

## **CURRICULUM VITAE**

**KENNETH R. AGENT**

### **EDUCATION**

BS Civil Engineering, University of Kentucky, 1970  
MS Civil Engineering, University of Kentucky, 1973

### **PRESENT POSITIONS**

Transportation Research Engineer  
Kentucky Transportation Center  
College of Engineering  
University of Kentucky  
Lexington, Kentucky 40506-0281

Partner - Transportation Engineering Consultants (TEC)  
3265 Blenheim Way  
Lexington, Kentucky 40503

### **EXPERIENCE**

Research Engineer  
Division of Research  
Kentucky Department of Transportation  
August 1971 - December 1980

Traffic Engineer  
Division of Traffic  
Kentucky Department of Transportation  
January 1971 - August 1971

### **REGISTRATION**

Professional Engineer (Civil), Kentucky

### **HONORS**

Tau Beta Pi National Engineering Honorary  
Chi Epsilon National Civil Engineering Honorary  
Institute of Transportation Engineers  
Southern Section Best Technical Paper Award (1975)  
Southern Section Best Technical Committee Report Award (1979)  
District 5 Best Non-Sponsored Paper Award (1997)  
Southern District Outstanding Sponsored Technical Paper Award (1998)

### **PROFESSIONAL ORGANIZATIONS**

Institute of Transportation Engineers, Member  
National Committee 5B-1, Design of Truck Escape Ramps  
4A-16, Use and Timing of Signal Change Intervals  
4A-22, Warrants for Left Turn Storage Lanes  
4A-30, Warrants for Permissive/Exclusive Left Turn Phase  
Transportation Research Board  
Committee A2H01, Applications of Newly Available and  
Coming Technology (Term 1981 to 1990)

## **AREAS OF PROFESSIONAL INTEREST**

Highway Safety  
Traffic Control and Operations  
Accident Reconstruction  
Transportation Noise  
Road User Characteristics  
Transportation Economics  
Geometric Design of Highways

## **PUBLICATIONS**

The following listing of reports and publications includes 300 technical reports and 57 national publications.

### **TECHNICAL REPORTS**

1. "An Operational Analysis of the I 64, I 65, I 71 Route Junction in Louisville," Report No. 326, Division of Research, Kentucky Department of Highways, April 1972.
2. "Accident and Economic Analysis of Access Control on Several Bypasses," Report No. 341, Division of Research, Kentucky Department of Highways, September 1972.
3. "Evaluation of the High-Accident Location Spot-Improvement Program in Kentucky," Report No. 357, Division of Research, Kentucky Department of Highways, February 1973.
4. "Vehicle Noise Survey in Kentucky," Report No. 375, Division of Research, Kentucky Department of Highways, September 1973.
5. "Evaluation of the Traffic Noise Prediction Procedure," Report No. 379, Division of Research, Kentucky Department of Highways, November 1973.
6. "Raised Pavement Markers as a Traffic Control Measure at Lane Drops," Report No. 384, Division of Research, Kentucky Department of Highways, February 1974.
7. "Relationships between Roadway Geometrics and Accidents (An Analysis of Kentucky Records)," Report No. 387, Division of Research, Kentucky Department of Highways, April 1974.
8. "Optimal Highway Safety Improvement Investments by Dynamic Programming," Report No. 398, Division of Research, Kentucky Department of Highways, August 1974.
9. "Effects of the Energy Crises on Traffic in Kentucky (Rural Highways)," Report No. 404, Division of Research, Kentucky Department of Highways, October 1974.

10. "Effects of Pavement Texture on Traffic Noise," Report No. 417, Division of Research, Kentucky Department of Highways, February 1975.
11. "Evaluation of Raised Pavement Markers," Report No. 425, Division of Research, Kentucky Department of Highways, April 1975.
12. "Accidents Associated with Highway Bridges," Report No. 427, Division of Research, Kentucky Department of Highways, May 1975.
13. "First-Year Effects of the Energy Crises on Traffic in Kentucky," Report No. 428, Division of Research, Kentucky Department of Highways, May 1975.
14. "Transverse, Pavement Markings for Speed Control and Accident Reduction," Report No. 433, Division of Research, Kentucky Department of Highways, September 1975.
15. "Evaluation of Paint-Stripe Beads," Report No. 439, Division of Research, Kentucky Department of Highways, December 1975.
16. "Guardrail Performance: An Analysis of Accident Records," Report No. 442, Division of Research, Kentucky Department of Highways, March 1976.
17. "A Survey of Use of Left-Turn-on-Red," Report No. 446, Division of Research, Kentucky Department of Highways, May 1976.
18. "Evaluation of Thermoplastic Pavement-Striping Materials (Louisville and Jefferson County)," Report No. 449, Division of Research, Kentucky Department of Highways, May 1976.
19. "Development of Warrants for Left-Turn Phasing," Report No. 456, Division of Research, Kentucky Department of Highways, August 1976.
20. "Raised Aggregate, Lane Delineation Stripe," Report No. 462, Division of Research, Kentucky Department of Highways, December 1976.
21. "Traffic Accidents: Day versus Night," Report No. 471, Division of Research, Kentucky Department of Highways, May 1977.
22. "Seatbelt Usage in Kentucky," Report No. 487, Division of Research, Kentucky Department of Highways, January 1978.
23. "Characteristics of Kentucky Drivers," Report No. 489, Division of Research, Kentucky Department of Highways, January 1978.
24. "Development of Procedures for Preparation of the Interstate Safety Improvement Program," Report No. 495, Division of Research, Kentucky Department of Highways, February 1978.
25. "Characteristics of Bicycle-Related, Motor Vehicle Accidents in Kentucky," Report No. 498, Division of Research, Kentucky Department of Highways, July 1978.
26. "Evaluation of Paint-Stripe Beads," Report No. 504, Division of Research, Kentucky Department of Highways, September 1978.

27. "Use of Economic Analysis and Dynamic Programming in the Selection of Projects for Resurfacing," Report No. 516 Division of Research, Kentucky Department of Highways, February 1979.
28. "Interstate Safety Improvement Program," Report No. 517, Division of Research, Kentucky Department of Highways, March 1979.
29. "An Evaluation of Permissive Left-Turn Phasing," Report No. 519, Division of Research, Kentucky Department of Highways, April 1979.
30. "Problem Identification for Highway Safety Plan," Report No. 521, Division of Research, Kentucky Department of Highways, May 1979.
31. "Raised Pavement Markers at High-Hazard Locations," Report No. 522, Division of Research, Kentucky Department of Highways, June 1979.
32. Development of Warrants for Left-Turn Lanes," Report No. 526, Division of Research, Kentucky Department of Highways, July 1979.
33. "Delineation of Stop-Sign Approaches," Report No. 527, Division of Research, Kentucky Department of Highways, July 1979.
34. "Evaluation of the FHWA Highway Traffic Noise Prediction Procedure (SNAP 1)," Report No. 534, Division of Research, Kentucky Department of Highways, January 1980.
35. "Propagation of Traffic Noise," Report No. 540, Division of Research, Kentucky Department of Highways, March 1980.
36. "An Analysis of Bicycle-Related, Motor-Vehicle Accidents in Lexington, Kentucky," Report No. 541, Division of Research, Kentucky Department of Highways, March 1980.
37. "Effect of Interrupted Flow on Traffic Noise," Report No. 542, Division of Research, Kentucky Department of Highways, March 1980.
38. "Problem Identification for Highway Safety Plan (1981)," Report No. 543, Division of Research, Kentucky Department of Highways, March 1980.
39. "Safety Improvement Program for Toll Roads," Report No. 548, Division of Research, Kentucky Department of Highways, March 1980.
40. "Evaluation of Reversible Lanes (Nicholasville Road, Lexington, Kentucky)," Report No. 549, Division of Research, Kentucky Department of Highways, July 1980.
41. "Survey of Effectiveness of Transportation Services," UKTRP-81-5, May 1981.
42. "Survey of Lane Delineation Methods," UKTRP-81-2, April 1981.
43. "Problem Identification for Highway Safety Plan (FY 1982)," UKTRP-81-5, May 1981.
44. "Evaluation of Raised Pavement Markers in Kentucky: Statewide Installations: 1975-1979," UKTRP-81-8, June 1981.
45. "Traffic Accident Experience in Kentucky (1978)," UKTRP-81-9, June 1981.

46. "Identification and Rehabilitation of High-Risk Drivers," UKTRP-81-10, July 1981.
47. "Vehicle Noise Emission Levels in Kentucky," UKTRP-81-13, July 1981.
48. "Identification, Analysis, and Correction of High-Accident Locations in Kentucky," UKTRP-81-15, August 1981.
49. "Small-Car Parking at the University of Kentucky," August 1981.
50. "Evaluation of Pavement Tape as Lane Delineation," UKTRP-81-19, November 1981.
51. "Problem Identification for Highway Safety Plan (FY 1983)," UKTRP-82-5, May 1982.
52. "Evaluation of Snowplowable Markers," UKTRP-82-7, May 1982.
53. "Analysis of Saturation Flow at Signalized Intersections," UKTRP-82-8, May 1982.
54. "Traffic Accident Rates in Kentucky (1980)," UKTRP-82-11, August 1982.
55. "Accident Rates by Vehicle Type," UKTRP-82-12, May 1982.
56. "Child Restraint Usage in Kentucky (Pre-Legislation)," UKTRP-82-15, September 1982.
57. "Analysis of Lost Times at Signalized Intersections," UKTRP-83-8, February 1983.
58. "Traffic Safety Analysis: University of Kentucky Area," UKTRP-83-4, February 1983.
59. "Development of a Portable Retroreflectometer," UKTRP-83-9, April 1983.
60. "Traffic Accident Rates in Kentucky (1982)," UKTRP-83-11, May 1983.
61. "Child Safety Seat Usage in Kentucky After Enactment of a Mandatory Usage Law," UKTRP-83-18, September 1983.
62. "Problem Identification for Highway Safety Plan (FY 1984)," UKTRP-83-19, September 1983.
63. "Alcohol Impact Evaluation (Interim Report)," UKTRP-83-22, September 1983.
64. "Survey of Guardrail End Treatment Usage," UKTRP-83-23, October 1983.
65. "Concrete Barrier Geometrics (US 41 Bridge in Henderson, Kentucky)," UKTRP-83-26, October 1983.
66. "Performance Evaluation of Experimental Paint-Stripe Beads," UKTRP-83-27, November 1983.
67. "Traffic Accident Rates in Kentucky (1982)," UKTRP-84-5, March 1984.
68. "Vanpool Demonstration Project (University of Kentucky)," UKTRP-84-10, April 1984.
69. "Analysis of Accidents Involving Breakaway-Cable-Terminal End Treatments," UKTRP-84-16, June 1984.
70. "Analysis of Accidents Involving Crash Cushions," UKTRP-84-17, June 1984.

71. "Survey of the Effectiveness of Transportation Services (1984)," UKTRP-84-19, June 1984.
72. "Effectiveness of Traffic Noise Barrier on I 471 in Campbell County, Kentucky (Interim Report)," UKTRP-84-20, June 1984.
73. "Impact Evaluation of Traffic Alcohol Programs: Selected Locations in Kentucky," UKTRP-84-25, September 1984.
74. "1984 Safety Belt and Child Safety Seat Usage Rates in Kentucky and Evaluation of a Public Information Campaign," UKTRP-84-27, September 1984.
75. "Evaluation of Durable Lane Delineation Materials (Interim Report)," UKTRP-84-31, December 1984.
76. "Evaluation of Durable Crosswalk and Stopbar Marking Materials (Interim Report)," UKTRP-84-32, December 1984.
77. "Traffic Accident Rates in Kentucky (1983)," UKTRP-85-2, January 1985.
78. "Evaluation of Truck Escape Ramps," UKTRP-85-3, January 1985.
79. "Development of Accident Reduction Factors," UKTRP-85-6, March 1985.
80. "Effectiveness of Traffic Noise Barrier on I 471 in Campbell, Kentucky," UKTRP-85-15, May 1985.
81. "Problem Identification for Highway Safety Plan (FY 1986)," UKTRP-85-18, July 1985.
82. "Guidelines for the Use of Protected/Permissive Left-Turn Phasing," UKTRP-85-19, August 1985.
83. "1985 Safety Belt and Child Safety Seat Usage Rates in Kentucky and Evaluation of a Public Information Campaign," UKTRP-85-21, September 1985.
84. "Evaluation of Construction Zone Pavement Marking Materials," UKTRP-85-24, September 1985.
85. "Impact Evaluation of the Traffic Alcohol Program in Lexington, Kentucky," UKTRP-85-26, October 1985.
86. "Traffic Accident Rates in Kentucky (1984)," UKTRP-86-1, January 1986.
87. "Delineation of Horizontal Curves," UKTRP-86-4, March 1986.
88. "Use of Post Delineators on Interstates," UKTRP-86-10, April 1986.
89. "Treatment of Narrow Median or Four-Lane Rural Roadways," UKTRP-86-11, April 1986.
90. "Evaluation of Durable Crosswalk and Stopbar Marking Materials," UKTRP-86-13, May 1986.
91. "Evaluation of Durable Lane Delineation Materials," UKTRP-86-15, May 1986.
92. "Evaluation of Snowplowable Marker Installations," UKTRP-86-16, June 1986.
93. "Evaluation of I-75 Lane Closures," UKTRP-86-19, August 1986.

94. "1986 Safety Belt and Child Safety Seat Usage Rates in Kentucky," UKTRP-86-20, September 1986.
95. "Impact Evaluation of the Lexington-Fayette County Traffic Alcohol Program (1982-1986)," UKTRP-86-28, November 1986.
96. "Traffic Control and Accidents at Rural, High-Speed Intersections," UKTRP-87-6, March 1987.
97. "Evaluation and Application of Roadway Marking Materials," UKTRP-87-10, May 1987.
98. "Evaluation of Construction-Zone Pavement Marking Materials," UKTRP-87-11, May 1987.
99. "Performance Evaluation of Breakaway-Cable-Terminal End Treatments," UKTRP-87-14, June 1987.
100. "Evaluation of Epoxy Thermoplastic Pavement Marking Material," UKTRP-87-20, August 1987.
101. "Analysis of Accident Data in Kentucky (1982-1986)," UKTRP-87-23, September 1987.
102. "Evaluation of Unmanned Radar Installations," UKTRP-87-34, December 1987.
103. "Review of Work Zone Literature," UKTRP-88-5, February 1988.
104. "Analysis of Accidents in Construction and Maintenance Work Zones," UKTRP-88-13, June 1988.
105. "Evaluation of Extruded Thermoplastics as Lane Delineation," UKTRP-88-10, July 1988.
106. "Traffic Control in Work Zones; Guidelines for Work by Utilities and Other Construction by Permit," August 1988.
107. "Impact Evaluation of the Louisville-Shively-Jefferson County Traffic Alcohol Programs," KTC-88-3, October 1988.
108. "1988 Usage Rates and Effectiveness of Safety Belts and Child Safety Seats in Kentucky," KTC-88-6, October 1988.
109. "Analysis of Accident Data in Kentucky (1983-1987), KTC-88-7, October 1988.
110. "Evaluation of Construction-Zone Pavement Marking Materials," KTC-89-3, March 1989.
111. "Accidents Involving Vehicles Parked on Shoulders of Limited Access Highways," KTC-89-36, June 1989.
112. "Warrants and Guidelines for Installation of Guardrail," KTC-89-39, June 1989.
113. "1989 Usage Rate and Effectiveness of Safety Belts and Child Safety Seats in Kentucky," KTC-89-42, September 1989.
114. "Safety Belt Usage in Lexington and Opinion of a Mandatory Safety Belt Law," KTC-89-43, September 1989.
115. "Analysis of Accident Data in Kentucky (1984-1988)," KTC-89-47, October 1989.
116. "Long-Term Evaluation of Durable Lane Delineation Materials," KTC-89-57, November 1989.
117. "Tort Liability Related to Highways in Kentucky," KTC-90-8, April 1990.

118. "Summary of Results of 1989 Field and Laboratory Evaluations of Pavement Marking Materials," KTC-90-13, June 1990.
119. "1990 Safety Belt Usage Survey and Evaluation of Effectiveness in Kentucky," KTC-90-18, September 1990.
120. "Analysis of Traffic Accident Data in Kentucky (1985-1989)," KTC-90-19, September 1990.
121. "Kentucky Solid Waste Management Study: Issues and Options," University of Kentucky, September 1990.
122. "Safety Belt Usage Before and After Enactment of a Mandatory Usage Ordinance (Lexington-Fayette County, Kentucky)," KTC-90-20, October 1990.
123. "Evaluation of Flexible Delineator Posts," KTC-90-24, December 1990.
124. "Guidelines for Traffic Control in Work Zones," January 1991.
125. "Performance of Guardrail End Treatments in Traffic Accidents," KTC-91-1, March 1991.
126. "Development of Turning Templates for Various Design Vehicles," KTC-91-2, April 1991.
127. "Evaluation of Highway Geometrics Related to Large Trucks," KTC-91-4, May 1991.
128. "1991 Safety Belt Usage Survey and Evaluation of Effectiveness in Kentucky," KTC-91-9, September 1991.
129. "Summary of Results of 1990 Field and Laboratory Evaluations of Pavement Marking Materials," KTC-91-11, July 1991.
130. "Evaluation of Stamark Brand Bisymmetric 1.75 Grade Pavement Marking Tape," KTC-91-12, September 1991.
131. "Analysis of Traffic Accident Data in Kentucky (1986-1990)," KTC-91-13, September 1991.
132. "Seat Belt Attitudinal Survey," KTC-91-18, December 1991.
133. "Roadway Related Tort Liability and Risk Management," KTC-92-2, January 1992.
134. "Performance of a Modified Turned-Down Guardrail End Treatment in Traffic Accidents," KTC-92-11, August 1992.
135. "Summary of Results of 1991 Field and Laboratory Evaluations of Pavement Marking Materials," KTC-92-12, July 1992.
136. "Youth Needs and Assessment Survey," KTC-92-13, August 1992.
137. "1992 Safety Belt Usage Survey and Evaluation of Effectiveness in Kentucky," KTC-92-15, September 1992.
138. "Analysis of Traffic Accident Data in Kentucky (1987-1991)," KTC-92-16, September 1992.
139. "Evaluation of Diamond Grade Reflective Sheeting," KTC-93-8, March 1993.



140. "Traffic Accident Investigation," KTC-93-10, April 1993.
141. "Accident Rates at Intersections," KTC-93-11, April 1993.
142. "Evaluation of the Lexington-Fayette County Safety Belt Ordinance," KTC-93-20, September 1993.
143. "1993 Safety Belt Usage Survey and Evaluation of Effectiveness in Kentucky," KTC-93-21, September 1993.
144. "Analysis of Alcohol and Speed Related Traffic Accidents in Fayette County," KTC-93-22, September 1993.
145. "Analysis of Traffic Accident Data in Kentucky (1988-1992)," KTC-93-23, September 1993.
146. "Summary of Results of 1992 Field and Laboratory Evaluations of Pavement Marking Materials," KTC-93-24, September 1993.
147. "Impacts of the Extended-Weight Coal Haul Road System (Interim Report)," KTC-93-38, October 1993.
148. "Performance of the Crash Cushion Attenuating Terminal (CAT) in Traffic Accidents," KTC-93-32, December 1993.
149. "Proposal for Development of a Resource and Commodity Highway System," KTC-94-5, January 1994.
150. "Summary of Results of 1993 Field and Laboratory Evaluations of Pavement Marking Materials," KTC-94-17, August 1994.
151. "Evaluation of Advanced Surveying Technology for Accident Investigation," KTC-94-18, August 1994.
152. "1994 Safety Belt Usage Survey and Evaluation of Effectiveness in Kentucky," KTC-94-19, September 1994.
153. "Analysis of Motor Vehicle-Deer Accidents in Kentucky", KTC-94-22, October 1994.
154. "Analysis of Traffic Accident Data in Kentucky (1989-1993)," KTC-94-23, September 1994.
155. "Evaluation of Change Interval Treatments for Traffic Signals at High-Speed Intersections," KTC-94-26, December 1994.
156. "Development of a Safety Management System," KTC-95-5, May 1995.
157. "Traffic Accident Facts, 1994 Report", August 1995.
158. "Summary of Results of 1994 Field and Laboratory Evaluations of Pavement Marking Materials," KTC-95-16, August 1995.
159. "Analysis of Traffic Accident Data in Kentucky (1990-1994)," KTC-95-19, September 1995.
160. "1995 Safety Belt Usage Survey and Evaluation of Effectiveness in Kentucky," KTC-95-20, September 1995.
161. "Guidelines for the Installation of Left-Turn Phasing," KTC-95-23, December 1995.

162. "Development of Accident Reduction Factors," KTC-96-13, June 1996.
163. "Summary of Results of 1995 Field and Laboratory Evaluations of Pavement Marking Materials, Volume I. Field Evaluation," KTC-96-18, August 1996.
164. "Evaluation of Portable Retroreflectometers," KTC-96-19, August 1996.
165. "1996 Safety Belt Usage Survey and Evaluation of Effectiveness in Kentucky," KTC-96-20, August 1996.
166. "Traffic Flow and Safety Evaluation of Fayette County Schools," KTC-96-21, September 1996.
167. "Analysis of Traffic Accident Data in Kentucky (1991-1995)," KTC-96-22, September 1996.
168. "Traffic Accident Facts, 1995 Report," September 1996.
169. "Use of Audible Pedestrian Signals," KTC-96-25, November 1996.
170. "Evaluation of Lexington Incident Management Techniques," KTC-96-26, December 1996.
171. "Evaluation of a Regional Safety Improvement Program," KTC-96-27, December 1996.
172. "Survey of High School Driver Safety Programs," KTC-96-28, December 1996.
173. "Evaluation of Red Light Running Campaign," KTC-96-29, December 1996.
174. "Evaluation of SHRP Work Zone Safety Devices," KTC-96-30, December 1996.
175. "Traffic Flow and Safety Evaluation of Fayette County Schools-Part II," KTC-97-4, February 1997.
176. "Evaluation of Speed Limits in Kentucky," KTC-97-6, April 1997.
177. "Summary of Results of 1995 Field Evaluations of Long Life Pavement Marking Materials," KTC-97-15, July 1997.
178. "1997 Safety Belt Usage Survey and Evaluation of Effectiveness in Kentucky," KTC-97-17, September 1997.
179. "Traffic Accident Facts, 1996 Report," September 1997.
180. "Analysis of Traffic Accident Data in Kentucky (1992-1996)," KTC-97-18, September 1997.
181. "Evaluation of the ET2000 Guardrail End Treatment," KTC-97-25, December 1997.
182. "Investigation and Analysis of Heavy Truck Accidents," KTC-98-5, April 1998.
183. "Evaluation of Condition-Responsive Work Zone Traffic Controls at the I75 Clays Ferry Bridge," KTC-98-10, June 1998.
184. "Evaluation of Kentucky's Driver License Point System," KTC-98-11, June 1998.
185. "A Methodology for Evaluating Large Truck Access to Intermodal and Other Facilities," KTC-98-14, July 1998.

186. "Work Zone Traffic Control Guidelines (Including High Volume Facilities)," August 1998.
187. "1998 Safety Belt Usage Survey and Evaluation of Effectiveness in Kentucky," KTC-98-15, September 1998.
188. "Traffic Accident Facts, 1997 Report," September 1998.
189. "Analysis of Traffic Accident Data in Kentucky (1993-1997)," KTC-98-16, September 1998.
190. "Truck Route Access Evaluation, Paradise Steam Plant," KTC-98-25, September 1998.
191. "Truck Route Access Evaluation, Hopkinsville Industrial Park," KTC-98-26, September 1998.
192. "Truck Route Access Evaluation, Industrial Park Henderson County," KTC-99-10, February 1999.
193. "Truck Route Access Evaluation, Centennial Resources on US 62 in Hopkins County," KTC-99-11, February 1999.
194. "Truck Route Access Evaluation, Tyson Foods, Henderson County," KTC-99-19, February 1999.
195. "Heavy Truck Involvement in Traffic Accidents," KTC-99-20, March 1999.
196. "Evaluation of Retesting in Kentucky's Driver License Process," KTC-99-23, June 1999.
197. "Final Summary Report on Truck Route Access Evaluation," KTC-99-48, May 1999.
198. "Traffic Accident Facts, 1998 Report," September 1999.
199. "Analysis of Traffic Accident Data in Kentucky (1994-1998)," KTC-99-56, September 1999.
200. "Evaluation of the APAPTIR System for Work Zone Traffic Control," KTC-99-61, November 1999.
201. "1999 Safety Belt Usage Survey in Kentucky," KTC-99-62, November 1999.
202. "Traffic Safety Issues Opinion Survey," KTC-99-63, December 1999.
203. "Expansion of the Roadway Reference Log," KTC-00-4, May 2000.
204. "A-A Highway Safety Study," KTC-00-13, July 2000.
205. "Safety Improvements for Two-Lane Rural Roads," KTC-00-14, July 2000.
206. "2000 Safety Belt Usage Survey in Kentucky," KTC-00-15, August 2000.
207. "Traffic Accident Facts, 1999 Report," September 2000.
208. "Analysis of Traffic Accident Data in Kentucky (1995-1999)," KTC-00-17, September 2000.
209. "Evaluation of Smartsonic Construction Zone Safety System," KTC-00-20, December 2000.
210. "Safety Impacts of Rural Road Construction," KTC-01-01, February 2001.
211. "Countermeasures for Fatal Crashes on Two-Lane Rural Roads," KTC-01-11, May 2001.

212. "Evaluation of Kentucky's Click It or Ticket Campaign," KTC-01-18, August 2001.
213. "2001 Safety Belt Usage Survey in Kentucky," KTC-01-21, August 2001.
214. "Traffic Collision Facts, 2000 Report, September 2000.
215. "Analysis of Traffic Crash Data in Kentucky (1996-2000)," KTC-01-25, September 2001.
216. "Evaluation of the Kentucky Graduated Driver Licensing System, KTC-01-28, December 2001.
217. "2001 Traffic Safety Issues Opinion Survey," KTC-02-04, February 2002.
218. "Investigation of the Impact of Large Trucks on Interstate Highway Safety," KTC-02-5, February 2002.
219. "Evaluation of High Traffic Crash Corridors," KTC-02-8, March 2002.
220. "Safety Implications from Design Exceptions," KTC-02-9, March 2002.
221. "2002 Safety Belt Usage Survey in Kentucky," KTC-02-20, July 2002.
222. "Traffic Collision Facts, 2001 Report, August 2002.
223. "Analysis of Traffic Crash Data in Kentucky (1997-2001)," KTC-02-22, August 2002.
224. "Safety Evaluation of New Roads," KTC-02-24, September 2002.
225. "Safety Consequences of Flexibility in Highway Design," Interim Report, National Cooperative Highway Research Program Project 15-22, October 2002.
226. "Evaluation of Kentucky's You Drink and Drive. You Lose Campaign, KTC-02-28, October 2002.
227. "Traffic Control at Stop Sign Approaches," KTC-03-09, April 2003.
228. "Roadway Lighting and Driver Safety," KTC-03-12, May 2003.
229. "Development of Procedures for Identifying High-Crash Locations and Prioritizing Safety Improvement," KTC-03-15, June 2003.
230. "Traffic Crashes at Intersections," KTC-03-21, August 2003.
231. "Traffic Collision Facts, 2002 Report," August 2003.
232. "2003 Safety Belt Usage Survey in Kentucky," KTC-03-23, August 2003.
233. "Evaluation of Kentucky's "Buckle Up Kentucky: It's the Law & It's Enforced Campaign," KTC-03-26, August 2003.
234. "Analysis of Traffic Crash Data in Kentucky (1998-2002)," KTC-03-28, September 2002.
235. "Evaluation of US 119 Pine Mountain Safety Improvements (Interim Report)," KTC-03-34. October 2003.
236. "Evaluation of the ET2000 Guardrail End Treatment," KTC-04-01, January 2004.

237. "Effect of Pavement Resurfacing on Traffic Safety," KTC-04-02, February 2004.
238. "Evaluation of the Accuracy of GPS as a Method of Location Traffic Collisions," KTC-04-8, June 2004.
239. "Evaluation of Traffic Information and Prediction System (TIPS) as Work Zone Traffic Control," KTC-04-10, March 2004.
240. "Context Sensitive Design-Thinking Beyond the Pavement, Documentation of Workshop Development and Training," KTC-04-11, May 2004.
241. "U-Turns at Signalized Intersections," KTC-4-12, June 2004
242. "Evaluation of Kentucky's "Buckle Up Kentucky: It's the Law & It's Enforced" 2004 Campaign," KTC-4-18, July 2004.
243. "Traffic Collision Facts: 2003 Report," August 2004.
244. "2004 Safety Belt Usage Survey in Kentucky," KTC-04-19, August 2004.
245. "Analysis of Traffic Crash Data in Kentucky (1999-2003)," KTC-04-25, September 2004.
246. "Safety Consequences of Flexibility in Highway Design for Rural Communities," NCHRP 15-22, December 2004.
247. "Review of Traffic Provisions of KRS/KAR and Kentucky Drivers Manual," KTC-05-02, March 2005.
248. "Safety and Capacity Evaluation for Interstates in Kentucky," KTC-05-06, April 2005.
249. "Evaluation of Auto Incident Recording System (AIRS)," KTC-05-09, May 2005.
250. "Evaluation of Methods to Limit the Time Taken to Investigate Crash Sites," KTC-05-15, June 2005.
251. "Evaluation of Kentucky's "Buckle Up Kentucky: It's the Law and Its Enforced" 2005 Campaign," KTC-05-18, July 2005.
252. "Traffic Collision Facts: 2004 Report," August 2005.
253. "Analysis of Traffic Crash Data in Kentucky (2000-2004)," KTC-05-19, August 2005.
254. "2005 Safety Belt Usage Survey in Kentucky," KTC-05-22, August 2005.
255. "Economic Costs of Low Safety Belt Usage in Motor Vehicle Crashes in Kentucky," KTC-05-33, October 2005.
256. "An Analysis of Fatal Traffic Crashes in Kentucky and Recommended Countermeasures," KTC-05-36, November 2005.
257. "Socio-Economic Analysis of Fatal Crash Trends," KTC-05-39, December 2005.

258. "Evaluation of Work Zone Safety Operations and Issues," KTC-06-08, March 2006.
259. "Guidelines for the Traffic Control in Short Duration/Mobile Work Zones," June 2006.
260. "Evaluation of Kentucky's "Buckle up Kentucky: It's the Law and It's Enforced, 2006 Campaign," KTC-06-17, July 2006.
261. "2006 Safety Belt Usage Survey in Kentucky," KTC-06-27, August 2006.
262. "Traffic Collision Facts: 2005 Report," August 2006.
263. "Analysis of Traffic Crash Data in Kentucky (2001-2005)," KTC-06-29, August 2006.
264. "Traffic Control Procedures for Emergency Responders," KTC-06-33, October 2006.
265. "Summary of Extended Weight Coal Haul Impacts," KTC, January 2007.
266. "State DOT Crash Reconstruction Practices: A Synthesis of Highway Practice", NCHRP Synthesis 369, Transportation Research Board, 2007.
267. "Evaluation of Kentucky's "Buckle up Kentucky: It's the Law and It's Enforced, 2007 Campaign," KTC-07-23, August 2007.
268. "2007 Safety Belt Usage Survey in Kentucky," KTC-07-24, August 2007.
269. "Traffic Collision Facts: 2006 Report," August 2007.
270. "Analysis of Traffic Crash Data in Kentucky (2002-2006)," KTC-07-26, September 2007.
271. "Evaluation of US 119 Pine Mountain Safety Improvements (Final Report)," KTC-07-27, September 2007.
272. "Crash History after Installation of Traffic Signals (Warranted vs. Unwarranted)," KTC-08-01, January 2008.
273. "Use of Edge Line Markings on Rural Two-Lane Highways," KTC-08-02, January 2008.
274. "Evaluation of 70 MPH Speed Limit in Kentucky," KTC-08-10, May 2008.
275. "Low-Cost Safety Measures at Signalized Intersections," KTC-08-11, May 2008.
276. "Safety Impacts of Design Element Trade-Offs," NCHRP 17-27, June 2008.
278. "Evaluation of Median Barrier Safety Issues," KTC-08-14, June 2008.
279. "Evaluation of Pavement Marking Performance," KTC-08-21, June 2008.
280. "Evaluation of Kentucky's Click It or Ticket 2008 Campaign," KTC-08-22, July 2008.
281. "2008 Safety Belt Usage Survey in Kentucky," KTC-08-26, August 2008.
282. "Traffic Collision Facts: 2007 Report," August 2008.

283. "Analysis of Traffic Crash Data in Kentucky (2003-2007)," KTC-08-29, August 2008.
284. "Proposed Methodology for Kentucky Observational Surveys of the Use of Safety Belts, and Motorcycle and Bicycle Helmets," NHTSA, April 2009.
285. "Evaluation of the Use of Snowplowable Raised Pavement Markers," KTC-09-09, April 2009.
286. "Evaluation of the Work Zone Safety and Mobility Rule," KTC-09-10, March 2009.
287. "Best Management Practices to Exchange Information between the TOC and District Offices," KTC-09-12, June 2009.
288. "2009 Safety Belt Usage Survey in Kentucky," KTC-09-15, July 2009.
289. "Traffic Collision Facts: 2008 Report," August 2009.
290. "Analysis of Traffic Crash Data in Kentucky (2004-2008)," KTC-09-16, September 2009.
291. "Guardrail Location Rating System Users Manual," KTC-09-17, December 2009.
292. "Evaluation of Rumble Stripes," KTC-10-1, January 2001.
293. "Distracted Driving (Preliminary Analysis and Survey)," KTC-10-06, May 2010.
294. "Roadway Related Tort Liability and Risk Management," KTC-10-07, June 2010.
295. "2010 Safety Belt Usage Survey in Kentucky," KTC-10-12, July 2010.
296. "Traffic Collision Facts: 2009 Report," August 2010.
297. "Analysis of Traffic Crash Data in Kentucky (2005-2009)," KTC-10-14, August 2010.
298. "2010 Driver Attitudes and Awareness Survey," KTC-10-15, August 2010.
299. "Evaluation of the Locations of Kentucky's Traffic Crash Data," KTC-10-16, November 2010.
300. "Kennedy Interchange Crash Study," KTC-10-19, November 2010.

## **PUBLISHED REPORTS**

### **ITE Publications**

- "At-Grade versus Grade-Separated Interchanges," June 1975.
- "An Evaluation of Permissive Left-Turn Phasing," December 1981.
- "Truck Escape Ramps," Committee 5B-1, February 1982.
- "Determining Vehicle Change Intervals," Committee 4A-16, May 1985.
- "Guidelines for the Use of Protected/Permissive Left-Turn Phasing," July 1987.
- "Determining Vehicle Signal Change Intervals (Proposed Recommended Practice), July 1989.
- "Evaluation of Change Interval Treatments for Traffic Signals at High-Speed Intersections," ITE News of the South, Vol. 15, No. 1, 1995.
- "Left-Turn Phasing Treatment Based on Delays and Accident Rates," KYSITE News, Vol. 8, No.1, 1997.

### **Public Roads**

- "Raised Pavement Markers as a Traffic Control Measure at Lane Drops," June 1985.

### **Transportation Research Board**

- "Relationship between Roadway Geometrics and Accidents," Record 541, 1975.
- "First-Year Effects of the Energy Crises on Rural Highway Traffic in Kentucky," Record 567, 1976.
- "Evaluation and Modification of Traffic Noise Prediction Procedure for Kentucky Highways," Record 580, 1976.
- "Vehicle Noise Survey in Kentucky," Record 580, 1976.
- "Optimal Highway Safety Improvement and Investments by Dynamic Programming," Record 585, 1976.
- "Highway Accidents at Bridges," Record 601, 1976.
- "Effect of Pavement Texture on Traffic Noise," Record 602, 1976.
- "Warrants for Left-Turn Signal Phasing," Record 737, 1979.
- "Use of Safety Belts in Kentucky," Record 739, 1979.
- "Traffic Accidents: Day versus Night," Record 753, 1980.
- "Transverse Pavement Markings for Speed Control and Accident Reduction," Record 773, 1980.
- "Evaluation of the FHWA Highway Traffic Noise Prediction Procedure (SNAP 1)," Record 789, 1981.
- "Interstate Safety Improvement Program," Record 808, 1981.



"Use of Economic Analysis and Dynamic Programming in the Selection of Projects for Resurfacing," Record 814, 1981.

"Propagation of Traffic Noise," 1982.

"Field Evaluation of Snowplowable Markers," Record 933, 1983.

"Impact Evaluation of Lexington-Fayette County Traffic Alcohol Program," Record 974, 1984.

"Analysis of Accidents Involving Crash Cushions," Record 1024, 1985.

"Analysis of Accidents Involving Breakaway-Cable-Terminal End Treatments," Record 1024, 1985.

"State of the Practice: Environmental Noise Measurements," Circular 288, February 1985.

"Effectiveness of Traffic Noise Barrier on I-471 in Campbell County, Kentucky," Record 1176, 1988.

"Traffic Control and Accidents at Rural, High-Speed Intersections," Record 1160, 1988.

"Performance Evaluation of Breakaway-Cable-Terminal End Treatments," Record 1198, 1988.

"Evaluation of I-75 Lane Closures," Record 1163, 1988.

"Evaluation of Unmanned Radar Installations," Record 1244, 1989.

"Accidents Involving Vehicles Parked on Shoulders of Limited-Access Highways," Record 1270, 1990.

"Highway Accidents in Construction and Maintenance Work Zones," Record 1270, 1990.

"Tort Liability Related to Highways for Kentucky"

"Guidelines for Installation of Guardrail," Record 1302, 1991.

"Evaluation of Advanced Surveying Technology for Accident Investigation," Record 1485, 1995.

"Guidelines for Left-Turn Phasing Treatment," Record 1605, 1997.

"Evaluation of Speed Limits in Kentucky," Record 1640, 1998.

"Methodology for Evaluating Large Truck Access to Intermodal and Other Facilities," Record 1653, 1999.

"Impact of Partial Graduated Driver's License Program on Teen Motor Vehicle Crashes in Kentucky," Record 1779, 2001.

### **Transportation Engineering Journal**

"High-Accident Spot-Improvement Program," May 1976.

"Bicycle/Motor Vehicle Accidents in Kentucky," May 1980.

### **Transportation Quarterly**

"Warrants for Left-Turn Lanes," January 1983.

### **Noise Control Engineering**

"Effect of Interrupted Flow on Traffic Noise," March-April 1982.

**Traffic Engineering and Control**

"Evaluation of Reversible Lanes," November 1982.

**American Society of Criminology**

"Impact Evaluation of Lexington-Fayette County, Traffic Alcohol Program," Annual Proceedings, 1984.

**Roads and Bridges**

"Striping Materials Vary in Durability, Utility, and Cost," May 1985.

**AASHTO**

"Five Lane Roadways," Region II Meeting, Subcommittee on Design, Proceedings, June 1986.

**NATIONAL SAFETY COUNCIL**

"Impact Evaluation of Lexington-Fayette County Traffic Alcohol Program," Proceedings of North International Forum on Traffic Records Systems, July 1983.

**INTERNATIONAL FORUM ON TRAFFIC RECORDS**

"Evaluation of Unmanned Radar Installations," July 1988.

**ACCIDENT INVESTIGATION QUARTERLY**

"Skid Testing of Overloaded Heavy Trucks," Spring 1998.

"Evaluation of Methods to Limit the Time Taken to Investigate Crash Sites," Spring 2007.

"State D.O.T. Crash Reconstruction Practices," Summer 2009.

**INJURY PREVENTION**

"Kentucky's Graduated Driver Licensing Program (GDL) for Young Drivers: Barriers to Effective Local Implementation," 2001.

**WORKSHOPS PRESENTED**

1. Work Zone Traffic Control
2. Safety Features for Local Streets and Roads
3. Roadway Signs and Markings

4. Risk Management/Tort Liability
5. Traffic Accident Investigation
6. Coal Truck Driver Safety
7. Roadway Incident Emergency Response
8. Traffic Signals
9. Context Sensitive Design
10. Crash Data Analysis
11. Low-Cost, Safety Improvements on Rural Roads
12. Road Safety Audits
13. Work Zone Traffic Control Technician Qualification Course
14. Work Zone Traffic Control Supervisor Qualification Course