Title 428 – BOARD OF PUBLIC ROADS CLASSIFICATIONS AND STANDARDS

Chapter 1 – Procedures for Classifications

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001 SPECIFIC CRITERIA FOR THE FUNCTIONAL CLASSIFICATION OF RURAL HIGHWAYS

001.01 INTERSTATE – shall consist of the federally designated National System of Interstate and Defense Highways.

001.02 EXPRESSWAY – shall consist of a group of highways following major traffic desires in Nebraska which rank next in importance to the National System of Interstate and Defense Highways. The expressway system is one which ultimately should be developed to multilane divided highway standards.

SPECIFIC CRITERIA

1. Serve corridor movements having trip length and travel density characteristics indicative of substantial state-wide or interstate travel (Expressway plans of adjoining states to receive careful consideration) which are not handled by the Interstate.

2. Serve all, or virtually all, cities of ten thousand and over population which are not served by the Interstate. [The term “serve” for the expressway system is defined as coming within twenty-five miles of the center of the city via a major arterial.]

3. The Expressways in conjunction with the Continuous Major Arterials be spaced so that all developed areas of the State are within a reasonable distance of an Expressway or Arterial highway.

4. Selection between two or more routes to satisfy a particular desire line assignment will be made on the basis of:
   
   A. The route with the higher traffic volume
   B. The most direct route
   C. The route with the highest standards and best condition
   D. Only one assignment per desire line
   E. Make maximum use of routes previously selected
   F. There must be little or no adverse travel
   G. Routes should be interconnected in a continuous system

5. The total number of miles in the Interstate and Expressway Systems shall be limited as shown in Table 1.

001.03 MAJOR ARTERIAL – shall consist of the balance of routes which serve major statewide interests for highway transportation. This system is characterized by high speed, relatively long-distance travel patterns.

SPECIFIC CRITERIA

1. Link cities, towns, and other traffic generators that are capable of attracting travel over long distances and form an integrated network with higher systems to provide interstate and inter-county service.
2. Serve all cities of one thousand and over population which are not served by higher systems with an integrated network without stub connections except where geographic or traffic flow conditions dictate otherwise (landlocked cities having travel desire lines in one direction only). The major arterial system shall also provide "connecting links between the interstate and the nearest existing state highway system in rural areas" if such service is not provided by higher systems. [The term “serve" for the major arterial system is defined as either penetrating or touching the corporate limits of the city or village.]  

3. Be spaced at such intervals, consistent with population density, so that all developed areas of the State are within a reasonable distance of an arterial highway. Such routes (characteristics listed in 1, 2 and 3 above) will be subclassified as CONTINUOUS MAJOR ARTERIALS and constitute routes whose design should be expected to provide for relative high overall travel speeds, with minimum interference to through movement.  

4. Serve every incorporated municipality of one hundred and over population and the major recreational areas of the state, which are not served by higher systems, with stub or spur connections. Such routes will be subclassified as NONCONTINUOUS MAJOR ARTERIALS. [The term “serve" for the major arterial system is defined as either penetrating or touching the corporate limits of the city or village.]  

5. The total number of miles in the Interstate, Expressway and Major Arterial Systems shall be limited as shown in Table 1.  

001.04 OTHER ARTERIAL – shall consist of a group of highways of less importance as through-travel routes which would serve places of smaller population and smaller recreation areas not served by the higher systems. The Other Arterial system should then be selected on the basis of the following criteria.  

**SPECIFIC CRITERIA**  

1. Intercommunity connections – Small municipalities, rural communities, and centers of commerce such as elevators and rail sidings should be connected to each other and to the higher systems.  

2. Recreational connections – Parks, reservoirs, forests, reservations and other recreation areas of statewide interest should be served by this system (if not on higher systems).  

3. Important traffic connections – Routes which carry traffic volumes for longer trip lengths than the next lower level (collector) highways should be on the system.  

4. County lines – The location of other arterial routes should be coordinated at county lines to form an integrated system. They may, however, collect travel from two or more collector or local roads on one end and carry it to equal or higher systems at the other end, thus creating the possibility of a classification change at county or state lines.  

5. Spacing – See Figures 1 and 2.

001.05 COLLECTOR – shall consist of a group of highways which pick up traffic from many local or land-service roads and carry it to community centers or to the arterial systems. They are the main school bus routes, mail routes, and farm-to-market routes.

SPECIFIC CRITERIA

1. All community centers and agricultural activity centers not on higher systems should be connected with each other and connected with the higher systems by a collector road.

2. Clustered residents who are at considerable distances from the previous selected systems should be served.

3. Spacing should be at intervals, consistent with population density, to collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road. The spacing recommended is shown in Figure 2.

4. The total number of miles in the Other Arterial and Collector Systems shall be limited as shown in Table 1.

5. The location of collector routes should be coordinated at county lines to form an integrated system.

001.06 LOCAL – shall consist of all remaining rural roads, except remote residential and minimum maintenance roads.

SPECIFIC CRITERIA

1. Shall serve, in conjunction with remote residential roads, all occupied residences with connection to another local or higher system classification.

2. Shall serve, in conjunction with remote residential roads, all cemeteries, parks, wildlife management areas or other rural areas with a connection to another local or higher system classification.

3. Shall serve, in conjunction with remote residential roads, all school bus and mail routes not served by a higher system.

4. Shall be so spaced, in conjunction with remote residential roads, as to avoid considerable extra travel or normal travel over minimum maintenance roads.
001.07 REMOTE RESIDENTIAL

GENERAL CRITERIA

General Criteria from Chapter 39, Section 39-2103(9) Nebraska Revised Statutes - shall consist of roads or segments of roads in remote areas of counties with (a) a population density of no more than five people per square mile or (b) an area of at least one thousand square miles, and which roads or segments of roads serve as primary access to no more than seven residences. For the purposes of this subdivision, residence means a structure which serves as a primary residence for more than six months of a calendar year. Population shall be determined using data from the most recent federal decennial census.  (Note: Currently 39 Counties meet one or both criteria, see map of counties)

SPECIFIC CRITERIA

1. Remote Residential roads shall serve qualified properties having occupied residences with a connection to another remote residential, local or higher system classification. In conjunction with such service, they may also serve as school bus and mail routes and serve farms, ranches, cemeteries, parks, wildlife management areas or other rural areas. For the purpose of this section “qualified” shall pertain to the county population density or area size set forth above

2. Remote Residential roads shall be sufficient to provide access to properties having remote residences, farms, and ranches by passenger and commercial vehicles. One-lane traffic allowed where sight distance is adequate to warn motorist of oncoming traffic.

RESTRICTIONS

1. County Board Public Hearing - A County Board Public Hearing is required prior to requesting the department to classify a new road segment or an extension to an existing road segment or to reclassify an existing road segment as a Remote Residential road. For county line roads, each adjoining county shall meet the general criteria of Chapter 39, Section 39-2103(9) Nebraska Revised Statutes and each County Board shall hold a public hearing on the matter prior to requesting the department to classify.

2. Relaxation of Standards - In addition to the County Board Public Hearing, a Relaxation of Standards granted by the Board is required for construction of a new road segment or an extension to an existing road segment, or when a county wants an existing non-surfaced road segment or an existing one-lane road segment with inadequate sight distance reclassified to remote residential. See 428 NAC 2, Section 004. (Note: Project required in the County One-Year Plan by virtue of other regulations of the Board)

3. The Functional Classification will only be assigned by the department when requested by official action of a County Board.
001.07 001.08 MINIMUM MAINTENANCE – shall consist of roads used occasionally by a limited number of people as alternative access roads for areas served primarily by local, collector, or arterial roads or roads which are the principal access roads to agricultural lands for farm machinery and farm trucks, and which are not primarily used by passenger or commercial vehicles and are not intended for school bus or mail routes.

SPECIFIC CRITERIA

4. Shall serve existing property owners so no existing property shall be land locked.  
(Note: For Isolated Land access see Chapter 39, Sections 38-1713 to 39-1718 Nebraska Revised Statutes)

2.1. Shall provide for travel during normal weather, shall not require snow removal or roadway mowing, except to prevent hazard.

3.2. Minimum maintenance roads may be earth or turf covered.

4.3. County line coordination – minimum maintenance roads should not stub at a county line.

5.4. May not be the only access to an occupied dwelling – a minimum maintenance road shall be reclassified to remote residential, local or a higher functional classification whenever an existing dwelling or newly constructed dwelling becomes occupied.
### TABLE 1

<table>
<thead>
<tr>
<th>Rural Systems</th>
<th>%</th>
<th>Miles</th>
<th>Probable Mileage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interstate plus Expressway</td>
<td>3 Max.</td>
<td>2,762</td>
<td>482)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>382)</td>
</tr>
<tr>
<td>Interstate plus Expressway plus</td>
<td>*10,000 Max.</td>
<td></td>
<td>482)</td>
</tr>
<tr>
<td>Major Arterials</td>
<td></td>
<td></td>
<td>382)</td>
</tr>
<tr>
<td>Other Arterials plus Collector</td>
<td>20 – 25</td>
<td>18,410 – 23,012</td>
<td>10,237)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11,137)</td>
</tr>
<tr>
<td>Remaining Local plus Remote Residential plus Minimum Maintenance</td>
<td></td>
<td></td>
<td>64,798</td>
</tr>
</tbody>
</table>

* The intention of this maximum allowance is to limit the State Highway System to 10,000 miles (including rural and municipal mileage).
003.01 Scenic-Recreation, which shall consist of highways or roads located within or which provide access to or through state parks, recreation or wilderness areas, other areas of geographical, historical, geological, recreational, biological, or archaeological significance, or areas of scenic beauty; and are defined as follows:

1. State Parks as defined by 81-815.22 Neb. Rev. Stat. shall mean parks of substantial area with primary value of significant statewide scenic, scientific or historical interest, having a complete development potential and, where possible, a representative portion which can be retained in a natural or relatively undisturbed state.

2. State Recreation or Wilderness Areas as defined by 81-815.22 Neb. Rev. Stat. shall mean areas with a primary value for day use, but with secondary overnight-use facilities or potential, which have reasonable expansion capability and are located in accordance with sound park management principles.

3. Geographic Areas shall consist of a unique or unusual area which has particular interest and is not usually present in extensive numbers in the immediate area.

4. Historical Areas shall include areas which have been determined by the State Historical Society to be historic sites or have been registered or nominated to be included in the National Register of Historic Places.

5. Geological Areas shall consist of unique or unusual areas which have particular interest in the interpretation of geologic information and are the best areas of information in that particular region.

6. Recreational Areas as defined in 81-815.22 Neb. Rev. Stat. State wayside areas shall be areas appropriate in size and located at strategic intervals adjacent to main travelled highways to provide safe rest and picnic stops for travelers, which sites shall be selected for scenic or historical interest, when possible. Equipped with safe approach and departure lanes, and be developed in a manner and with such facilities as are appropriate to their purpose and State Special Use areas shall be those areas which are primarily of public hunting, fishing, or other wildlife values, and which cannot logically be classified in one of the categories listed in sub-divisions 2, 3, 4 or 5 of this section, when so designated by the Nebraska Game and Parks Commission to be maintained from fish and game funds.

7. Biological Significance areas are defined as only those areas where a unique or unusual life form or process exists and only that area that is most unusual in the given region of the State.

8. Archaeological Significant areas are areas for which the Nebraska State Historical Society has declared an archaeological significance. A joint agreement exists between the Society and the Department of Roads concerning these areas if a road project proposes to infringe on them.
BOARD OF PUBLIC ROADS CLASSIFICATIONS AND STANDARDS

Chapter 1 – Procedures for Classifications (Continued)

9. Scenic. No precise definition of scenic is possible as stated in the Scenic Highways Narrative dated March 12, 1974, by the Nebraska Game and Parks Commission. "Scenery, as with other forms of beauty, lies in the eyes of the beholder, and an element of subjectivity is bound to be a part of any attempt to develop and apply objective criteria and guideline."

003.02 Jurisdictional responsibility for all scenic-recreation roads and highways shall remain with the governmental subdivision which had jurisdictional responsibility for such road or highway prior to its change in classification to scenic-recreation.

003.03 Specific Criteria for Scenic-Recreation roads shall be divided into two classes.

1. Highways and roads providing access to or to and through scenic-recreation area.

2. Highways and roads located within scenic-recreation area.

003.03A Specific Criteria – Scenic-Recreation roads providing access to or to and through Scenic-Recreation Area:

003.03A1 Highways functionally classified as Interstate shall not be considered for a scenic-recreation classification.

003.03A2 Highways functionally classified as Expressway shall not be considered for a scenic-recreation classification.

003.03A3 SPECIFIC CRITERIA – SCENIC-RECREATION MAJOR ARTERIAL

1. Scenic-Recreation-Major Arterial shall consist of state highways which provide access to or to and through scenic-recreation areas and which qualify for a Major Arterial Functional Classification.

2. Limits of a Scenic-Recreation Highway to be classified Scenic-Recreation-Major Arterial shall be determined from logical points of Scenic-Recreation interest. Termini may be from a road with any functional classification.

3. Scenic-Recreation-Major Arterial highways to Scenic-Recreation areas shall meet or exceed applicable minimum standards unless a request for Relaxation of Standards has been granted by the Board of Public Roads Classifications and Standards.

4. Speed limits established for these routes shall be those as determined through an engineering analysis of the area by the Department of Roads.
5.4. Effort shall be made to preserve the natural environment to the extent possible without compromising the safety of those using the facility, at the speed limits that apply.

003.03A4 SPECIFIC CRITERIA – SCENIC-RECREATION-OTHER ARTERIAL

1. Scenic-Recreation-Other Arterial shall consist of roads which provide access to or to and through scenic-recreation areas and which qualify for an Other Arterial Functional Classification.

2. Limits of a Scenic-Recreation Road to be classified Scenic-Recreation-Other Arterial shall be determined from logical points of Scenic-Recreation interest. Termini may be from a road with any functional classification.

3. Scenic-Recreation-Other Arterial roads to Scenic-Recreation areas shall meet or exceed applicable minimum standards unless a request for Relaxation of Standards has been granted by the Board of Public Roads Classifications and Standards.

4. Speed limits established for these routes shall be those as determined through an engineering analysis of the area by the county or counties having jurisdictional responsibility.

5.4. Effort shall be made to preserve the natural environment to the extent possible without compromising the safety of those using the facility at the speed limits that apply.

003.03A5 SPECIFIC CRITERIA – SCENIC-RECREATION-COLLECTOR

1. Scenic-Recreation-Collector shall consist of roads which provide access to or to and through Scenic-Recreation areas and which qualify for a Collector Functional Classification.

2. Limits of a Scenic-Recreation Road to be classified Scenic-Recreation-Collector shall be determined from logical points of Scenic-Recreation interest. Termini may be from a road with any functional classification.

3. Scenic-Recreation-Collector roads to Scenic-Recreation areas shall meet or exceed applicable minimum standards unless a request for Relaxation of Standards has been granted by the Board of Public Roads Classifications and Standards.
4. Speed limits established for Scenic-Recreation-Collector shall be as determined through an engineering analysis of the area by the county or counties having jurisdictional responsibility.

5. Effort shall be made to preserve the natural environment to the extent possible without compromising the safety of those using the facility at the speed limits that apply.

003.03A6 SPECIFIC CRITERIA – SCENIC RECREATION-LOCAL

1. Scenic-Recreation-Local shall consist of roads which provide access to or through Scenic-Recreation areas and which qualify for a Local Functional Classification.

2. Limits of a Scenic-Recreation Road to be classified Scenic-Recreation-Local shall be determined from logical points of Scenic-Recreation interest. Termini may be from a road with any functional classification.

3. Scenic-Recreation-Local roads to Scenic-Recreation areas shall meet or exceed applicable minimum standards unless a request for Relaxation of Standards has been granted by the Board of Public Roads Classifications and Standards.

4. Speed limits established for Scenic-Recreation-Collector shall be as determined through an engineering analysis of the area by the county or counties having jurisdictional responsibility.

5. Effort shall be made to preserve the natural environment to the extent possible without compromising the safety of those using the facility at the speed limits that apply.

003.03A7 Highways functionally classified as Remote Residential shall not be considered for a scenic-recreation classification.

003.03A8 Highways functionally classified as Minimum Maintenance shall not be considered for a scenic-recreation classification.

003.03B SPECIFIC CRITERIA – SCENIC-RECREATION-INTERNAL ROADS

1. Those roads located within the Scenic-Recreation area which are not through routes. Scenic-Recreation Internal Roads serve as routes within Scenic-Recreation areas.

2. Jurisdictional responsibility is in accordance with the approved Functional Classification.
3. The location of Scenic-Recreation-Internal roads shall be coordinated with other roads in the area so that both through and scenic-recreational travel is served, unless the route terminates in an area as previously described and is not a through route.

4. Speed limits established for Scenic-Recreation-Internal Roads shall be compatible with the type of area served and use of the area and shall be determined by an engineering analysis.
### Minimum Design Standards -- Part One
#### State Highway System

- **New and Reconstructed Rural State Highways**
  - Section 001.01, Page 5
- **Bridges on Rural State Highways**
  - Section 001.02, Page 6
- **Resurfacing, Restoration and Rehabilitation (3R) Projects on Rural State Highways**
  - Section 001.03, Page 7
- **Scenic - Recreation - Rural State Highways**
  - Section 001.04, Page 8

#### Typical Cross Section of Improvement for New and Reconstructed State Highways

- **Interstate Interchange Ramp**
  - Section 001.05, Page 9

#### Typical Cross Sections of Improvements for New and Reconstructed Rural State Highways

- **Design Number DR1 (Crowned)**
  - Section 001.06, Page 10
- **Design Number DR1 (Tangent)**
  - Section 001.06A, Page 11
- **Design Number DR2 (Crowned)**
  - Section 001.07, Page 12
- **Design Number DR2 (Tangent)**
  - Section 001.07A, Page 13
- **Design Number DR3**
  - Section 001.08, Page 14
- **Design Number DR4**
  - Section 001.09, Page 15
- **Design Number DR5**
  - Section 001.10, Page 16
- **Design Number DR6**
  - Section 001.11, Page 17

### Minimum Design Standards -- Municipal (Adopted March 21, 2008)

- **New and Reconstructed Municipal State Highways**
  - Section 001.12, Page 18
- **Bridges on Municipal State Highways**
  - Section 001.13, Page 19
- **Resurfacing, Restoration and Rehabilitation (3R) Projects on Municipal State Highways**
  - Section 001.14, Page 20
### Minimum Design Standards -- Part Two

#### Local Roads and Streets

- **Minimum Design Standards (Adopted March 21, 2008)**
  - Municipal Streets
  - Rural Roads
  - Scenic - Recreation - Rural Roads

- **Typical Cross Sections for Rural Roads (Adopted October 26, 2001)**
  - Design Number ROA1
  - Design Number ROA2, RC1, RL1
  - Design Number ROA3, RC2, RL2
  - Design Number ROA4, RC3
  - Design Number RL3

- **Minimum Construction Standards (Adopted September 20, 1974)** ...................................................... 002
- **Minimum Maintenance Standards (Adopted September 16, 1983)** .......................................................... 003
- **Relaxation of Standards (Adopted July 19, 1985)** ......................................................................................... 004
- **Minimum Standards for Remote Residential Roads (Adopted ______________)** ....................................... 005
- **Maintenance Standards for Minimum Maintenance Roads (Adopted July 19, 1985)** ......................... 006 007
- **Standard Compliance Inspection Procedures (Adopted March 15, 1974)** ........................................... 007 008

001 MINIMUM DESIGN STANDARDS.

Copies of the most current editions of the following documents referred to in the Standards are on file in the NDOR Central Administration Complex, 1500 Highway 2, Lincoln, Nebraska:
AASHTO “A Policy on Geometric Design of Highways and Streets”
AASHTO “A Policy on Design Standards — Interstate System”
AASHTO “Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT \( \leq 400 \))”
NDOR “Nebraska National Highway Functional Classification” Map
NDOR “Nebraska State Highway Functional Classification” Map
NDOR “State Functional Classification” Maps (Counties and Municipalities)
NDOR “Nebraska Interstate and Priority Commercial Systems” Map

The following abbreviations and symbols are used in the Standards:

- 3R: Resurfacing, Restoration and Rehabilitation
- ft: foot or feet
- AASHTO: American Association of State Highway and Transportation Officials
- ADT: Average Daily Traffic
- Board: Board of Public Roads Classifications and Standards
- cL: centerline
- Div.: divided
- %: percent
- HL93: AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specification
- mph: miles per hour
- N/A: not applicable
- NDOR: Nebraska Department of Roads
- RSAP: Roadside Safety Analysis Program
- Lt.: left
- Rt.: right

The following definitions apply only to the State Highway System:
Soft conversion: Changing to the exact calculated metric number.
Reconstructed bridge work includes replacement of the entire superstructure.
## MINIMUM DESIGN STANDARDS - PART TWO
### LOCAL ROADS AND STREETS

**001.15 MINIMUM DESIGN STANDARDS — MUNICIPAL STREETS**

<table>
<thead>
<tr>
<th>(2) State Functional Classification</th>
<th>(3) Design Year Traffic</th>
<th>(4) Maximum Design Speed (mph)</th>
<th>(5) Maximum Horizontal Curve (Degree)</th>
<th>(6) Maximum Grade (Percent)</th>
<th>(7) Number of Lanes</th>
<th>(8) Lane Width (Feet)</th>
<th>Median Width (Feet)</th>
<th>Non-Curbed Section Shoulder Width (Feet)</th>
<th>Fixed Obstacle Clearance (Feet)</th>
<th>Lighting</th>
<th>New and Reconstructed Bridge Design Loading</th>
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<tbody>
<tr>
<td>Other Arterial</td>
<td>–</td>
<td>30</td>
<td>15</td>
<td>8</td>
<td>2</td>
<td>11</td>
<td>0 - As Required</td>
<td>8</td>
<td>–</td>
<td>Full</td>
<td>HL93</td>
</tr>
<tr>
<td>Collector</td>
<td>–</td>
<td>25</td>
<td>20</td>
<td>10</td>
<td>2</td>
<td>11</td>
<td>None</td>
<td>6</td>
<td>–</td>
<td>Desirable</td>
<td>HL93</td>
</tr>
<tr>
<td>Local</td>
<td>–</td>
<td>25</td>
<td>30★</td>
<td>10</td>
<td>2</td>
<td>11</td>
<td>None</td>
<td>6</td>
<td>–</td>
<td>Desirable</td>
<td>HL93</td>
</tr>
</tbody>
</table>

1. The 2001 edition of AASHTO “A Policy on Geometric Design of Highways and Streets” should be used for other design criteria.
2. Refer to NDOR “State Functional Classification Maps.”
3. “Design Year” shall be year of initial construction plus 20 years.
4. The design speed shall be equal to or greater than the anticipated posted speed limit. Stopping sight distance is a critical component of design speed.
5. 0.06 feet per foot maximum superelevation rate. The superelevation rate should match the design speed.
6. The actual number of lanes for design shall be based on a capacity analysis using design year traffic and the selected level of service to be obtained.
7. Lane width shall not include width of curb or curb offset.
8. Minimum fixed obstacle clearance for a curbed section shall be 2 feet as measured from the back of the curb, or for a non-curbed section shall be 8 feet as measured from the edge of the through driving lane. This area shall be free of obstacles except: (a) Traffic signals, railroad signals and railroad tracks; (b) Other obstacles including, but not limited to: ditches, slopes, driveways, intersections, earth dikes, curbs, guardrails, median barriers, crash cushions, drainage inlets, drainage flumes, culverts, bridges, roadway lighting, and traffic control devices if the municipality, through an engineering study, has determined that such obstacles are acceptable and are necessary for the operation and use of the street system; (c) Other obstacles if the municipality, through an engineering study and based upon a cost benefit analysis, has determined that the cost to remove or treat such obstacle exceeds the benefits from such removal or treatment. Fixed obstacle clearance for a non-curbed section may be reduced further for a turn-out lane, provided a minimum clearance of 2 feet is maintained from any paved surface.

★ Local street radii can be reduced to 100 feet if compatible with overall development and a design speed study.
### Title 428 — BOARD OF PUBLIC ROADS CLASSIFICATIONS AND STANDARDS

#### Chapter 2 — Procedures for Standards (Continued)

**001.16  MINIMUM DESIGN STANDARDS — RURAL ROADS**

<table>
<thead>
<tr>
<th>(2) Roadway Classification</th>
<th>(3) Design Number</th>
<th>(4) Current Year ADT</th>
<th>(5) Design Speed (mph)</th>
<th>(6) Maximum Curve (Degree)</th>
<th>(7) Maximum Grade (Percent)</th>
<th>(8) Number of Lanes</th>
<th>(9) Fixed Obstacle Clearance (Feet)</th>
<th>(10) New and Reconstructed Bridges</th>
<th>(11) Bridges to Remain in Place</th>
<th>(12) New and Reconstructed Bridge Design Loading</th>
<th>(13) Surfacing Type</th>
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<tbody>
<tr>
<td>Other Arterial</td>
<td>ROA1 401-750</td>
<td>50</td>
<td>7.5</td>
<td>7</td>
<td>2</td>
<td>12</td>
<td>6</td>
<td>12</td>
<td>30'</td>
<td>28' 26' 22' 20' 18' 16' 14' 12' 10' 8' HL93 Aggregate or Paved</td>
<td>30'</td>
</tr>
<tr>
<td></td>
<td>ROA2 251-400</td>
<td>50</td>
<td>7.5</td>
<td>7</td>
<td>2</td>
<td>11</td>
<td>4</td>
<td>10</td>
<td>28'</td>
<td>26' 24' 22' 20' 18' 16' 14' 12' 10' 8' HL93 Aggregate or Paved</td>
<td>28'</td>
</tr>
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<td>Collector</td>
<td>RC1 251-400</td>
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#### Scenic-Recreation

| Minimum Maintenance | ★★★ ★★★ ★★★ ★★★ ★★★ ★★★ ★★★ ★★★ ★★★ ★★★ ★★★ ★★★ ★★★ ★★★ |

(1) The Typical Cross Sections (sections 001.18 through 001.22) in these regulations and the 2001 edition of AASHTO “A Policy on Geometric Design of Highways and Streets” should be used for other design criteria.

(2) Municipal Streets Design Standards (Sec. 001.15, above) may be used in residential and commercial areas lying outside municipal boundaries. This may be particularly appropriate for Sanitary and Improvement Districts and for developed areas under municipal zoning jurisdiction.

(3) “Current year” shall mean year of initial construction. Minimum design criteria for ADT volumes over 400 in the “Collector” and “Local” classifications shall conform to the minimum standards set forth in the “Other Arterial” classification. Minimum design criteria for ADT volumes over 750 in the “Other Arterial” classification shall conform to the minimum standards set forth in AASHTO “A Policy on Geometric Design of Highways and Streets.”

(4) The design speed should be equal to or greater than the anticipated posted speed limit. Stopping sight distance is a critical component of design speed. New or reconstructed roads that are designed for a speed less than the statutory speed limit require an engineering and traffic investigation to determine the appropriate speed limit. Reference 60-6,190 Neb.Rev.Stat.

(5) 0.08 feet per foot maximum superelevation rate. The superelevation rate should match the design speed.

(6) Maximum grades may be exceeded by 2 percent for tangent distance of up to 500 feet in rough terrain.

(7) The actual number of lanes for design shall be based on a capacity analysis using design year traffic and the selected level of service to be obtained.

(8) Lane width shall not include width of curb or curb offset. See Typical Cross Sections (001.18 through 001.22) for cross slope.

(9) Minimum fixed obstacle clearance for a curbed section shall be 2 feet as measured from the back of the curb. Minimum fixed obstacle clearance for a non-curbed section shall be measured from the edge of the through driving lane. This area shall be free of obstacles except: (a) Traffic signals, railroad signals and railroad tracks; (b) Other obstacles including, but not limited to: ditches, slopes, driveways, intersections, earth dikes, curbs, guardrails, median barriers, drainage ditches, drainage flumes, culverts, bridges, roadway lighting, and traffic control devices if the county, through an engineering study, has determined that such obstacles are acceptable and are necessary for the operation and use of the road system; (c) Other obstacles by the county, through an engineering study and based upon a cost benefit analysis, has determined that the cost to remove or treat such obstacle exceeds the benefits from such removal or treatment.

(10) Low water stream crossings may be constructed on very low volume (0 - 50 ADT) county roads functionally classified as Local or Minimum Maintenance, provided a relaxation of standards has been granted by the Board. New low water stream crossings shall not be constructed on county roads functionally classified as Other Arterial, Collector and Remote Residential. All proposed construction or reconstruction shall be submitted to the Board for review in accordance with the rules and regulations for relaxation of standards.

(11) Existing bridges over 100 feet must be evaluated in accordance with AASHTO guidelines to determine the suitability of leaving them in place.

(12) A road graded to meet or exceed ROA1, ROA2, ROA3, RC1, RC2, RL1 or RL2 Minimum Design Standards in effect between September 2, 1970 and January 1, 2003 may be paved without being graded to current minimum design standards.

★ The paving of roads built to ROA4, RC3 and RL3 Minimum Design Standards, except for “Sandhills” soils, is prohibited. Such roads (0 - 50 ADT) in “Sandhills” soils may require paving because of the light, granular nature of the soils involved. It shall also be permissible to pave one 12-foot lane on roads built to RL3 Minimum Design Standards in “Sandhills” soils.

★★ See Section 001.17 of these regulations for standards applicable to the functional classification category “Scenic-Recreation.”

★★★ See Chapter 2, Section 006 for standards relating to all Remote Residential roads. See Chapter 2, Section 007 for standards relating to all Minimum Maintenance roads. All proposed construction or reconstruction on Remote Residential and Minimum Maintenance Roads shall be submitted to the Board for review in accordance with the rules and regulations for relaxation of standards. There are no set general design standards for Remote Residential and Minimum Maintenance Roads.

‡ 24 feet desirable

+++ 30 feet desirable

22
Title 428 – BOARD OF PUBLIC ROADS CLASSIFICATIONS AND STANDARDS

Chapter 2 – Procedures for Standards (Continued)

002 MINIMUM CONSTRUCTION STANDARDS

002.01 RURAL HIGHWAYS – 39-2103 NEB. REV. STAT.

002.01A Functional Classifications – (1) Interstate, (2) Expressway, (3) Major Arterial, (4) Other Arterial, and (5) Collector shall require all construction to be in accordance with the State of Nebraska, Department of Roads, Bureau of Highways 1973 Standard Specifications for Highway Construction.

002.01B Functional Classification – (6) Local, shall require that all construction follow the State of Nebraska, Department of Roads, Bureau of Highways 1973 Standard Specifications for Highway Construction, as a guide to good construction methods. However, the minimum design standards shall govern the type and shape of construction and the Licensed or Certified County Highway Superintendent or an individual appointed by the County Board shall have the responsibility to see that acceptable materials are furnished and properly placed.

002.02 MUNICIPAL STREETS – 39-2104 NEB. REV. STAT.

002.02A Functional Classifications – (1) Interstate, (2) Expressway, (3) Major Arterial, (4) Other Arterial, and (5) Collector shall require all construction to be in accordance with the state of Nebraska, Department of Roads, Bureau of Highways 1973 Standard Specifications for Highway Construction.

002.02B Functional Classification – (6) Local shall require that all construction follow the State of Nebraska, Department of Roads, Bureau of Highways 1973 Standard Specifications for Highway Construction, as a guide to good construction methods. However, the minimum design standards shall govern the type and shape of construction and the Public Works Director or Licensed or Certified City Street Superintendent shall have the responsibility to see that acceptable materials are furnished and properly placed.

002.03 ANY COUNTY OR MUNICIPALITY MAY BE PERMITTED TO USE THEIR OWN SPECIFICATIONS IF SUCH SPECIFICATIONS HAVE BEEN PREVIOUSLY SUBMITTED TO THE BOARD AND FOUND BY THE BOARD TO BE SUBSTANTIALLY EQUAL TO THE STATE OF NEBRASKA, DEPARTMENT OF ROADS, BUREAU OF HIGHWAYS 1973 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

003.01 DEFINITION. Maintenance is defined as the preservation and upkeep of a highway or street including all its elements, in a condition as near as is practical to the original or as constructed condition in order to provide the road user with a safe and convenient highway facility.

003.02 LIMITS OF MAINTENANCE. Routine Maintenance funds should be used only for the restoration and repair of the travel way to the safe and usable condition to which it was constructed and for limited roadside maintenance such as mowing the shoulders of the road, filling shoulder washes, cleaning ditches and backfilling small slides or washouts.

003.03 PHYSICAL MAINTENANCE. The following routine maintenance operations, replacements, and minor additions, although not all inclusive, are considered to be physical maintenance.

003.03A ROADWAY SURFACES
- Scarifying, reshaping, and restoring material losses.
- Applying dust palliatives.
- Patching, repairing, surface treating, joint filling, and mudjacking on bituminous or concrete surfaces.
- Resurfacing or concrete, brick, or bituminous pavements with bituminous material.
- Replacement of traveled way and shoulder in kind.
- Replacement of unsuitable base materials in patching operations.

003.03B SHOULDERS AND SIDE ROAD APPROACHES
- Scarifying, reshaping and restoring material losses.
- Applying dust palliatives.
- Patching and repairing all bituminous types, including base.
- Resealing bituminous types.
- Reseeding and resodding.

003.03C ROADSIDE AND DRAINAGE
- Reshaping of drainage channels and sideslopes.
- Restoration of erosion controls.
- Cleaning and repairing culverts.
- Removing slides.
- Mowing and tree trimming.
- Replacing topsoil, sod, shrubs, etc.
- Replacement, with essentially the same design, or curb, gutter, riprap, underdrain, and culverts.
006 MINIMUM STANDARDS FOR REMOTE RESIDENTIAL ROADS

006.01 DESIGN AND CONSTRUCTION STANDARDS RESTRICTIONS. If a county wants to construct a new segment of remote residential road or an extension to an existing segment of remote residential road, or reconstruct an existing segment of a remote residential road, or when a county wants an existing non-surfaced road segment or an existing one-lane road segment with inadequate sight distance reclassified to remote residential, the county proposal for design and construction shall be submitted to the Board of Public Roads Classifications and Standards for review prior to the start of construction in accordance with the rules and regulations for a Relaxation of Standards. (Note: Project required in the County One-Year Plan by virtue of other regulations of the Board)

006.01A MINIMUM SURFACING WIDTH AND TYPE. One 12 foot lane width of crushed aggregate surfacing of any type will be allowed where sight distance is adequate to warn motorist of oncoming traffic. Refer to the 2001 addition of AASHTO “Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT< 400)” for information on sight distance.

006.01B NEW AND REPLACEMENT STRUCTURES.

006.01B1 New and reconstructed bridge Design Loading HL93.

006.01B2 New construction of low water stream crossings and fords shall not be permitted on county roads functionally classified Remote Residential. Continuation of and maintenance of existing low water stream crossings and fords working satisfactorily will be permitted. A low water stream crossing shall be defined as a stream crossing structure that is designed and constructed so that it shall convey the normal stream flow below the driving surface, but normally will be overtopped by floods at least once annually.

006.02 MAINTENANCE

006.02A DEFINITION. For purposes of Section 008 of these regulations, maintenance shall be defined to require only those activities and services necessary to provide access to remote residences, farms and ranches by passenger and commercial vehicles.

006.02B LIMITS OF MAINTENANCE. Routine Maintenance funds should only be used for the restoration and repair of the travel way to the safe and usable condition to which it was constructed and for limited roadside maintenance such as mowing the shoulders of the road, filling shoulder washes, cleaning ditches and backfilling small slides or washouts. On existing aggregate surfaced or paved surfaced roads reclassified to remote residential, maintenance includes maintaining the travel way and surfacing width that existed at the time the road was reclassified or converting all or part of the existing pavement to crushed aggregate of any type, provided the existing travel way and surfacing width is maintained.
006.02C SIGNING OF REMOTE RESIDENTIAL ROADS. The County shall install and maintain, at entry points to remote residential roads, appropriate signs to adequately warn members of the public that they are traveling on a one-lane road. Such signs shall conform to the requirements in the Manual on Uniform Traffic Control Devices adopted pursuant to Chapter 60, Section 60-6,118-Nebraska Revised Statutes. (Note: County determines appropriate signs to be installed. Existing one-lane Local, Collector and Other Arterial roads in the same area may not have signs at the present time)
MAINTENANCE STANDARDS FOR MINIMUM MAINTENANCE ROADS

006.01 007.01  DEFINITION. Maintenance shall be defined as providing only those activities and services required for the usage by farm machinery and occasional or intermittent use by passenger or commercial vehicles.

006.02 007.02  LIMITS OF MAINTENANCE. Funds can be used to provide for repair and restoration of culverts and bridges only if required for safe passage of the occasional usage.

Snow plowing, placement of any surfacing material, including gravel or crushed rock and mowing of the roadway is not required for this classification of road, however, roadway mowing may be necessary in order to provide for safety at intersections and to permit passing.

006.03 007.03  REPLACEMENT STRUCTURES. Any defective bridge or culvert or other such structure on, in, over, or under the roadway may be removed and not replaced in order to protect the public safety. Structures to be built, or rebuilt will only be those that are determined by the county board to be essential for the public safety or for the present or future transportation needs of the county.

Removed structures may be replaced by a ford or low water stream crossing that will permit crossing in dry weather and is intended to convey water across the roadway rather than carrying the water under the roadway. These fords shall be so constructed that they shall not constrict the passage of water across the roadway thereby causing water to backup on the adjacent properties during normally expected rainfalls. These fords may have hard surfacing placed to facilitate passage of vehicles through the waterway. The County proposal for new or replacement structures, low water crossings and fords shall be submitted to the Board of Public Roads Classifications and Standards for review in accordance with the rules and regulations for relaxation of standards.

A low water stream crossing shall be defined as a stream crossing structure that is designed and constructed so that it shall convey the normal stream flow below the driving surface, but normally will be overtopped by floods at least once annually.

006.04 007.04  SIGNING OF MINIMUM MAINTENANCE ROADS. The installation of signs shall be at the beginning and end of minimum maintenance routes and at any other public access along the route. In the event the minimum maintenance route exceeds five miles in length with no intermediate public access then a minimum maintenance sign shall be placed at an interval not to exceed five miles. These signs shall provide warning to the public that a lower level of maintenance exists for the designated section of roadway than is normal for that county. These signs shall conform to the requirements in the current edition of the Manual on Uniform Traffic Control Devices for Streets and Highways. These signs shall indicate a lower maintenance level and shall indicate if the road is a through route or has no exit where it terminates at a property line and not at a connecting public road.
Signs that indicate bridges or culverts that are less than required by local road standards, and by fords and low water stream crossings, shall be placed before the drainage way and indicate the type of crossing or structure.

**Minimum Maintenance Road**

![Minimum Maintenance Road Sign](image)

W40 – 96
30" x 30"

The “Minimum Maintenance Road” sign shall be used at all locations where public access to a minimum maintenance road occurs. The sign should be installed on the minimum maintenance road at a distance of 25 to 50 feet from the edge of the road providing public access.

**Low Water Crossing Ahead**

![Low Water Crossing Ahead Sign](image)

W40 – 97
30" x 30"

The “Low Water Crossing Ahead” sign shall be used on minimum maintenance roads in advance of all locations where low water crossings are a part of the roadway features. The sign should be located at a distance of 500 to 700 feet in advance of the low water crossing.

**Do Not Enter When Flooded**

![Do Not Enter When Flooded Sign](image)

R40 – 31
24" x 30"

The “Do Not Enter When Flooded” sign shall be used at all locations where low water crossings are a part of the roadway features. The sign should be installed a distance of 15 to 25 feet in advance of the anticipated edge of the waterline on the roadway.
Note: The lateral placement of signs is to be 6 feet minimum (where possible), otherwise a 2 feet minimum.
006.04B 007.04B  TYPICAL SIGNING APPLICATIONS - MINIMUM MAINTENANCE ROADS

THRU ROAD CONDITION

MINIMUM MAINTENANCE ROAD

DEAD END CONDITION

MINIMUM MAINTENANCE ROAD
PARTIAL ROAD CONDITION

* SIGN REQUIRED AT ONE LOCATION ONLY. LOCATION IS OPTIONAL.

LOW WATER CROSSING

DO NOT ENTER WHEN FLOODED
006.05 007.05  REQUIRED MAINTENANCE. The minimum maintenance roads shall be inspected at regular intervals by a qualified county or township official to see if an actual hazard exists and if discovered these shall be repaired. All signs shall be kept in good condition and replaced if necessary as signing is essential for the safe operation of these roads.

These minimum maintenance roads shall not be deemed to be in want of repair or insufficient if it complies with these standards and level of minimum maintenance.

006.06 007.06  CONSTRUCTION STANDARDS. If it should be necessary to construct or reconstruct a segment of road classified as minimum maintenance, the county proposal shall be submitted to the Board of Public Roads Classifications and Standards for review prior to the start of construction in accordance with the rules and regulations for a relaxation of standards.
007.01 The Board of Public Roads Classifications and Standards may make random checks of construction projects in accordance with 39-2122 Neb. Rev. Stat. to determine that the minimum standards of design and construction are being met for any public highway, road or street. Inspection priorities are:

1. In response to a complaint received by the Board.
2. In response to a written request for inspection by a County Highway or a City Street Superintendent. Such request will include a certification of approval of the request by the County Board of the requesting county or the City Council of the requesting municipality.
3. Projects selected for inspection by random methods.

007.02 The Board shall request necessary professional services from the Department of Roads for the Standard Compliance Inspection Program.

007.03 The Board shall schedule inspections not less than sixty days in advance. The secretary for the Board will notify the County Board or the City Council at least twenty days prior to the scheduled inspection. The notification letter will contain:

1. Project identification(s) of all projects within their jurisdiction to be inspected.
2. Invitation to the County Board or the City Council members and the County Highway or City Street Superintendent to accompany the inspection party of the Board.
3. Name(s) of Board Representative(s).
4. A request that the County Board or the City Council furnish the name(s) of their inspection team representative(s) if any, to the Board at least five days prior to the scheduled inspection.

007.04 A written standard compliance inspection report shall be prepared by the Department of Roads within three working days following the inspection. The inspection report shall contain:

1. A map showing the project identification and location.
2. The name and mailing address of each member of the inspection party.
3. Scope of the inspection.
4. A summary of findings and recommendations.

007.05 The Board shall review standards compliance inspection reports within sixty days. Upon acceptance of the report by the Board, the governing authority having project jurisdiction shall be notified of the summary of findings and recommendations if any.