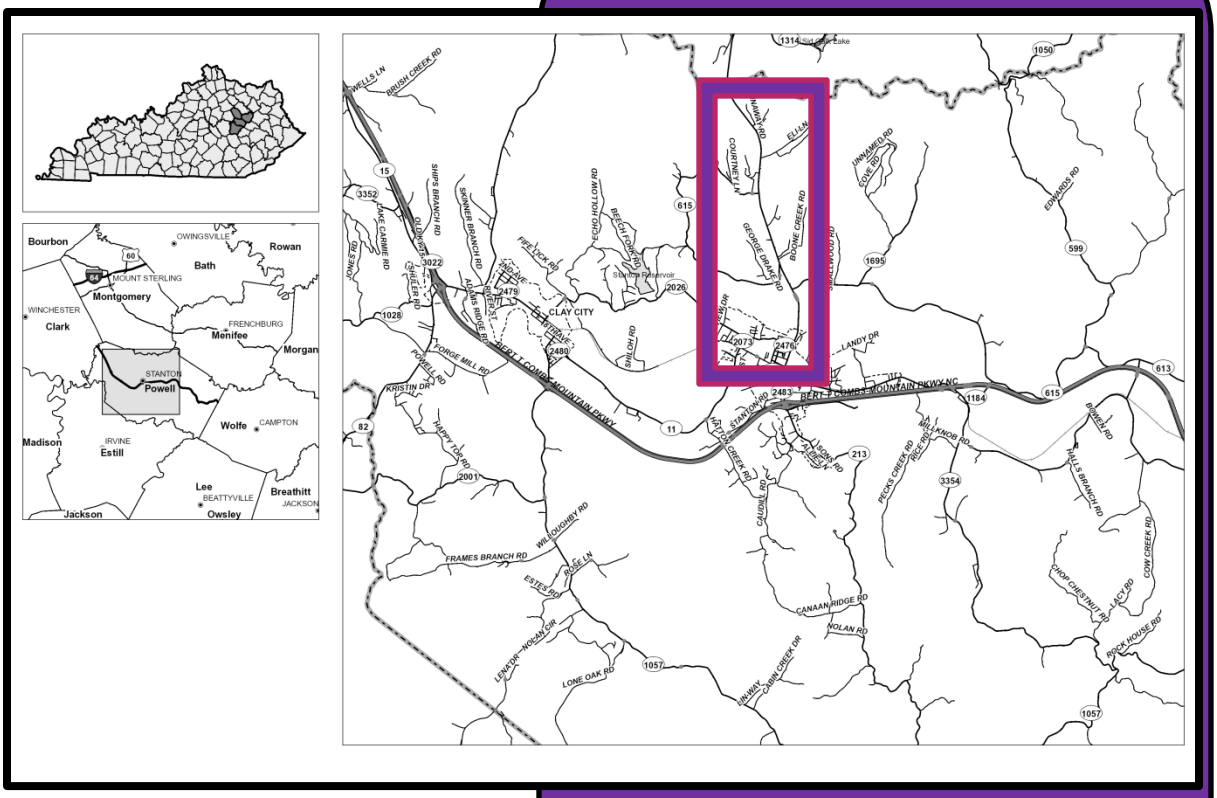
Data Needs Analysis



Scoping Study

KY 213, Powell County
Item No. 10-0166.00

Prepared by
KYTC District 10

February 2013

KENTUCKY TRANSPORTATION CABINET

I. PRELIMINARY PROJECT INFORMATION

County: Powell **Item No.:** 10-0163.00
Route Number(s): KY 0213 **Road Name:** Stanton - Jeffersonville
Program No.: 87000 **UPN:** FD04 99 213 007-012
Federal Project No.: NA **Type of Work:** Widen / Reconstruction
2012 **Highway Plan Project Description:**

IMPROVE SAFETY, UPGRADE GEOMETRICS, AND ADDRESS CAPACITY ISSUES FOR KY 213 FROM KY 11 TO BOTTOM OF MOUNTAIN

Beginning MP: 7.76 **Ending MP:** 11.271 **Project Length:** 3.676

Functional Class.: ☑ Urban ☑ Rural collector
State Class.: ☐ Primary ☑ Secondary
Route is on: ☐ NHS ☑ NN ☐ Ext Wt
MPO Area: Not Applicable
In TIP: ☐ Yes ☐ No
Truck Class.: AAA
% Trucks:
ADT (current): 4038 - 8329 2,011
Terrain: Level
Access Control: ☐ None ☑ Permit ☐ Fully Controlled ☐ Partial Spacing: none
Median Type: ☑ Undivided ☐ Divided (Type):
Existing Bike Accommodations: Shared Lane **Ped:** ☑ Sidewalk
Posted Speed: ☑ 35 mph ☐ 45 mph ☑ 55 mph ☐ Other (Specify):
KYTC Guidelines Preliminarily Based on : 35 - 55 **MPH Proposed Design Speed**

Roadway Data:	**EXISTING**	**COMMON GEOMETRIC**
No. of Lanes	2	2 to 3
Lane Width	9'-11'	12'
Shoulder Width	0' - 8'	2' to 8'
Max. Superelevation**		8%
Minimum Radius**		350' (35 mph), 965' (55 mph)
Maximum Grade		4%
Minimum Sight Dist.		250' (35mph), 495' (55 mph)
Sidewalk Width(urban)	3	4
Clear-zone***		various

Existing Rdwy. Plans available? ☑ Yes ☐ No
Year of Plans: 1935
☑ Traffic Forecast Requested
Date Requested: May-12
☑ Mapping/Survey Requested
Date Requested: 2013
Type: Aerial

Project Notes/Design Exceptions?: see scope

*Based on proposed Design Speed, **AASHTO's A Policy on Geometric Design of Highways and Streets, ***AASHTO's Roadside Design Guide

Bridge No.*:	099B00001N	(Bridge #2)
Sufficiency Rating	59.5	
Total Length	411.1	
Width, curb to curb	20	
Span Lengths	80.1 max	
Year Built	1940	
Posted Weight Limit	NA	
Structurally Deficient?	NO	
Functionally Obsolete?	YES	
Existing Bridge Type	steel/concrete beams, concrete deck	

Existing Geotech data available? ☐ Yes ☑ No
Detour Length(s): 32 MILES

*If more than two bridges are located on the project, include additions sheets.

II. PROJECT PURPOSE AND NEED

A. Legislation

This Project was added by the General Assembly into the 2012 Highway Plan with the funding levels shown to the right.

Funding	*Phase*	*Year*	*Amount*
SPP	D	2014	$1,200,000
SPP	R	2016	$1,000,000
SPP	U	2016	$1,000,000
SPP	C	2018	$9,000,000

B. Project Status

This project currently has the design funds authorized. This section will be the final section between Stanton and the Montgomery County line to be completed. The other two sections have been rebuilt in the last ten years.

C. System Linkage

This route connects the cities of Stanton in Powell County and Jeffersonville in Montgomery County. The latest data shows that it is the most traveled route between the two counties when going from the Mountain Parkway to US 460.

D. Modal Interrelationships

This route is used daily by log trucks as well as other trucks hauling commercial goods.

E. Social Demands & Economic Development

Montgomery County is one of the few counties in the Eastern part of the state that has seen growth in the last several years. As it continues to grow, it is expected that this corridor will become an ever more vital link for transporting people and goods.

F. Transportation Demand

This route is used daily by commuters for work and recreation. As the Mt. Sterling area continues to grow it is expected that the demand for a better corridor will increase.

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

This section of KY 213 is currently operating at about half of its capacity. Capacity is not expected to become an issue in the near future.

H. Safety

A review of the Kentucky State Police Collision Database since 2005 shows that there have been 143 collisions along this section of roadway. Three of the collisions resulted in a fatality. Most collisions were of an angle manner with rear ends being the second highest amount. A map showing the collisions can be seen on Exhibit 2.

I. Roadway Deficiencies

KYTC's Common Geometric Practices for Rural Collector Roads recommends 12' driving lanes and 8' shoulders. This section of roadway contains substandard horizontal curves and guardrail, narrow or no shoulders, improper or inadequate drainage, and a very narrow bridge. North of the bridge has a section that contains inadequate site distance due to several vertical curves.

Draft Purpose and Need Statement:

Need: Improve the connectivity between the Mountain Parkway and US 460 corridors. Provide users with a modern roadway in regards to the roads classification. Continue the improvement of the KY 213 Corridor. Improve the safety along the project section.

Purpose: The purpose of this project is to improve the safety and connectivity along KY 213 by providing users with a modern roadway facility.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

Project is in: ☐ Attainment area ☐ Nonattainment or Maintenance Area ☐ PM 2.5 County

STIP Pg.#: **TIP Pg.#:**

NA

B. Archeology/Historic Resources

☑ Known Archeological or Historic Resources are present

Stanton Cemetery

C. Threatened and Endangered Species

Indiana Bat, Gray Bat, Virginia Big-Eared Bat, Fanshell, White-Haired Goldenrod, Globe Bladderpod, Running Buffalo Clover

D. Hazardous Materials

☑ Potentially Contaminated Sites are present ☑ Potential Bridge or Structure Demolition

This project will require the demolition and reconstruction of a large bridge across the Red River. Adjacent to this project are various older stores (possible previous filling stations), sawmills, a lumber treatment factory, and a large natural gas compressor station.

E. Permitting

Check all that may apply: ☑ Waters of the US ☐ MS4 area ☑ Floodplain Impacts ☐ Navigable Waters of the US Impacts

Are 401/404 Permits likely to be required? ☑ Yes ☐ No Impacts to: ☐ Wetlands ☑ Stream/Lake/Pond

☐ ACE LON ☐ ACE NW ☑ ACE IP ☐ DOW IWQC ☐ Special Use Waters

This project crosses the Red River.

F. Noise

Are existing or planned noise sensitive receptors adjacent to the proposed project? ☐ Yes ☑ No

Is this considered a "Type I Project" according to the KYTC Noise Analysis and Abatement Policy? ☐ Yes ☑ No

G. Socioeconomic

Check all that may apply: ☑ Low Income/Minority Populations affected ☑ Relocations ☐ Local Land Use Plan available

H. Section 4(f) or 6(f) Resources

The following are present on the project: ☐ Section 4(f) Resources ☐ Section 6(f) Resources

Anticipated Environmental Document: None (Completely State funded)

IV. PROJECT SCOPING

No Build Estimate		Alt. 2 Estimate		Current Estimate	
Phase	Estimate	Phase	Estimate	Phase	Estimate
Planning	$ -	Planning	$ -	Planning	$ -
Design	$ -	Design	$ 1,500,000.00	Design	$ 1,200,000.00
R/W	$ -	R/W	$ 2,000,000.00	R/W	$ 1,000,000.00
Utilities	$ -	Utilities	$ 1,500,000.00	Utilities	$ 1,000,000.00
Const	$ -	Const	$ 11,000,000.00	Const	$ 9,000,000.00
Total	**$ -**	**Total**	**$ 16,000,000.00**	**Total**	**$ 12,200,000.00**

As part of the DNA study for 10-0163.00, the project team investigated three different alternatives:

1. No Build 2. Widen Along Existing 3. New Alignment

Alternate 1. - This alternate will not meet the purpose and need established for the project.

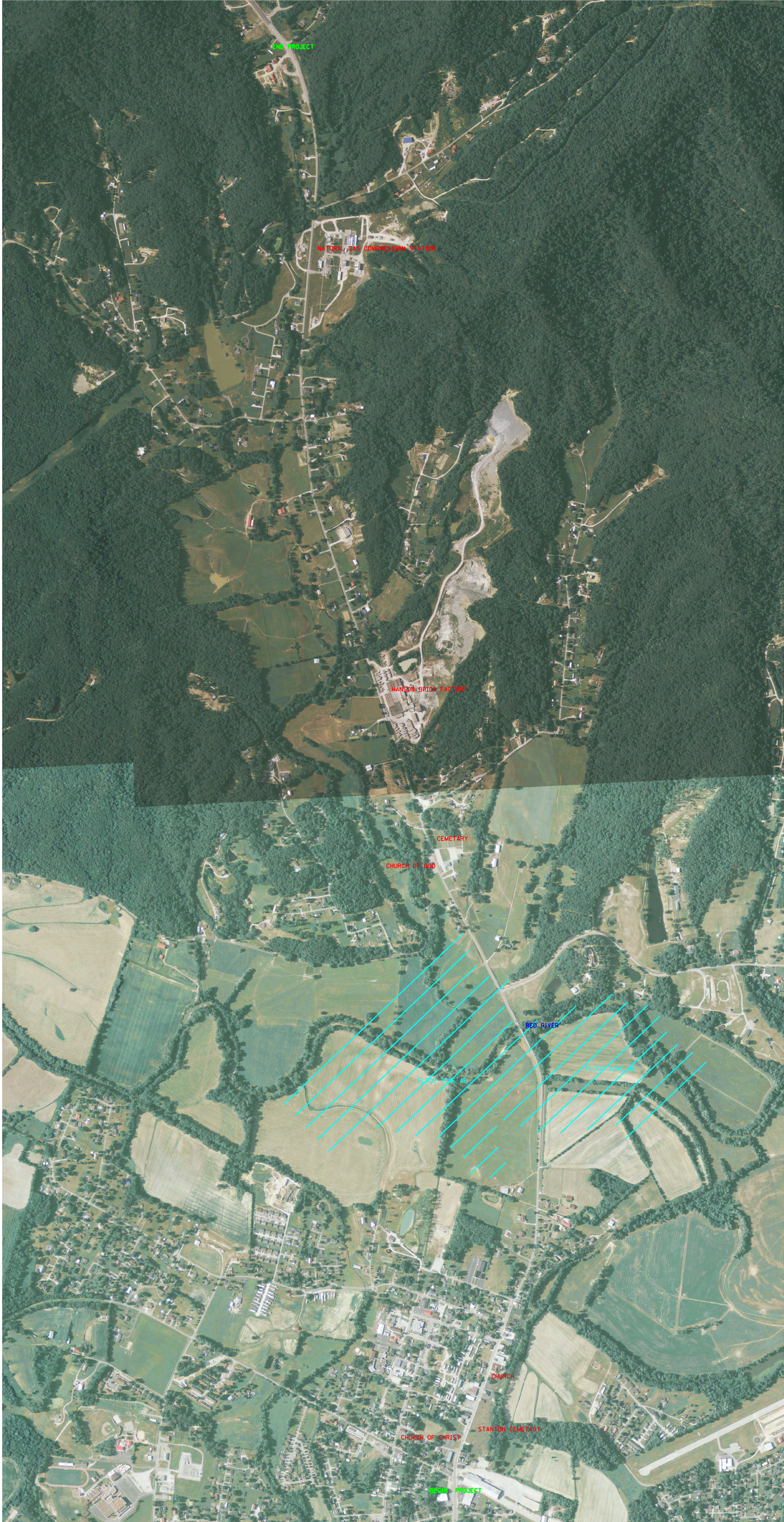
Alternate 2. - This alternate makes use of the existing alignment by widening to one or both sides along the route. This alternate will have the highest level of traffic disturbance during construction and is estimated to cost more than is currently proposed. This alternate will satisfy the purpose and need of the project.

Alternate 3. - This alternate would have constructed a new route to the East or West of the existing. After an initial review, the team felt this alternate should not be pursued due to cost, issues with locations, and the fact that traffic would still use the existing roadway which would remain deficient.

V. Summary

The project team recommends moving Alternate 2 to the design phase. In doing so, the project team has identified the following issues/constraints which must be considered/addressed within the project limits:

1. **Need to stay along the existing alignment.**
2. **The Design should utilize as much of the existing pavement as possible.**
3. **The new Design should correct horizontal and vertical deficiencies within the project.**
4. **Design must MINIMIZE right of way impacts.**
5. **The project team feels that 11' lane widths would be appropriate for this project.**
6. **The project team recommends using a urban curb and gutter design between 7.760 and 8.450.**
7. **From the 8.450 to the end of the project, it is recommended that 6' shoulders be used.**
8. **Through the urban section 4' sidewalks should be used.**
9. **Turning lanes should be included at the three intersections with KY 615.**
10. **MOT will be a critical component to the design.**
11. **Areas noted on the map in Exhibit 1 should only be impacted in extreme situations.**


END PROJECT
NATURAL GAS COMPRESSION STATION
HANSON BRICK FACTORY
CEMETARY
CHURCH OF GOD
RED RIVER
FLOOD ZONE AE
FLOOD ZONE AE
CHURCH
STANTON CEMETARY
CHURCH OF CHRIST
BEGIN PROJECT

VI. Tables and Exhibits

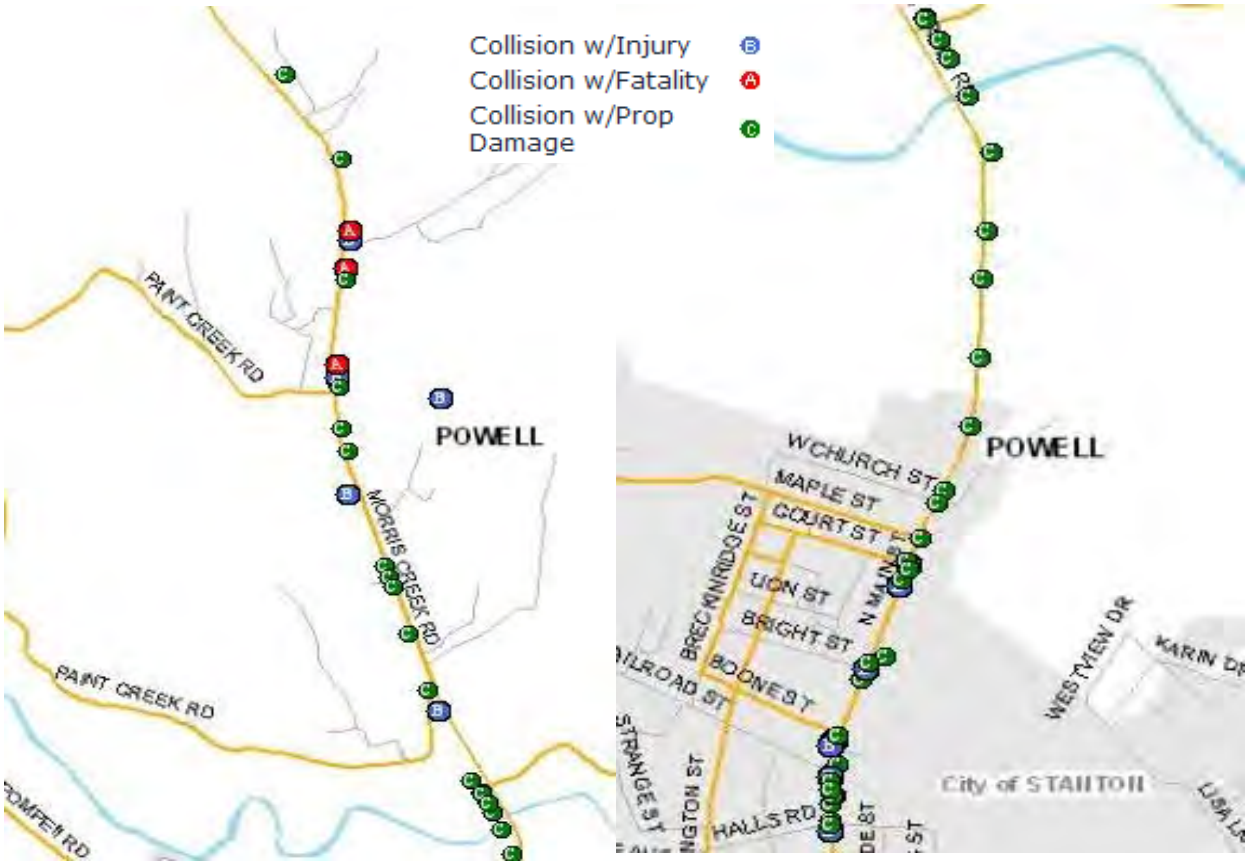


Exhibit 2: Crash Locations

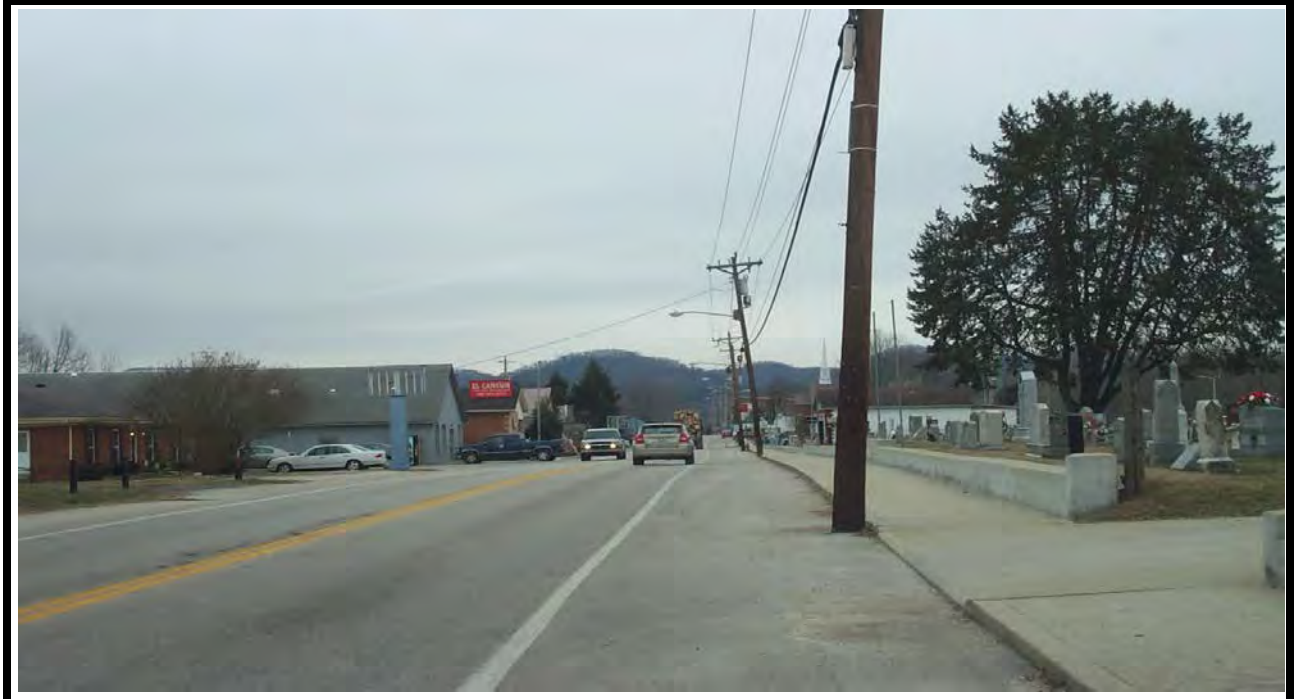


Exhibit 3: Looking North at Stanton Cemetery

VI. Tables and Exhibits (cont.)

Exhibit 4: Looking North at Bridge

Exhibit 5: Looking North at Compression Station