including vehicles, pedestrians, and bicycles
- Roadway and intersection geometrics and deficiencies
- Access and associated issues and concerns
- Documentation of signing and striping

Measurements for the various roadway features will be based on a combination of both GIS information and spot measurements during the field reviews.

Task 2 Deliverables

- Raw traffic count data

Task 3 – Summary of Existing Conditions

Based on the available and aforementioned collected data, Kimley-Horn will summarize existing conditions and pedestrian deficiencies at up to four intersections including physical and operational issues. The inventory of existing conditions will be established using GIS, collected traffic data, crash data, current land use data, and a visual survey. The existing conditions analysis will identify stakeholder concerns and priorities and validate assessments of existing conditions and hazards.

Task 3 Deliverables

- Existing Conditions section to be included in the Technical Memorandum
- Specific deliverables in addition to summary text include:
 - Summary of existing weekday AM, Midday, and PM peak hour TMCs in figure format
 - Corridor crash summary table, intersection collision diagrams, and corridor crash rate tables

Task 4 – Recommendations

Kimley-Horn will use data obtained through the existing conditions analysis (traffic counts, observations of pedestrian activity, crash analysis, etc.) to determine potential pedestrian bridge crossing locations on US 29 generally between Hydraulic Road and Rio Road and the feasibility and type of pedestrian bridge improvements needed to facilitate pedestrians crossing US 29 at each potential location.

Kimley-Horn will use pertinent information at each potential location, up to four, to determine the structural impact each location would have on a pedestrian bridge crossing. Kimley-Horn will qualitatively assess span length, required number of spans, potential support locations, and access

options (stairtower, ramps, elevator, etc.) to the effect that would deem the location as a valid site for pedestrian grade crossing.

Kimley-Horn will also consider various design criteria and constraints when considering the feasibility of constructing a pedestrian bridge crossing at up to four potential locations. Special design criteria or restrictions that could influence the alternative analysis include:

- Design pedestrian loading
- ADA requirements
- Bicycle accommodations
- Any maintenance vehicular loading
- Maintenance of traffic restrictions or considerations
- Any limitations due to the limited available right-of-way

Kimley-Horn will submit a table summarizing the feasibility of providing a pedestrian bridge crossing at up to four potential locations noting the advantages and disadvantages for each location to the County and VDOT for review and comment. Kimley-Horn will make one round of revisions based on comments received from the County at Technical Meeting described in **Task 1.0**. Kimley-Horn will gain input on which location should provide a pedestrian bridge crossing at the US 29 North Advisory Council Meeting #1 as described in **Task 1.0**. Kimley-Horn will finalize the preferred location in coordination with the County and VDOT.

Once the preferred location has been determined Kimley-Horn will develop the conceptual design for the roadway improvements and will include the following:

- Selection of at least three (3) alternate bridge sections, preferably providing a cross section of cost alternatives
- Identification of advantages and disadvantages of each alternative, including cost, constructability, impacts to traffic, life cycle costs, and service life, etc.
- Preparation of a conceptual level engineer's opinion of probable construction cost for each alternative.

Kimley-Horn will present this information and final recommendations to the US 29 North Advisory Council Meeting #2 as described in **Task 1.0**. Additional revisions to the final recommendations will be considered additional services.

Task 4 Deliverables

- Draft table summarizing the feasibility of providing a pedestrian bridge crossing at up to four locations
- Final table summarizing preferred location for pedestrian bridge crossing
- Conceptual design for selected pedestrian bridge crossing site

Task 5 – Technical Memorandum

Upon determination of the final recommendations, Kimley-Horn will provide the County with a draft memorandum consisting of a narrative and recommendations. Documentation of the corridor crash data analysis, site field review, existing conditions analysis, alternatives, and recommendations will be prepared in a technical memorandum. The memorandum will document pertinent information relative to the study purpose. The objective of this study is to provide a technical document that will describe and illustrate the recommended location and type of pedestrian bridge crossing on US 29. The draft memorandum will be submitted to the County electronically in PDF format. Should the County request revisions to the draft memorandum upon review, Kimley-Horn will make one round of revisions and resubmit the updated documents.

Task 5 Deliverables

- Electronic submittal in PDF format of the technical memorandum and associated mapping and pertinent graphics, figures, photos and support material

ADDITIONAL SERVICES (NOT INCLUDED):

Any services not specifically provided for in the above scope of services, as well as any changes in the scope as requested by the County, will be considered additional services. No additional services will be performed without written authorization by the County, and compensation for additional services will be agreed to prior to their performance. Additional services Kimley-Horn can provide, but are not limited to, the following:

- Operational analysis
- Public involvement
- Traffic signal design
- Survey
- Subsurface
- Additional Meetings
- Additional Traffic Data Collection
- Additional Intersection Data Collection
- Signal timing development
- Intersection Geometric Design /Modifications
- Future Conditions Analysis
- Traffic Impact Analysis
- Additional Alternatives
- Additional HSIP applications
- Sign Retroreflectivity Review

SCHEDULE

The following schedule is anticipated to complete the study:

Task – Tentative Completion (Schedule up to 7 months from NTP)	Date
Notice to Proceed (Assumed)	January 2016
Task 1.0 – Project Management and Project Meetings	Ongoing
Task 2.0 – Data Collection	January 2016
Task 3.0 – Summary of Existing Conditions	February 2016
Task 4.0 – Recommendations	March through May 2016
Task 5.0 – Technical Memorandum	June 2016

FEE AND PAYMENT FOR SERVICES

Kimley-Horn will perform the services as detailed above in Tasks 1 through 5. A breakdown of the lump sum fee as follows:

Task #	Description	Total Fee
Task 1.0	Project Management and Project Meetings	\$ 11,750.00
Task 2.0	Data Collection	\$ 11,620.00
Task 3.0	Summary of Existing Conditions	\$ 2,460.00
Task 4.0	Recommendations	\$ 21,355.00
Task 5.0	Technical Memorandum	\$ 7,295.00
	SUB-TOTAL	\$ 54,480
	Direct Reimbursable Expenses	\$ 480.42
	Total	\$ 54,960.42

See attached "Albemarle County Fee Estimate"