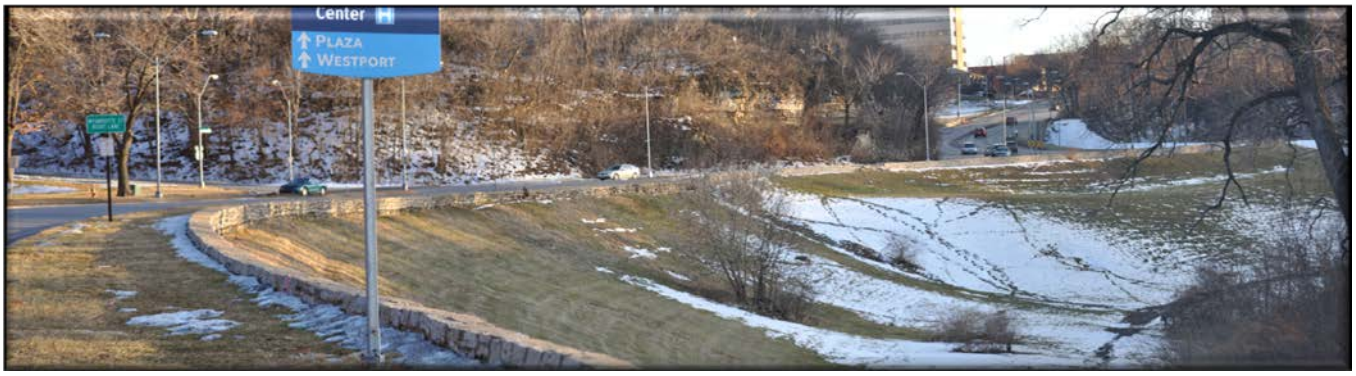
Penn Valley Drive Safety Study, Kansas City, Missouri

R^3C DESIGN GROUP



Penn Valley Drive looking south towards 31st Street

Patti Banks Associates (PBA) while leading the design effort to improve Penn Valley Drive between 31st Street and 27th Street hired R^3C Design Group to complete a safety evaluation of the corridor. During the design process, this corridor was evaluated as one the top ten high crash locations in the metro area.

We display our **Responsibility** during the project by evaluating existing circumstances causing the poor safety record and using that as a springboard to determine possible remedies. We field measure the safe speed on back-to-back "S" curves using a Ball Bank Indicator; complete a field evaluation of sight distance restrictions; determine the 85th percentile speed and complete a crash analysis to determine the causative factors for the high frequency of crashes in this corridor.

We display our **Responsiveness** in completing the major portions of the study during a weekend, before a critical project meeting. This assisted the design to collaboratively develop an acceptable solution to proceed on the project. Most of the field verification was complete during the weekend and the analysis results were presented to the design team two days after.

We display **our Client Focus** by maintaining our focus on the end-user and safety enhancements. In addition to the other studies completed, we also choose to complete a full signage evaluation to assist in developing a short-term solution to slow drivers down prior to approaching the curves. The preliminary studies identified that drivers were approaching the curves too fast. After completing a cross-correlation analysis of the crashes and the pavement conditions, we realized that non-dry pavement conditions combined with the speed were the main factors for poor safety. Our recommendation was to shift the roadway west and increase the radius without impacting the large limestone bluff on the east side of the roadway.

The RIGHT factors during this project are:

- Field evaluation of:
  - Safe curve speeds using a Ball Bank Indicator
  - AASHTO sight distance evaluation
  - 85th percentile speed study to determine driver speeds in the corridor
  - Crash analysis to determine causative factors
  - Cross correlation of the crash analysis to pavement conditions to determine its role
  - Signage study to improve signing and develop a short-term solution
- Developing potential solutions is a short time period to prevent the project from going off-schedule.

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Total construction estimate: N/A – study
Traffic study cost - $2,500