

Barker Square Traffic Safety Investigation

An independent, evidence-based examination of roadway conditions affecting access from a residential driveway to a Massachusetts state highway.

32

left-turn videos captured

Frame-by-frame

vehicle movement review

Technical report

documented observations and
recommendations

THE QUESTION

Could roadway geometry, restricted visibility, vehicle speeds, and turning behavior create safety conflicts for residents exiting Barker Square Drive? The project also examined whether proposed traffic-control changes adequately addressed those concerns.

THE INVESTIGATIVE APPROACH

- Observed and documented vehicle movements and turning paths at the driveway and adjacent channelized roadway.
- Reviewed video recordings frame by frame to quantify stopping, waiting, and turning behavior.
- Recorded site measurements and examined sight-distance constraints, signs, roadway geometry, and potential conflicts.
- Organized field observations and timing measurements in structured Excel workbooks for consistent review.
- Compared observed conditions with proposed roadway changes and identified questions warranting independent engineering assessment.

METHOD

Field observation / Video timing / Geometric measurements / Data validation / Comparative technical review

From observations to actionable questions

A useful investigation does more than describe a concern. It makes the evidence traceable and identifies the decisions that require technical review.

KEY ISSUES DOCUMENTED

- Limited visibility and available gaps for drivers turning left from the residential driveway.
- Variability in vehicle stopping behavior and turning paths, including rolling stops and two-stage movements.
- Potential interactions among passenger vehicles, motorcycles, bicycles, and traffic using the channelized roadway.
- The relationship between proposed advisory/yield controls, operating speeds, and the driveway conflict area.

PROJECT DELIVERABLE

A structured technical report assembled the observations, measurements, video references, roadway considerations, and proposed alternatives into a format suitable for review by transportation officials. The report requested an independent assessment of sight distance and acceptable traffic gaps under actual operating conditions.

ALTERNATIVES PRESENTED FOR REVIEW

- Replace the channelized movement with a signal-controlled right-turn arrangement, if engineering review supports that approach.
- If the channelized roadway remains, assess speed reduction and enhanced driver-feedback/yield treatments near the residential access.

WHAT THIS PROJECT DEMONSTRATES

Independent judgment. Defining a technical problem without assuming the answer.
Analytical discipline. Turning observations and recordings into structured, reviewable evidence.
Clear communication. Translating technical findings into questions, options, and practical recommendations.

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Project summary prepared for professional portfolio use. This case study describes an independent investigation; it does not represent an official roadway safety determination or claim implementation of the proposed alternatives.