



**National Committee on  
Uniform Traffic Control Devices**

17200 West Bell Road No.1135 \* Surprise, Ariz. 85374  
Telephone (623) 214-2403 \* e-mail: ncutcd@aol.com

GMISTC agenda item II.H.2, Jan 2011

**National Committee on Uniform Traffic Control Devices  
GMI SIGNS TECHNICAL COMMITTEE RECOMMENDATION**

**TECHNICAL COMMITTEE: NCUTCD Guide and Motorist Information Signs  
Technical Committee**

**TASK FORCE: Chapter 2E - Jonathan Upchurch  
GMI SIGNS TECHNICAL COMMITTEE APPROVAL DATE: 1-19-11  
TRANSMITTAL TO SPONSORS DATE: 4-18-11  
COUNCIL APPROVAL DATE: 6-23-11**

**TOPIC: REORGANIZATION OF CHAPTER 2E**

**AFFECTED PORTIONS OF MUTCD: Chapter 2E**

**DISCUSSION/QUESTION:**

**The GMI Signs Technical Committee has observed that Chapter 2E is not well organized. The current content of Chapter 2E is not in a logical order, and could be more user friendly. Just to give two examples, consider these.**

- 1. Why is Section 2E.12 – Pull-Through Signs located where it is? It is located at a place far removed from other Sections dealing with interchange signing.**
- 2. Why do Sections 2E.20 through 2E.23, which deal with signing for option lanes, appear long before any other Sections dealing with interchange signing?**

**Much can be done to improve the organization of Chapter 2E. to make it more usable by the engineer / designer.**

**It is proposed that Chapter 2E be reorganized through a simple reorganization of the existing content. The primary objective is simply to put the content in an order that makes more sense. To accomplish this, the text is essentially unchanged (with a few minor exceptions to be discussed below). The things that do change are the**

43 numbering of Sections and Figures and the referencing of these re-numbered  
 44 Sections and Figures within the text.

45  
 46 The following table presents a list of Sections in their reorganized order. The  
 47 Section number in the 2009 MUTCD is given for reference. The Sections are listed  
 48 in the order proposed for the reorganized Chapter 2E.  
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| <b>Proposed Reorganization - Chapter 2E - February 2, 2011</b> |                                                      |                                |
|----------------------------------------------------------------|------------------------------------------------------|--------------------------------|
| <b>Current Section Number (2009 MUTCD)</b>                     | <b>Section Title</b>                                 | <b>Proposed Section Number</b> |
|                                                                | <b>GENERAL</b>                                       |                                |
| 2E.01                                                          | Scope of Freeway and Expressway Guide Sign Standards | 2E.01                          |
| 2E.02                                                          | Freeway and Expressway Signing Principles            | 2E.02                          |
| 2E.03                                                          | Guide Sign Classification                            | 2E.03                          |
| 2E.07                                                          | Characteristics of Urban Signing                     | 2E.04                          |
| 2E.08                                                          | Characteristics of Rural Signing                     | 2E.05                          |
| 2E.09                                                          | Signing of Named Highways                            | 2E.06                          |
| 2E.13                                                          | Designation of Destinations                          | 2E.07                          |
|                                                                | <b>SIGN DESIGN</b>                                   |                                |
| 2E.04                                                          | General                                              | 2E.08                          |
| 2E.06                                                          | Retroreflection or Illumination                      | 2E.09                          |
| 2E.05                                                          | Color of Guide Signs                                 | 2E.10                          |
| 2E.32                                                          | Interchange Classification                           | 2E.11                          |
| 2E.14                                                          | Size and Style of Letters and Signs                  | 2E.12                          |
| 2E.10                                                          | Amount of Legend on Guide Signs                      | 2E.13                          |
| 2E.17                                                          | Abbreviations                                        | 2E.14                          |
| 2E.18                                                          | Symbols                                              | 2E.15                          |
| 2E.15                                                          | Interline and Edge Spacing                           | 2E.16                          |
| 2E.16                                                          | Sign Borders                                         | 2E.17                          |
| 2E.19                                                          | Arrows for Interchange Guide Signs                   | 2E.18                          |
| 2E.27                                                          | Interstate Route Sign (part of 2E.27)                | 2E.19                          |
|                                                                | <b>INSTALLATION</b>                                  |                                |
| 2E.25                                                          | Overhead Sign Installations                          | 2E.20                          |
| 2E.26                                                          | Lateral Offset                                       | 2E.21                          |
|                                                                | <b>GUIDE SIGNING FOR INTERCHANGES</b>                |                                |
| 2E.30                                                          | Interchange Guide Signs                              | 2E.22                          |
| 2E.31                                                          | Interchange Exit Numbering                           | 2E.23                          |
| 2E.33                                                          | Advance Guide Signs                                  | 2E.24                          |
| 2E.40                                                          | Interchange Sequence Signs                           | 2E.25                          |
| 2E.36                                                          | Exit Direction Signs                                 | 2E.26                          |
| 2E.37                                                          | Exit Gore Signs (E5-1 series)                        | 2E.27                          |
| 2E.12                                                          | Pull-Through Signs (E6-2, E6-2a)                     | 2E.28                          |
| 2E.24                                                          | Signing for Interchange Lane Drops                   | 2E.29                          |

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|-------|-------------------------------------------------------------------------------------|-------|
| 2E.43 | Signing by Type of Interchange                                                      | 2E.30 |
| 2E.51 | Minor Interchange                                                                   | 2E.31 |
| 2E.48 | Diamond Interchange                                                                 | 2E.32 |
| 2E.49 | Diamond Interchange in Urban Area                                                   | 2E.33 |
| 2E.45 | Cloverleaf Interchange                                                              | 2E.34 |
| 2E.46 | Cloverleaf Interchange with Collector-Distributor Roadways                          | 2E.35 |
| 2E.47 | Partial Cloverleaf Interchange                                                      | 2E.36 |
| 2E.44 | Freeway-to-Freeway Interchange                                                      | 2E.37 |
|       | Freeway Split with Dedicated Lanes                                                  | 2E.38 |
| 2E.20 | Signing for Option Lanes at Splits and Multi-Lane Exits                             | 2E.39 |
| 2E.21 | Design of Overhead Arrow-per-Lane Guide Signs for Option Lanes                      | 2E.40 |
| 2E.22 | Design of Freeway and Expressway Diagrammatic Guide Signs for Option Lanes          | 2E.41 |
| 2E.23 | Signing for Intermediate and Minor Interchange Multi-Lane Exits with an Option Lane | 2E.42 |
| 2E.11 | Number of Signs at an Overhead Installation and Sign Spreading                      | 2E.43 |
| 2E.50 | Closely Spaced Interchanges                                                         | 2E.44 |
|       | <b>OTHER GUIDE SIGNS</b>                                                            |       |
| 2E.34 | Next Exit Plaques                                                                   | 2E.45 |
| 2E.38 | Post-Interchange Signs                                                              | 2E.46 |
| 2E.39 | Post-Interchange Distance Signs                                                     | 2E.47 |
| 2E.35 | Other Supplemental Guide Signs                                                      | 2E.48 |
| 2E.41 | Community Interchanges Identification Signs                                         | 2E.49 |
| 2E.42 | NEXT XX EXITS Sign                                                                  | 2E.50 |
| 2E.54 | Weigh Station Signing                                                               | 2E.51 |
| 2E.27 | Route Signs and Trailblazer Assemblies (part of 2E.27)                              | 2E.52 |
| 2E.28 | Eisenhower Interstate System Signs (M1-10, M1-10a)                                  | 2E.53 |
|       | <b>SIGNS FOR INTERSECTIONS AT GRADE</b>                                             |       |
| 2E.29 | Signs for Intersections at Grade                                                    | 2E.54 |
|       | <b>INTERFACE WITH CONVENTIONAL ROADWAYS</b>                                         |       |
| 2E.52 | Signing on Conventional Road Approaches and Connecting Roadways                     | 2E.55 |
| 2E.53 | Wrong-Way Traffic Control at Interchange Ramps                                      | 2E.56 |

As shown in the table above, Divisions (“General”, “Sign Design”, “Installation”, etc.) have been added to the Chapter to provide better sense of organization. Although “Division” headings have not previously been used in the MUTCD, the

134 **GMI Signs Technical Committee believes the “Division” headings can be very useful**  
135 **when a Chapter has as many as 56 Sections.**

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137 **Numbering of tables does not change. All of the figures have been re-numbered to**  
138 **correspond to the re-ordering of the text. The following table presents a list of the**  
139 **figures in the order they appear in the re-organized Chapter 2E. For reference, the**  
140 **figure number in the 2009 MUTCD is also given.**

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| Proposed Reorganization - Chapter 2E - February 2, 2011 |                                                                                                                            |                        |
|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|------------------------|
| Current Figure Number (2009 MUTCD)                      | Figure Title                                                                                                               | Proposed Figure Number |
| Figure 2E-22                                            | Examples of Interchange Advance Guide Signs, Exit Number Plaques, and LEFT Plaque                                          | 2E-1                   |
| Figure 2E-19                                            | Example of Interchange Numbering for Mainline and Circumferential Routes                                                   | 2E-2                   |
| Figure 2E-20                                            | Example of Interchange Numbering for Mainline, Loop, and Spur Routes                                                       | 2E-3                   |
| Figure 2E-21                                            | Example of Interchange Numbering for Overlapping Routes                                                                    | 2E-4                   |
| Figure 2E-30                                            | Example of Using an Interchange Sequence Sign for Closely-Spaced Interchanges                                              | 2E-5                   |
| Figure 2E-31                                            | Interchange Sequence Sign                                                                                                  | 2E-6                   |
| Figure 2E-26                                            | Examples of Interchange Exit Direction Signs                                                                               | 2E-7                   |
| Figure 2E-27                                            | Interchange Exit Direction Sign with an Advisory Speed Panel                                                               | 2E-8                   |
| Figure 2E-28                                            | Exit Gore Signs                                                                                                            | 2E-9                   |
| Figure 2E-2                                             | Pull-Through Signs                                                                                                         | 2E-10                  |
| Figure 2E-13                                            | EXIT ONLY and LEFT Sign Panels                                                                                             | 2E-11                  |
| Figure 2E-15                                            | Guide Signs for a Single-Lane Exit to the Left with a Dropped Lane                                                         | 2E-12                  |
| Figure 2E-16                                            | Guide Signs for a Single-Lane Exit to the Right with a Dropped Lane                                                        | 2E-13                  |
| Figure 2E-40                                            | Examples of Guide Signs for a Minor Interchange                                                                            | 2E-14                  |
| Figure 2E-38                                            | Examples of Guide Signs for a Diamond Interchange                                                                          | 2E-15                  |
| Figure 2E-39                                            | Examples of Guide Signs for a Diamond Interchange in an Urban Area                                                         | 2E-16                  |
| Figure 2E-35                                            | Examples of Guide Signs for a Full Cloverleaf Interchange                                                                  | 2E-17                  |
| Figure 2E-36                                            | Examples of Guide Signs for a Full Cloverleaf Interchange with Collector-Distributor Roadways                              | 2E-18                  |
| Figure 2E-37                                            | Examples of Guide Signs for a Partial Cloverleaf Interchange                                                               | 2E-19                  |
| Figure 2E-34                                            | Examples of Guide Signs for a Freeway-to-Freeway Interchange                                                               | 2E-20                  |
| Figure 2E-14                                            | Guide Signs for a Split with Dedicated Lanes                                                                               | 2E-21                  |
| Figure 2E-3                                             | Overhead Arrow-per-Lane Guide Sign for a Multi-Lane Exit with an Option Lane                                               | 2E-22                  |
| Figure 2E-4                                             | Overhead Arrow-per-Lane Guide Signs for a Two-Lane Exit to the Right with an Option Lane                                   | 2E-23                  |
| Figure 2E-5                                             | Overhead Arrow-per-Lane Guide Signs for a Two-Lane Exit to the Right with an Option Lane (Through Lanes Curve to the Left) | 2E-24                  |
| Figure 2E-6                                             | Overhead Arrow-per-Lane Guide Signs for a Split with an Option Lane                                                        | 2E-25                  |
| Figure 2E-7                                             | Diagrammatic Guide Sign for a Multi-Lane Exit with an Option Lane                                                          | 2E-26                  |
| Figure 2E-8                                             | Diagrammatic Guide Signs for a Two-Lane Exit to the Right with an Option Lane                                              | 2E-27                  |
| Figure 2E-9                                             | Diagrammatic Guide Signs for a Two-Lane Exit to the Right with an Option Lane (Through Lanes Curve to the Left)            | 2E-28                  |
| Figure 2E-10                                            | Diagrammatic Guide Signs for a Split with an Option Lane                                                                   | 2E-29                  |
| Figure 2E-12                                            | Example of Signing for a Two-Lane Intermediate or Minor Interchange Exit with Option and Auxiliary Lanes                   | 2E-30                  |
| Figure 2E-11                                            | Example of Signing for a Two-Lane Intermediate or Minor Interchange Exit with an Option Lane and a Dropped Lane            | 2E-31                  |
| Figure 2E-1                                             | Example of Guide Sign Spreading                                                                                            | 2E-32                  |
| Figure 2E-23                                            | Next Exit Plaques                                                                                                          | 2E-33                  |
| Figure 2E-29                                            | Post-Interchange Distance Sign                                                                                             | 2E-34                  |
| Figure 2E-24                                            | Supplemental Guide Sign for a Multi-Exit Interchange                                                                       | 2E-35                  |
| Figure 2E-25                                            | Supplemental Guide Sign for a Park – Ride Facility                                                                         | 2E-36                  |
| Figure 2E-32                                            | Community Interchanges Identification Sign                                                                                 | 2E-37                  |
| Figure 2E-33                                            | NEXT EXITS Sign                                                                                                            | 2E-38                  |
| Figure 2E-17                                            | Interstate, Off-Interstate, and U.S. Route Signs                                                                           | 2E-39                  |
| Figure 2E-18                                            | Eisenhower Interstate System Signs                                                                                         | 2E-40                  |

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143 **The additional minor changes to complete the reorganization are the following.**

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- 145 • **The existing Section 2E.27 is divided into two portions – a portion of it is**
- 146 **placed under DESIGN (in proposed Section 2E.19) and the remainder of it is**
- 147 **placed under OTHER GUIDE SIGNS (in proposed Section 2E.52). The text**

148 has not changed. Only the placement of the text, and its division into two  
149 separate Sections, has changed.

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- A proposed Section 2E-38 is added to describe Freeway Split with Dedicated Lane. This proposed Section is a separate Technical Committee Recommendation that will be processed separately from this proposed reorganization of Chapter 2E.

- A Support statement is added at the beginning of proposed Section 2E-22 (Interchange Guide Signs) to remind the user that, for some applications, guide signing for interchanges depends upon the interchange classification. A reference is made to Section 2E.11 (Interchange Classification). The text of that Support statement is:

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162 Support:

163 For some applications, guide signing for interchanges depends upon the interchange  
164 classification as described in Section 2E.11. Sections on guide signing for  
165 interchanges that refer to interchange classification are: 2E.24, 2E.26, 2E.31, 2E.39,  
166 and 2E.42.

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169 **The complete text for the reorganized Chapter 2E is voluminous – about 70 pages.**  
170 **Because the reorganized Chapter 2E is almost entirely a “reshuffling of the deck”, it**  
171 **is NOT the GMI Committee’s expectation that reviewers of our Technical**  
172 **Committee Recommendation (Sponsoring Organizations, Members of the Council)**  
173 **need to read the entire document.** A sample of the proposed text, showing how  
174 Section numbers, Figure numbers, and references to those Section and Figure  
175 numbers change within the text is presented on the following page.

176

177 **In considering this proposed Technical Committee Recommendation, the GMI**  
178 **Technical Committee wants Sponsoring Organizations and Members of the Council**  
179 **to endorse (or not endorse) the concept of a reorganization. In addition, if reviewers**  
180 **believe that the organization of Chapter 2E can be improved even more, with a**  
181 **slightly different order of Sections, the GMI Committee would appreciate those**  
182 **suggestions.**

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184 **For those reviewers who want to review the entire text, it is available at:**

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186 [www.ncutcd.org/](http://www.ncutcd.org/)

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188 **There is one advantage to quickly reviewing the entire document. By simply**  
189 **flipping through the document and noting the figures and the order in which they**  
190 **appear, it becomes very obvious that Chapter 2E is much better organized.**

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193 **Sample of Reorganized Text which is Illustrative of Changes to Chapter 2E**  
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195 **Section ~~2E.12~~ 2E.28 Pull-Through Signs (E6-2, E6-2a)**

196 Support:

197 Pull-Through (E6-2, E6-2a) signs (see Figure ~~2E-2~~ 2E-10) are overhead guide signs intended  
198 for through traffic.

199 *Guidance:*

200 *Pull-Through signs should be used where the geometrics of a given interchange are such that*  
201 *it is not clear to the road user as to which is the through roadway, or where additional route*  
202 *guidance is desired. Pull-Through signs with down arrows should be used where the alignment*  
203 *of the through lanes is curved and the exit direction is straight ahead, where the number of*  
204 *through lanes is not readily evident, and at multi-lane exits where there is a reduction in the*  
205 *number of through lanes.*

206 Support:

207 Sections ~~2E.20~~ 2E.39 through ~~2E.24~~ 2E.42 contain information regarding the use of  
208 Overhead Arrow-per-Lane or Diagrammatic guide signs at multi-lane exits where there is a  
209 reduction in the number of through lanes and a through lane becomes an interior option lane for  
210 through or exiting traffic.

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213 **RECOMMENDATION: The GMI Signs Technical Committee recommends the**  
214 **following.**

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216 **Endorsement of the concept of reorganizing Chapter 2E in the order presented in**  
217 **the above tables.**

218 **Inclusion of “Division” headings in Chapter 2E to provide better sense of**  
219 **organization.**

220 **Division of existing Section 2E.27 text into two locations.**

221 **The addition of a Support statement at the beginning of proposed Section 2E-22.**

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226 GMI Signs Technical Committee Vote: For: 25

227 Against: 0

228 Abstentions: 0

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