

# Roadway Functional Classification Guidance Manual November 2019



**COLORADO**  
Department of Transportation



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*The Colorado Department of Transportation (CDOT) developed this manual to offer comprehensive guidance for staff, local government staff and officials, and the public about how CDOT manages functional classification. It is based on the Federal Highway Administration's (FHWA) Highway Functional Classification Concepts, Criteria and Procedures, 2013 Edition.*

*This document provides information about the partners involved in the functional classification process, an overview of functional classification concepts and criteria, and a section regarding the procedures for MPO's/local agencies to follow when making a request to change the functional classification of a roadway.*



## PARTNERS IN THE FUNCTIONAL CLASSIFICATION PROCESS

### CDOT Office Responsible for Coordinating Functional Classification Change Requests

The CDOT Division of Transportation Development is responsible for coordinating with FHWA on matters related to functional classification. This unit also ensures that all submissions for changes to the functional classification of a roadway have followed the appropriate procedures.

Once a change has been approved by the FHWA Division Office, CDOT's Data Management Unit (DMU) will revise the Online Transportation Information System (OTIS), the official repository of functional classification information, and update ancillary systems and work products to reflect the change.

If a local jurisdiction wanting to change a road's functional class is located within a Metropolitan Planning Area (MPO), the request to CDOT must be made through that MPO. If the local agency wanting to make the functional classification change is not located within an MPO area, the local agency will make the request directly to CDOT.

### Metropolitan Planning Organizations

MPOs may initiate requests for revising the functional classification of a roadway within their planning area, either on their own initiative or on behalf of member jurisdictions. For requests originating from a member jurisdiction, the MPO may conduct an initial review to ensure compliance with functional classification criteria. MPOs then forward requests along with their recommendation for approval to the CDOT Division of Transportation Development. In some cases, local governments work directly with CDOT, with concurrence from the MPO. (See process in which the requestor is located within an MPO area on page 19).

### Counties and Other Agencies

Counties and other local agencies are responsible for initiating functional classification changes on roadways under their jurisdiction that is outside of an MPO planning area. Counties and local agencies within an MPO's planning area should coordinate proposed system revisions with the MPO and submit any proposed changes to CDOT. (See process in which the requestor is NOT located within an MPO area on page 20).



# INTRODUCTION

The functional classification of roads and highways creates a hierarchy of roadways to properly channel transportation movements through a highway network efficiently and cost-effectively.

CDOT maintains a categorized roadway network consistent with the federal functional classification system.

Functional classifications of some roadways can change over time. These changes can take the form of newly constructed, re-aligned, extended, widened or otherwise reconfigured roadways. Other factors are changing land use and development patterns – growing residential areas, newly-developed commercial or industrial centers, and construction of isolated traffic generators can all have a profound impact on the roadway network serving these developments.

State DOTs are charged with ensuring that the functional classification of their roadways is kept up-to-date. In addition, the FHWA recommends that states update their functional classification system continually as the roadway system and land use developments change.

## There are three general situations when CDOT might consider changing the functional classification of a roadway:

**1) Request by an MPO or a local agency of a change in the functional classification of a highway, based on changes in transportation network and/or land use patterns, including:**

a) Adding newly constructed or extended roadways to the network, which can in turn affect the functional classification of connecting or nearby roadways.

b) Upgrading the functional classification of an existing roadway due to land use changes or an improvement made to the roadway.

c) Downgrading the functional classification of an existing roadway due to land use changes, traffic controls that discourage through traffic or other controls that limit the speed and capacity of a road.

## **2) Periodic review and updates of the transportation system.**

Actively maintaining the functional classifications of roadways will reduce the level of effort needed for the periodic updates. As CDOT works with their local transportation planning partners on various initiatives, such as long-range planning activities and project programming and development, issues related to the functional classification should be kept in mind.

## **3) Review of the transportation system every ten years to coincide with the decennial census and the adjusted urban area boundary update cycle. CDOT plans to develop a guidance for the update of adjusted urban boundaries in the future.**

*Note: This guidance focuses exclusively on requests by MPOs and local agencies for changes in functional classifications of roadways in their jurisdictions, as described in paragraph 1 above.*

# APPLICATIONS

Functional classification also has additional significance beyond its purpose as a framework for identifying the particular role of a roadway in moving vehicles through a network of highways. Functional classification carries with it expectations about roadway design, including its speed, capacity and relationship to existing and future land use development. In addition, functional classification is used in determining eligibility for funding under the Federal-aid program. Transportation agencies describe roadway system performance, benchmarks and targets by functional classification. As agencies continue to move towards a more performance-based management approach, functional classification will be an increasingly important consideration in setting expectations and measuring outcomes for preservation, mobility and safety.

Functional classification is used by transportation agencies in a number of ways, and some of these applications are described below.

**Performance** - Currently, federal and state funding programs assign a substantial share of capital and operating resources to the Principal Arterial system, in comparison to lower functional classifications. Likewise, expectations for condition and performance tend to be higher for the higher functional classifications.

**Program and Project Prioritization** - In a climate of constrained resources, functional classification can play a role in the prioritization of expenditures.

**Asset Management** - Functional classification plays a role in transportation agencies' asset management programs, as agencies generally work to preserve

and protect their most important assets – those that serve the most people and goods.

**Safety Programs** - Functional classification is used by transportation agencies to evaluate the safety of their roadways and implement safety improvement programs. Agencies consider the type of roadway in evaluating the significance of crash rates. The typical safety improvement may also vary widely depending on the functional classification of a roadway. For example, speed reduction or signage improvements may be more effective in reducing crashes on a Local road than on an Arterial.

**Highway Design** - There is a correlation between functional classification and design. As an illustration, lower class roadways have lower speed limits, narrower lanes, steeper curves, etc., while higher class roadways have higher speed limits, wider lanes and fewer sharp curves.

**Bridge Programs** - Functional classification plays a key role in CDOT's bridge program. For example, CDOT prioritizes bridges within large-scale projects, based on highway functional classification.

**Traffic Control** - CDOT considers functional class in determining the most appropriate traffic control devices and timing to use.

**Maintenance** - Functional classification often plays a role in resurfacing cycles, which is related to asset management and project prioritization. The classification of a roadway also impacts general maintenance and snow/ice removal.



# CONCEPTS AND CRITERIA

## Mobility and Accessibility

Roadways serve two primary travel needs: 1) access to/egress from specific locations; and 2) travel mobility. Functional roadway classification is mainly based on mobility and access.

While these two functions lie at opposite ends of the continuum of roadway function, most roads provide some combination of each.

The roadway mobility function provides few opportunities for entry and exit. An example is the Eisenhower Tunnel, located on Interstate 70, west of Denver. The tunnel runs under the Continental Divide and is one of the longest tunnels in the United States. Motorists driving through the tunnel are traveling to a distant location and are using the roadway completely to serve their “mobility” needs. There is no location that is immediately “accessible” to the roadway. On the other hand, the roadway accessibility function provides many opportunities for entry and exit, with lower mobility. An example is a residential street, with many driveways, ending in a cul-de-sac.

## Roadway Classification Categories

Roadway classifications are generally categorized as follows:

- **Arterials** are roadways that provide a high level of mobility;
- **Collectors** provide a balance of mobility and access; and
- **Locals** provide a high level of land accessibility.

Trip makers will typically seek out roadways that allow them to travel to their destinations with as little delay as possible and by the shortest travel time. Arterial roadways provide this kind of service, often in the form of fully- or partially-controlled access highways, with no or very few intersecting roadways to hinder traffic flow. Therefore, a high percentage of the length of a long-distance trip will be made on Arterials. In contrast, travelers making shorter trips tend to use Local and/or Collector roadways for a much higher proportion of the trip length than Arterial roads.

As their name implies, Collectors “collect” traffic from Local roads and connect traffic to Arterial roadways. Collector routes are typically shorter than Arterial routes but longer than Local roads. Collectors often provide traffic circulation within residential neighborhoods as well as commercial, industrial or civic districts. Local roads are not designed to carry through traffic, and they are used to provide access to adjacent land.

The FHWA further breaks down these three categories into the following classifications:

### Interstates

Interstates are the highest classification of Arterials and were designed and constructed with mobility and long-distance travel in mind. The Interstate Highway System was authorized in 1956 and provides a network of limited access, divided highways offering high levels of mobility while linking the major urban areas of the United States. Roadways in this classification category are officially designated as Interstates by the Secretary of Transportation, and all routes that comprise the Dwight D. Eisenhower National System of Interstate and Defense Highways belong to the Interstate functional classification category and are considered Principal Arterials.

### Other Freeways and Expressways

Roadways in this functional classification look very similar to Interstates. Other Freeways and Expressways have directional travel lanes that are separated by some type of physical barrier, and their access and egress points are limited to on- and off-ramp locations or a very limited number of at-grade intersections. Like Interstates, these roadways were designed to maximize their mobility function, and they do not directly serve adjacent land uses.

### Other Principal Arterials

These roadways serve major centers of metropolitan areas, provide a high degree of mobility and can also provide mobility through rural areas. Unlike access-controlled arterials, adjacent land uses can be served directly. Forms of access for Principal

Arterials include driveways to specific parcels and at-grade intersections with other roadways.

For the most part, Interstates, Other Freeways and Expressways, and Other Principal Arterials provide similar service in both urban and rural areas, and the primary difference is that there are usually multiple Arterial routes serving a particular urban area, radiating out from the urban center to serve the surrounding region, but an expanse of rural area of equal size would be served by a single Arterial.

### Minor Arterials

Minor Arterials provide service for trips of moderate length, serve geographic areas that are smaller than other Arterials do, and offer connectivity to the higher Arterial system. In urban settings, they interconnect and augment the higher Arterial system, provide intra-community continuity and may carry bus routes. In the rural context, Minor Arterials should be spaced at intervals consistent with population density so that all developed areas are within a reasonable distance to a higher-level Arterial.

Also, Minor Arterials in rural areas are typically designed to provide relatively high overall travel speeds, with minimum interference with through travel. The spacing of Minor Arterials usually varies from 1/8- to 1/2-mile in the central business district to two to three miles in the suburban fringes. The spacing should not normally exceed one mile in fully-developed areas.

### Major and Minor Collectors

Collectors serve a critical role in the roadway network by gathering traffic from Local Roads and funneling them to the Arterial network. Collectors are broken down into two categories - Major Collectors and Minor Collectors. Until recently, this division was used only in the rural environment. The determination of whether a given Collector is a Major or Minor Collector is one of the biggest challenges in functionally classifying a roadway network. In rural areas, Collectors generally serve primarily intra-county travel (rather than statewide) and constitute those routes on which (independent of traffic volume) predominant travel

distances are shorter than on Arterial routes. More moderate speeds might be posted.

The distinctions between Major Collectors and Minor Collectors are often subtle. In general, Major Collector routes are longer, have lower connecting driveway densities, are spaced at greater intervals, have higher annual average traffic volumes, and might have more travel lanes than Minor Collector. In rural areas, annual average daily traffic (AADT) and spacing might be the significant designation factors. Overall, the total mileage of Major Collectors is typically lower than the total mileage of Minor Collectors, while the total Collector mileage is usually one-third of the Local roadway network.

### Local Roads

Locally-classified roads account for the largest percentage of all roadways in terms of mileage. They are not intended for long-distance travel, except at the origin or destination of the trip, because they provide direct access to adjacent land. Bus routes do not generally run on Local roads. They are often designed to discourage through traffic. As public roads, they should be accessible for public use throughout the year. Local roads are often classified by default. In other words, once all arterials and Collectors have been identified, all remaining roads are classified as local roads.

Figure 1 on the next page summarizes the characteristics of roadways in the seven functional classification categories in both urban and rural contexts. Examples of Colorado roadways are shown for each classification.

Note that the functional classifications described in Figure 1 are differentiated by urban and rural characteristics. See "Urban/Rural Considerations" for a description of the significance of this categorization.

Figure 1

Functional Classification		Characteristics	Colorado Examples
Interstate (Principal Arterial)		<ul style="list-style-type: none"> <li>Primarily through travel</li> <li>Longest trip lengths</li> <li>Directional travel lanes separated by a physical barrier</li> </ul>	I-25, I-70, I-76
URBAN  Population >5,000	Other Freeways and Expressways	<ul style="list-style-type: none"> <li>Very similar to interstates</li> <li>Maximize mobility function</li> <li>Limited access and egress points</li> </ul>	C-470
	Other Principal Arterial	<ul style="list-style-type: none"> <li>Serves major activity centers</li> <li>Corridors w/ highest traffic volumes</li> <li>Longest trip length w/in city</li> </ul>	CO 2, CO 16, CO 85, CO 88
	Minor Arterial	<ul style="list-style-type: none"> <li>Interconnects urban principal arterials</li> </ul>	CO 42, CO 105
	Major Collector	<ul style="list-style-type: none"> <li>Serves both land access and traffic circulation in higher density residential and commercial/industrial areas</li> <li>Distributes and channels trips between locals and arterials, usually over a distance of greater than ¾ mile</li> <li>Penetrates residential neighborhoods, often for significant distances</li> </ul>	CO 22
	Minor Collector	<ul style="list-style-type: none"> <li>Serves both land access and traffic circulation in lower density residential and commercial/industrial areas</li> <li>Distributes and channels trips between locals and arterials, usually over a distance of less than ¾ mile</li> <li>Penetrates residential neighborhoods, often only for a short distance</li> </ul>	CO 224
	Local	<ul style="list-style-type: none"> <li>All remaining roads</li> <li>Direct land access and link to higher classification</li> </ul>	
RURAL	Other Freeways and Expressways	<ul style="list-style-type: none"> <li>Very similar to interstates</li> <li>Maximize mobility function</li> <li>Limited access and egress points</li> </ul>	CO 85, CO 287
	Other Principal Arterial	<ul style="list-style-type: none"> <li>Predominant route between major activity centers</li> <li>Interstate or interstate functionality</li> <li>Long trip lengths</li> <li>Heavy travel densities</li> <li>Provide service to most large urban areas</li> </ul>	CO 30, US 491, US 550
	Minor Arterial	<ul style="list-style-type: none"> <li>Link cities and larger towns (or major resorts)</li> <li>Spaced at intervals so that all developed areas are within a reasonable distance of an arterial</li> <li>Interconnects network of arterial highways</li> </ul>	CO 9, CO 10, CO 14, CO 41, CO 84, CO 17, CO 350
	Major Collector	<ul style="list-style-type: none"> <li>Service to travel of primarily intra-county importance</li> <li>Serves important travel generators (i.e. county seats)</li> </ul>	CO 12, 23, CO 101, CO 120, CO 184A, CO 318, CO 325
	Minor Collector	<ul style="list-style-type: none"> <li>Land use access and spaced at intervals consistent with population density</li> </ul>	CO 5, CO 300, CO 317
	Local	<ul style="list-style-type: none"> <li>Access to adjacent land - short distances</li> <li>All remaining roads not classified under higher system</li> </ul>	



## Other Important Factors Related to Functional Classification

The distinction between mobility and accessibility is important in assigning functional classifications to roadways. There are a few additional factors to consider, and they are discussed here.

### Urban/Rural Considerations

While this document emphasizes the importance of function and service over the urban/rural distinction when classifying roads, the classification process is still influenced by the intensity and distribution of land development patterns. Classification of roadways in urban areas is typically guided by the local comprehensive planning and design process, or the fundamental principles of roadway functional classification. In comparison, rural development patterns are often more diverse, making the functional classification determination of some rural roadways more challenging.

When comparing urban and rural areas, the most relevant characteristic is the density of the roadway network. Even with a cursory view of a map of an urban area's roadway network, the functional classification of many roadways can be discerned due to the differences in roadway size. In contrast, the functional classification of the roadway network in many rural areas is less readily apparent, primarily due to the relatively inconsistent roadway spacing. Nevertheless, functional classifications should be assigned based on actual functional criteria, rather than the location of the roadway within an urban or rural context.

### Speed Limit

There is generally a relationship between posted speed limits and functional classification. Arterials usually have higher posted speed limits, and Local roads have lower speed limits.

### Route Spacing

Arterials are typically spaced at greater intervals than Collectors, which are spaced at much greater intervals than Locals. Geographic barriers greatly influence the layout and spacing of roadways.

## Usage

Roadway traffic volumes are typically expressed as annual average daily traffic (AADT) and represent one of the most objective characteristics of a roadway's usage, providing a standard, easy-to-understand and simple metric for comparing the relative importance of roadways. In general, the higher the traffic volume is, the higher the functional classification will be (relative to the roads in the surrounding area). Therefore, examining the AADT with other roadways in both the immediate vicinity (and in the region as a whole) is helpful when deciding a "borderline" roadway classification. For example, when trying to determine whether a given roadway with an AADT of 3,500 should be classified as a Minor Arterial or Major Collector, most of the Minor Arterials in the immediate area and the region at large fall within the 4,000 to 10,000 range, and the Major Collectors fall within the 2,000 to 4,000 range, the roadway should be classified as a Major Collector.

While there is a general relationship between the functional classification of a roadway and its annual average daily traffic volume, two roads that carry the same traffic volume may actually serve very different purposes and therefore have different functional classifications. Conversely, two roadways in different parts of the state may have the same functional classification but carry very different traffic volumes. This is particularly applicable among urban areas with very different populations – an Arterial within a remote city with a population of 50,000 is likely to have a much lower traffic volume than an Arterial within a city of one million people.

Furthermore, AADT can often be used as a "tie-breaker" when trying to determine which of two (or more) similar and roughly parallel roadways should be classified with a higher (or lower) classification than the other. For example, suppose that two parallel roadways appear to serve the function of a Collector. Classifying both of them as a Collector could lead to undesirable redundancy in the functional classification network. All other things being equal, the roadway with the higher AADT would generally be given the Collector classification, while its companion would be given a Local classification.

Arterials serve a high share of longer distance trips and daily vehicle miles of travel. In rural areas, Arterials typically account for approximately half of the daily vehicle miles of travel; in urban areas, this percentage is often higher. Collectors account for the next largest percentage of travel. Urban Area Collectors account for somewhat less (5 to 15 percent), while the percentage for Rural Area Collectors is typically in the 20 to 30 percent range. Lastly, by definition, Local Roads in rural areas typically serve very low density, dispersed developments with relatively low traffic volume. In contrast, the Urban Local Road network, with higher roadway centerline miles and higher density spacing, serves denser land uses and therefore accounts for a larger proportion of travel than its rural counterpart.

### Number of Travel Lanes

In general, Arterials are more likely to have a greater number of travel lanes than Collectors, and Collectors are more likely to have a greater number of travel lanes than Locals. It should also be noted that the relationship between functional classification and number of lanes is stronger in urban areas than it is in rural areas.

### Regional and Statewide Significance

Arterials carry the vast majority of trips that travel through the state, while Local Roads do not easily facilitate statewide travel.

### System Continuity

Because the roadway system is an interconnected network of facilities channeling traffic in both directions from Arterials to Collectors, then to Locals and back again, the concept of continuity of routes is important to recognize. A basic tenet of the functional classification network is continuity – a roadway of a higher classification should not connect to a single roadway of a lower classification.

Generally speaking, Arterials should only connect to other Arterials. However, there are exceptions to this guideline. Arterials can end or link to very large regional traffic generators or can connect to multiple parallel roads of lower functional classification that, together, provide the same function and capacity as an Arterial. Another example is a Collector that serves a major residential community and – for topological or other constraining reasons – does not connect at one end to another similar or higher classified roadway.





# GUIDANCE/PROCEDURES FOR DETERMINING HIGHWAY FUNCTIONAL CLASSIFICATIONS

This section of the guidance outlines suggested procedures for assigning functional classifications to highways, including collaborative efforts with partner agencies.

The primary objective of the functional classification system is to connect traffic generators (population centers, schools, shopping centers, etc.) with a roadway network that channelizes trips logically and efficiently. As classification proceeds from identifying Arterials to Collectors to Locals, the size of traffic generators also moves from a larger to a smaller scale.

In many cases, assigning a functional classification to a roadway is straightforward, especially for Interstates and Locals. However, there is flexibility when deciding between adjacent classifications. For example, deciding whether a given roadway acts as a Minor Arterial or Major Collector can be subject to debate. Deciding between a Major Collector and Minor Collector assignment can be even more challenging.

When developing a functional classification network for a given area, the same basic procedures should be followed, whether it is an urban or rural area. Functional classification is part art and part science, and these procedures provide a guide to apply judgment in a sound and orderly fashion.

**1) Identify traffic generators.** In rural areas, traffic generators may be population centers (cities and towns); recreational areas such as lakes, national and State parks; military facilities; consolidated schools; and shipping points. In urban areas, traffic generators may be business districts; air, rail, bus and truck terminals; regional shopping centers; colleges and universities; hospital complexes; military bases; industrial and commercial centers; stadiums; fairgrounds; and parks. Regional traffic generators adjacent, but outside of the area of interest, should also be identified.

**2) Rank traffic generators.** Traffic generators should be categorized based on their relative ability to generate trips and be first divided into urban and rural groupings. Traffic generators thought to be significant enough to be served by a Major Collector or higher should be categorized into five to eight groups (it is better to have too many groups than to have too few, especially toward the lower end of the scale). Traffic generators with similar significance should be placed in the same group. These groups will be used to identify the functional classification of connecting roadways. Population, sales tax receipts, retail trade, visitation and employment are some examples of factors to consider when ranking traffic generators according to their significance.

**3) Map traffic generators.** Traffic generators should be mapped using graduated symbols of varying sizes and/or colors according to the group to which the generator belongs. This will produce a visual representation of the ranking. For example, the group of generators ranked highest should all be symbolized with the largest symbol.

**4) Determine the appropriate functional classification to connect traffic generators.** To determine the functional classification of roadways, work from the highest mobility facilities first by identifying Interstates, Other Freeways and Expressways, Other Principal Arterials, then Minor Arterials and Collectors (Major, then Minor). Then, Local Roads will be all of the roadways that were not classified as Arterials or Collectors. In other words, begin with a wide, regional perspective to identify Principal Arterials, then gradually move to smaller, more localized perspectives as Minor Arterials, Major Collectors and Minor Collectors are identified. In this process, consider the

size of the traffic generators connected and the predominant travel distances and “travel shed” served.

## Arterial Considerations

Arterials serve a wide range of functions across the access-mobility spectrum. Some considerations and rules of thumb for designating roads as Arterials include:

- Start with Interstates and Other Freeways & Expressways. Control of access is the easiest criterion to apply, since roadways with full or partial control of access will almost always be in the Arterial classification category. It makes sense to identify these roadways first, providing a convenient starting point in defining the Arterial system.
- Preserve the continuity of Principal Arterials (Interstates, Other Freeways and Expressways and Other Principal Arterials). Continuity of Principal Arterial routes traveling from rural areas, then into and through urban areas, should be preserved.
- Arterials should avoid neighborhoods. They often serve as buffers between incompatible land uses and should not be a classification in residential neighborhoods.
- Most high volume roadways in urban areas function as Arterials. Notable exceptions to this rule in intensely developed areas exist in cases where high volume roadways actually function as Collectors that serve traffic movements between Locals and Arterials or provide a high degree of direct access service to abutting land uses. For example, roadways that border on high-activity, low-land area generators may carry proportionally high volumes of traffic while functioning as Collectors.
- The network of Minor Arterial roadways will usually intersect roadways in all other classifications.
- In urban areas, guidance for distinguishing between Principal and Minor Arterials includes:
  - **Principal Arterials typically serve:**
    - ◊ Activity centers, from CBDs to larger town centers

- ◊ Important air, rail, bus and truck terminals
- ◊ Regional shopping centers
- ◊ Large colleges, medical complexes, military bases and other institutional facilities
- ◊ Major industrial and commerce centers
- ◊ Important recreational areas

- Principal Arterials provide more mobility; Minor Arterials provide more access. The land access function of Principal Arterials is subordinate to their primary function of providing mobility for traffic not destined to land adjacent to the roadway. Minor Arterials, on the other hand, have a slightly more important land access function (although even for this classification category, this is a secondary consideration).
- In general, the spacing between Principal Arterials should be greater than the spacing between Minor Arterials. In most cases, Minor Arterials will be located between Principal Arterials.
- Minor Arterials in urban areas should provide service to all remaining major traffic generators not served by a Principal Arterial, and they provide adequate area-wide circulation.
- Location matters when assigning functional classification. Because traffic volumes in the outlying portions of an urban area are generally lower than in the more densely populated central areas, the traffic volume on a Minor Arterial in the central city may be greater than the volume on a Principal Arterial in a suburban area.

## Collector Considerations

Collectors, which may have an important land access function, serve primarily to funnel traffic between Local and Arterial roadways. In order to bridge this gap, Collectors provide access to residential neighborhoods.

When deciding between Major and Minor Collectors, the following guidelines should be considered:

- A road that is not designated as an Arterial but that connects larger generators to the Arterial network can be classified as a Major Collector. Major Collectors generally are busier, have

more signal-controlled intersections and serve more commercial development.

- Identify Minor Collectors for under-served residential areas. After Major Collectors have been identified, Minor Collectors should be identified for clustered residential areas that have yet to be served by a roadway within higher classification categories.
- In rural areas, Minor Collectors should have approximately equal distance between Arterial or Major Collector routes for equal population densities, such that equitable service is provided to all rural areas of the State. The population density within each area bounded by an

Arterial and/or Major Collector route can be determined, and the existing spacing of routes already selected can be measured. Areas with poor service can then be identified by comparing the data with a table of desirable Collector spacing (mileage between routes) versus population density. Additional routes can be added to the system as necessary.

The functional classification system groups roadways into a logical series of decisions based on the character of travel service they provide. The figure below shows this process graphically, beginning with assigning the function of a road as an Arterial or Non-Arterial.

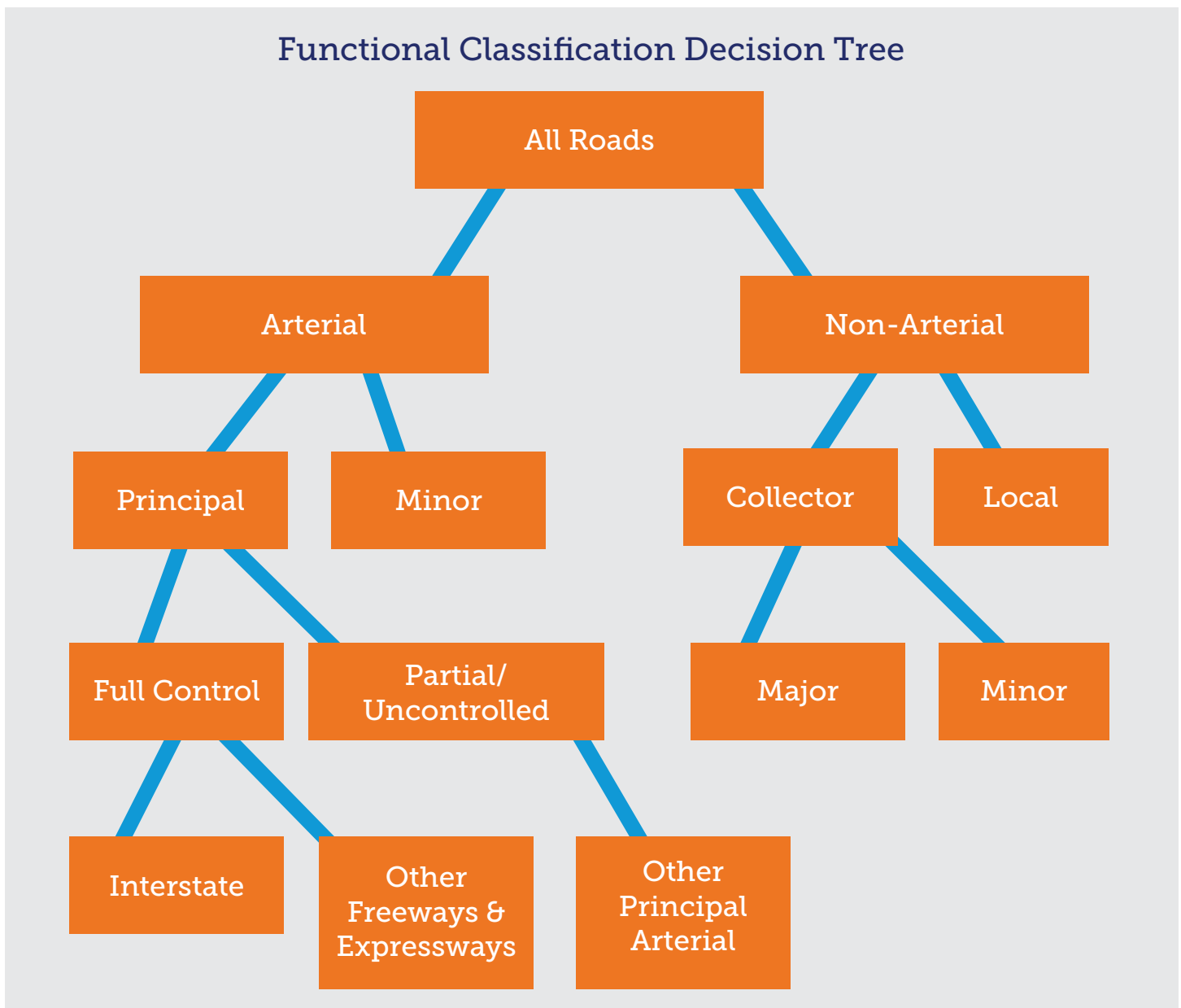


Figure 2

## General Rules of Thumb for All Categories and the System as a Whole

While working down through the functional classification system of roadway classifications, the following additional considerations should be kept in mind:

- Roadways that connect to and allow for the interchange of traffic with Principal Arterials are most likely to be Other Principal Arterials, Minor Arterials or Collectors.
- Avoid, if possible, within spacing guidelines, assigning the same functional classification to parallel routes. In the event that parallel routes are determined to provide identical functions, a determination should be made as to which of the routes is more important (as perhaps indicated by traffic volumes); the other parallel route(s) will be assigned the next lower functional classification.
- In general, the denser the development, the closer the spacing of roadways within the same functional classification category. In less dense suburban locations within an urban area, neighborhoods tend to be larger than in the denser central parts of cities. These less dense areas generally do not require the same close spacing of facilities to serve traffic as the areas closer to the central business district.
- For the most part, a single connection between two generators is all that is required. However, in some instances, an additional alternative route might be included where:
  - ◇ Two apparently alternative routes are separated by geographic barriers and each is needed for connection to another intermediate generator or another intersecting route within the same classification category
  - ◇ One roadway excludes commercial vehicles
  - ◇ Total traffic volume is not adequately handled by one of the roadways
  - ◇ One roadway is tolled

- Ensure that each route terminates at a route of the same or higher functional classification. As each subsequent category in the functional classification hierarchy is identified and added to the system, the continuity of the system must be maintained.
- In rural, sparsely developed areas, the spacing of various functional classification categories is often not a helpful criterion in determining functional classification.

In most cases, the most direct, most improved and most heavily-traveled route should be chosen for connecting medium and small size traffic generators.

If there still remains some ambiguity surrounding what classification should be applied to a given roadway, it is often helpful to examine the roadways in close proximity to it and to consider the spacing. For example, if trying to determine whether a roadway should be classified as a Minor Arterial or Major Collector, it is useful to take a “step back” and determine whether any functional classification is under- or over-represented. If the area has a significant number of Minor Arterials, then the roadway could very well be best classified as a Major Collector. Alternatively, if there is not another Minor Arterial within a few mile radius of the roadway (assuming an urban context), then the roadway may best be designated as a Minor Arterial.

### Other Considerations for “Borderline” Roadways

The guidelines in the following tables provide parameters that can be used to determine the functional classification of “borderline” roadways.

## Guidelines for Functional Classification – Arterials

Figure 3


	Arterials			
Typical Characteristics	Interstate	Other Freeway	Other Principal Arterial	Minor Arterial
Lane width	12 feet	11 - 12 feet	11 - 12 feet	10 - 12 feet
Inside shoulder width	4 - 12 feet	0 - 6 feet	0 feet	0 feet
Outside shoulder width	10 - 12 feet	8 - 12 feet	8 - 12 feet	4 - 8 feet
AADT (Rural)	12,000 - 34,000	4,000 - 18,500	2,000 - 8,500	1,500 - 6,000
AADT (Urban)	35,000 - 129,000	13,000 - 55,000	7,000 - 27,000	3,000 - 14,000
Divided/ undivided	Divided	Divided/ undivided	Divided/ undivided	Undivided
Access	Fully Controlled	Partially or fully controlled	Partially or uncontrolled	Uncontrolled
Urban Speed Limit (mph)	55+	55+	45 - 55	30 - 45
Rural Speed Limit (mph)	55+	55+	55 - 75	45 - 75

## Guidelines for Functional Classification – Collectors and Locals

Figure 4

Typical Characteristics	Collectors		Local
	Major Collector	Minor Collector	
Lane width	10 - 12 feet	10 - 11 feet	8 - 10 feet
Inside shoulder width	0 feet	0 feet	0 feet
Outside shoulder width	1 - 6 feet	1 - 4 feet	0 - 2 feet
AADT (Rural)	300 - 2,600	150 - 1,110	15 - 400
AADT (Urban)	1,100 - 6,300	1,100 - 6,300	80 - 700
Divided/undivided	Undivided	Undivided	Undivided
Access	Uncontrolled	Uncontrolled	Uncontrolled
Urban Speed Limit (mph)	30 - 40	30 - 40	30 or less
Rural Speed Limit (mph)	35 - 75	35 - 75	30 or less





# CDOT ONLINE TRANSPORTATION INFORMATION SYSTEM (OTIS)

The CDOT Online Transportation Information System (OTIS) provides access to information frequently used for transportation planning and project development. Information is provided on current and projected traffic volumes, state highway attributes, summary roadway statistics, and geographic data. The public can access OTIS at <http://dtdapps.coloradodot.info/otis>.

This is the main tool and only source of information that can be used by local agencies/MPOs in their requests for functional classification changes on state highways and off-system roads. OTIS provides functional classification, traffic volumes, median type and width, shoulder width, and pavement condition information.

Note: All current functional classifications of roadway segments described in a request must be the current

CDOT functional classification, as shown in OTIS. The local agency functional classification is not applicable to this process.

After a local agency has determined the functional classification of a segment of roadway, they can determine whether they are eligible to receive federal-aid for the road by finding out whether the road is located within an adjusted urbanized area, as shown on maps in OTIS. This can be found in OTIS under MapView -> CDOT Layers -> Boundaries -> Urban Areas - Adjustd 2010. The road is eligible for federal-aid if it is located in an adjusted urbanized area and has a functional classification above the Local level, whereas, the road is eligible for federal-aid if it is not located in an adjusted urbanized area and has a functional classification above the Minor Collector level.



# HPMS

The Highway Performance Monitoring System (HPMS) is a national-level highway information system that includes data on the extent, condition, performance, use and operating characteristics of the nation's highways as certified annually by the states. All roads open to public travel are reported in HPMS regardless of ownership, including Federal, State, county, city, and privately-owned roads, such as toll facilities. Each State is required to annually furnish all data per the procedures, formats, and codes specified in the HPMS Field Manual. Limited information on travel and paved miles is included in summary form for the lowest functional systems.

The functional classification of the nation's highways, roads and streets provides important inputs into the HPMS program and into the apportionment of federal funds, such as for the National Highway System (NHS). However, functional classification is

also used for many other transportation planning and public policy purposes within the States, MPOs, and local communities. For example, the HPMS data is used for reporting metrics with respect to targets for established performance measures, including the following:

- Rate of fatalities;
- Rate of serious injuries;
- Percentage of pavements of the Interstate System in Good condition;
- Percentage of pavements of the Interstate System in Poor condition;
- Percentage of pavements of the non-Interstate NHS in Good condition; and
- Percentage of pavements of the non-Interstate NHS in Poor condition.

HPMS is important to this functional classification process, because:

- 1) the local agency making a change request can use this tool to obtain or verify data needed for the change request submittal;
- 2) the FHWA might use HPMS to verify information

provided in functional classification change requests; and

- 3) CDOT reports information regarding functional classification and other criteria into the HPMS, and the FHWA uses this information for many purposes, including funding apportionment to the states.



## PROCESS FOR SUBMITTING A ROADWAY FUNCTIONAL CLASSIFICATION CHANGE REQUEST TO CDOT

### Process in which the Requestor is Located within an MPO area:

1. The first step is to read this guidance document.
2. The Local Agency will notify the CDOT Region Planner of the CDOT Region in which the county or municipality is located to inform her or him of the intention to request a change in functional classification of a roadway. This will provide the Region Planner with the opportunity to add any input concerning the request for a change in functional classification.
3. The Local Agency makes a written request to the MPO with the following information concerning the road segment(s) for which a change request is being made:
  - a) Road name
  - b) County(ies)
  - c) Beginning point of the segment(s)
  - d) End point of the segment(s)
  - e) Total mileage of the road segment
  - f) Written description of the road segment, including number of lanes, shoulder width, whether divided or undivided
  - g) Traffic volumes on the road segment (AADT)
  - h) Speed limits on the road segment
  - i) Whether the road segment is located within an adjusted urbanized area.
  - j) Current classification

k) Proposed functional classification

l) Reason for the change in classification. This is to include the conditions that have changed (traffic patterns, etc.)

m) Documentation of the initiating agency's approval for the submittal (Council or Board action, or confirmation of delegated authority)

n) A map of the area with detail on the proposed change, including road names, and all principal arterials, minor arterials, within a five-mile radius.

See Appendix A for a letter template.

4. The MPO shall review the proposed change for conformance with the functional classification guidance.
5. If approved - the MPO will send a letter of approval to the CDOT Director of Transportation Development (DTD), with the original request information attached. The MPO must include a statement certifying that the proposed change is in conformance with the functional classification guidance.
6. CDOT DTD will review the request, contact the Region planner for input, and forward the request package to the FHWA, with a recommendation for approval or disapproval of the request for a functional classification change. The FHWA Colorado Division reviews all requests for functional classification change, unless the road segment is on the NHS system, and in that case, the FHWA Headquarters office will make the decision. The FHWA will notify the MPO, if applicable, or local jurisdiction of the decision in writing, and copy CDOT on the notification.

## Process in which the Requestor is NOT Located within an MPO area:

1. The first step is to read this guidance document.
2. The Local Agency will notify the CDOT Region Planner of the CDOT Region in which the county or municipality is located to inform her or him of the intention to request a change in functional classification of a roadway. This will provide the Region Planner with the opportunity to add any input concerning the request for a change in functional classification.
3. The Local Agency makes a written request to CDOT with the following information concerning the road segment(s) for which a change request is being made:
  - a) Road name
  - b) County(ies)
  - c) Beginning point of the segment(s)
  - d) End point of the segment(s)
  - e) Total mileage of the road segment
  - f) Written description of the road segment, including number of lanes, shoulder width, whether divided or undivided
  - g) Traffic volumes on the road segment (AADT)
  - h) Speed limits on the road segment
  - i) Whether the road segment is located within an adjusted urbanized area.
  - j) Current classification
  - k) Proposed functional classification
  - l) Reason for the change in classification. This is to include the conditions that have changed (traffic patterns, etc.)
  - m) Documentation of the initiating agency's approval for the submittal (Council or Board action, or confirmation of delegated authority)
  - n) A map of the area with detail on the proposed change, including road names, and all principal arterials, minor arterials, within a five-mile radius.See Appendix B for a letter template.
4. The Local Agency will send a letter of approval to the CDOT Director of Transportation Development (DTD), with the original request information attached. The Local Agency must include a statement certifying

that the proposed change is in conformance with the functional classification guidance.

5. CDOT DTD will review the request, contact the Region planner for input, and forward the request package to the FHWA, with a recommendation for approval or disapproval of the request for a functional classification change. The FHWA Colorado Division reviews all requests for functional classification change, unless the road segment is on the NHS system, and in that case, the FHWA Headquarters office will make the decision. The FHWA will notify the MPO, if applicable, or local jurisdiction of the decision in writing, and copy CDOT on the notification.

## Process in which the Roadway is on the National Highway System

**NOTE: Functional classification change requests that add or decrease road mileage on the National Highway System require an approval by FHWA HQ, and these requests might take longer for approval than requests for lower functional classifications.**

### Overview:

Roadways on the National Highway System (NHS) are designated by the Federal Highway Administration (FHWA), and this system includes the interstate system, as well as other roads important to the Nation's economy, defense, and mobility.

**The Strategic Highway Network (STRAHNET)** is critical to the Department of Defense's domestic operations. Nationwide, the STRAHNET is a 62,791-mile system of roads deemed necessary for emergency mobilization and peacetime movement of heavy armor, fuel, ammunition, repair parts, food, and other commodities to support U.S. military operations.

**Major Strategic Highway Network Connectors** are highways that provide access between major military installations and highways which are part of the STRAHNET.

**Intermodal connectors** provide access between major intermodal facilities and the other four subsystems making up the National Highway System listed above.

The official National Highway System routes are depicted:

- On the pdf maps posted to [http://www.fhwa.dot.gov/planning/national\\_highway\\_system/nhs\\_maps/](http://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/).
- In the NHS Interactive Map Viewer located at <https://hepgis.fhwa.dot.gov/fhwagis/#>. Users can pan and zoom to view NHS segments in greater detail.
- In the NHS Shapefile posted to [http://www.fhwa.dot.gov/planning/national\\_highway\\_system/nhs\\_maps/](http://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/).

### Process:

1. The first step is to read this guidance document.
2. The Local Agency will notify the CDOT Region Planner of the CDOT Region in which the county or municipality is located to inform her or him of the intention to request a change in functional classification of a roadway. This will provide the Region Planner with the opportunity to add any input concerning the request for a change in functional classification.
3. The Local Agency will make a written request to the MPO (if within an MPO area) or to CDOT (if not within an MPO area) with the following information concerning the road segment(s) for which a change request is being made:
  - a) Road name
  - b) County(ies)
  - c) Beginning point of the segment(s)
  - d) End point of the segment(s)
  - e) Total mileage of the road segment
  - f) Written description of the road segment, including number of lanes, shoulder width, whether divided or undivided
  - g) Traffic volumes on the road segment (AADT)
  - h) Speed limits on the road segment
  - i) Whether the road segment is located within an adjusted urbanized area.
  - j) Current classification
  - k) Proposed functional classification
  - l) A statement of justification for the change

in classification. This is to include the conditions that have changed (traffic patterns, alleviating congestion, redirecting traffic from a city center to a proposed bypass, etc.)

- m) Statements of coordination with adjoining states on state-line connections, with responsible local officials, and with officials of areas under Federal jurisdiction, such as the FHWA Central Federal Lands Highway Division.
- n) A statement of how the proposal will enhance the national transportation characteristics of the National Highway System
- o) Documentation of the initiating agency's approval for the submittal (Council or Board action, or confirmation of delegated authority).
- p) A map of the area with detail on the proposed change, including road names, and all principal arterials, minor arterials, within a five-mile radius.
- o) Accompanying GIS Shapefile of the subject segment only.

For further details regarding submittal requirements for functional classification change requests on the NHS, see Appendix C.

4. The MPO (if within an MPO area) will review the proposed change for conformance with the functional classification guidance.
  5. The MPO (if within an MPO area) will send a letter of approval to the CDOT Director of Transportation Development (DTD), with the original request and all required information attached.
- The Local Agency (if not within an MPO area) will send the request, with all required information, to the CDOT Director of Transportation Development (DTD).
6. CDOT DTD will review the request, contact the Region planner for input, and forward the request package to the FHWA Division Office. The FHWA Colorado Division will review the request, might request additional information from the MPO or Local Agency, and will then forward the request to the FHWA Headquarters office to make the decision. The FHWA will notify the MPO, if applicable, or Local Agency of the decision, in writing, and copy CDOT on the notification.

7. FHWA HQ typically reviews requests for response within 30 days (complex modifications involving numerous changes throughout the state or involving multiple states may take longer).

8. The Director, Office of Human Environment, will notify the Division Office(s) of approved changes. The FHWA Division Office will inform CDOT, in writing, of the approved NHS and NHS connectors changes. FHWA HQ updates the official NHS map record, and when applicable updates the official NHS Intermodal Connectors List.

For questions concerning submittals of requests for changes in functional classification adding mileage to or deleting mileage from the NHS, please contact:

Aaron Bustow  
Federal Highway Administration  
Statewide and Metropolitan Transportation Planner  
Federal Highway Administration- Colorado Division  
12300 West Dakota Avenue, Suite 180  
Lakewood, CO 80228  
Phone 720.963.3022  
aaron.bustow@dot.gov

For all other questions concerning the roadway functional classification procedures, please contact Marissa Gaughan, CDOT Division of Transportation Development, at 303.512.4235.





# APPENDIX A

Date

Ms. Rebecca White  
Colorado Department of Transportation  
Director  
2829 West Howard Place  
Denver, Colorado 80204

RE: Request for change in functional classification of [name of roadway(s)]

Dear Ms. White:

(MPO) and [local jurisdiction(s)] request a change in the functional classification of [name of roadway(s)]. The road is currently classified as \_\_\_\_\_. (MPO) and [local jurisdiction(s)] request that the classification be revised to \_\_\_\_\_. (MPO) has reviewed the proposed change and determined that it conforms to the federal functional classification guidance.

The information below and the attached materials describe the request and the reasons for the change.

1. Route Name:
2. County:
3. Begin Point:
4. End Point:
5. Total mileage of the road segment proposed for reclassification:
6. Written description of the road segment, including number of lanes, inside and outside shoulder widths, whether divided or undivided:
7. AADT of the road segment:
8. Speed limits on the road segment:
9. Whether the road segment is located within an adjusted urbanized area.
10. Current Classification:
11. Proposed Classification:
12. Reason for the change in classification. This includes the conditions that have changed (traffic patterns, etc.)
13. Documentation of the initiating agency's approval of the submittal (Council or Board action, or confirmation of delegated authority).
14. Attached is a map of the area with detail on the proposed change, including road names and all principal arterials, minor arterials, and major and minor collectors within a five-mile radius.

Thank you for your review, and please let me know if you have questions or need further information.

Best regards,



# APPENDIX B

Date

Ms. Rebecca White  
Colorado Department of Transportation  
Director  
2829 West Howard Place  
Denver, Colorado 80204

RE: Request for change in functional classification of [name of roadway(s)]

Dear Ms. White:

[Local jurisdiction(s)] request a change in the functional classification of [name of roadway(s)]. The road is currently classified as \_\_\_\_\_. [Local jurisdiction(s)] request that the classification be revised to \_\_\_\_\_. [Local jurisdiction(s)] has determined that the proposed change conforms to the federal functional classification guidance.

The information below and the attached materials describe the request and the reasons for the change.

1. Route Name:
2. County:
3. Begin Point:
4. End Point:
5. Total mileage of the road segment proposed for reclassification:
6. Written description of the road segment, including number of lanes, inside and outside shoulder widths, whether divided or undivided:
7. AADT of the road segment:
8. Speed limits on the road segment:
9. Whether the road segment is located within an adjusted urbanized area.
10. Current Classification:
11. Proposed Classification:
12. Reason for the change in classification. This includes the conditions that have changed (traffic patterns, etc.)
13. Documentation of the initiating agency's approval of the submittal (Council or Board action, or confirmation of delegated authority).
14. Attached is a map of the area with detail on the proposed change, including road names and all principal arterials, minor arterials, and major and minor collectors within a five-mile radius.

Thank you for your review, and please let me know if you have questions or need further information.

Best regards,



# APPENDIX C

The regulations for modifying (i.e., adding, deleting, or relocating) routes and intermodal connectors on the NHS are located in 23 CFR 470, Federal-aid Highway Systems, and in Appendix D to Subpart A, “Guidance Criteria for Evaluating Requests for Modifications to the NHS.” Criteria specific to connectors and terminals are in Paragraph 9 of Appendix D. Any proposal to add or delete a route from the NHS must be in accordance with the criteria, be coordinated with responsible local and regional officials, and be formally submitted by CDOT to their FHWA Division Office for review, recommendation, and transmittal to the FHWA Office of Human Environment (HEPH). CDOT should coordinate requests to add connectors with the terminal operators. Updates and technical corrections of errors for existing connectors and mainline NHS routes do not need full justification or coordination.

Specifically, in 23 CFR 470.113(a) proposals for NHS modifications must include:

- A route description;
- a statement of justification;
- statements of coordination with adjoining states on state-line connections, with responsible local officials, and with officials of areas under Federal jurisdiction;
- a statement of how the proposal will enhance the national transportation characteristics of the National Highway System; and
- must follow the criteria listed in §470.107 and consider the criteria contained in Appendix D to Subpart A of Part 470.

## **APPENDIX D TO SUBPART A OF PART 470—GUIDANCE CRITERIA FOR EVALUATING REQUESTS FOR MODIFICATIONS TO THE NATIONAL HIGHWAY SYSTEM**

Section 103(b), of title 23, U.S.C., allows the States to propose modifications to the National Highway System (NHS) and authorizes the Secretary to approve such modifications provided that they meet the criteria established for the NHS and enhance the characteristics of the NHS. In proposing modifications under 23 U.S.C. 103(b), the States must cooperate with local and regional officials. In urbanized areas, the local officials must act through the metropolitan planning organization (MPO) designated for such areas under 23 U.S.C. 134. The following guidance criteria should be used by the States to develop proposed modifications to the NHS.

1. Proposed additions to the NHS should be included in either an adopted State or metropolitan transportation plan or program.
2. Proposed additions should connect at each end with other routes on the NHS or serve a major traffic generator.
3. Proposals should be developed in consultation with local and regional officials.
4. Proposals to add routes to the NHS should include information on the type of traffic served (i.e., percent of trucks, average trip length, local, commuter, interregional, interstate) by the route, the population centers or major traffic generators served by the route, and how this service compares with existing NHS routes.
5. Proposals should include information on existing and anticipated needs and any planned improvements to the route.
6. Proposals should include information concerning the possible effects of adding or deleting a route to or from the NHS might have on other existing NHS routes that are in close proximity.
7. Proposals to add routes to the NHS should include an assessment of whether modifications (adjustments or deletions) to existing NHS routes, which provide similar service, may be appropriate.



8. Proposed modifications that might affect adjoining States should be developed in cooperation with those States.
9. Proposed modifications consisting of connections to major intermodal facilities should be developed using the criteria set forth below. These criteria were used for identifying initial NHS connections to major intermodal terminals. The primary criteria are based on annual passenger volumes, annual freight volumes, or daily vehicular traffic on one or more principal routes that serve the intermodal facility. The secondary criteria include factors which underscore the importance of an intermodal facility within a specific State.

## Guidelines for NHS Modification Submittals

- Requests for adding and deleting a segment(s) from the NHS requires a formal submission to FHWA (see below for exceptions involving “technical corrections” and “functional classification downgrades”).
- CDOT is responsible for submitting requests to the FHWA. For modification proposal requests originating with Metropolitan Planning Organizations (MPO), the MPO transmits the request and approval documentation through CDOT.
- The submittal shall include a route description, a statement of justification, and statements of coordination with adjoining states on state-line connections, with responsible local and regional officials, and with officials of areas under Federal jurisdiction (including federal land management agencies, FHWA Central Federal Lands Highway Division, and Department of Defense’s Surface Deployment and Distribution Command Transportation Engineering Agency). See below for submittal details.
- The FHWA Division will review, summarize, and transmit the request with Division recommendation to FHWA HQ. The initial letter from CDOT should be included, along with any attachments (i.e., maps, GIS files, documentation of coordination, etc.). The contact information for the FHWA Division is as follows:  
Aaron Bustow  
Federal Highway Administration  
Statewide and Metropolitan Transportation Planner  
Federal Highway Administration- Colorado Division  
12300 West Dakota Avenue, Suite 180  
Lakewood, CO 80228  
Phone 720.963.3022  
aaron.bustow@dot.gov
- FHWA HQ typically reviews requests for response within 30 days (complex modifications involving numerous changes throughout the state or involving multiple states may take longer).
- The Director, Office of Human Environment, will notify the Division Office of approved changes. The FHWA Division Office will inform CDOT, in writing, of the approved NHS and NHS connectors changes. FHWA HQ updates the official NHS map record, [http://www.fhwa.dot.gov/planning/national\\_highway\\_system/nhs\\_maps/](http://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/), and when applicable updates the official NHS Intermodal Connectors List, [http://www.fhwa.dot.gov/planning/national\\_highway\\_system/intermodal\\_connectors/](http://www.fhwa.dot.gov/planning/national_highway_system/intermodal_connectors/).

## NHS Modification Request Submittal Details

### Route Description Documentation

For the proposed NHS addition or deletion, please provide the following information:

- Route name
- Route number
- From intersecting route / To intersecting route (or begin mile point to ending mile point) description of the route in question
- Segment length (in miles)

- City / County / MPO (jurisdictional identifier)
- Map locating subject segment
  - Accompanying GIS Shapefile of the subject segment only.

When submittal contains numerous NHS changes, in addition to the GIS Shapefile (isolating the subject segments), provide an accompanying Excel spreadsheet listing the proposed NHS changes. Here are fictional route examples under desired column headings:

City, County, or MPO	Route Name	Route Number	From (name or mile point)	To (name or mile point)	Length (miles)	Proposed NHS Action (Add or Delete)	Brief Justification
MPO Name	Cedar Ave	40	Spring Rd	US-12	6	Add	Alleviates congestion
County Name	Memorial Hwy	23	1st Ave	24th Ave	12	Add	Enhances NHS connectivity
MPO Name	Cedar Ave	40	Spring Rd	US-12	6	Delete	NHS traffic served by parallel NHS route
County Name	Memorial Hwy	23	1st Ave	24th Ave	12	Delete	Reclassified as a minor arterial

#### Statement of Justification Documentation

Explain how the proposed NHS addition or deletion enhances the national transportation characteristics of the NHS. Examples can include justification in the context of:

- Alleviating congestion
- Filling a gap in the NHS system
- Redirecting traffic from city center to proposed bypass
- Enhancing NHS connectivity in the local area
- Impacts on existing NHS routes
- Inconsistency with the needs and priorities of the community or region

#### Coordination Documentation with Local and Regional Officials

CDOT should coordinate the proposed NHS change with local and regional officials and, when applicable, with adjoining states. The coordination process should be summarized in writing (short description or narrative) with supporting documentation. Examples of acceptable documentation include:

- MPO resolutions
- MPO or County letter to CDOT stating support
- Email from MPO or local official CDOT stating support

FHWA needs to know about any objection or opposition to the proposed NHS change.

#### Technical Correction to the FHWA Map Record

Minor updates or technical corrections to the FHWA Official Map record do not need local or regional official coordination or formal submittal from CDOT to FHWA.

**Technical Corrections**, especially obvious coding errors when compared to CDOT/FHWA Division official records, will not require multi-agency coordination or official memorandum to FHWA Headquarters. Minor changes are those revisions that identify map coding inconsistencies between the official NHS maps and records maintained

by CDOT and previously approved by FHWA. These include corrections to any of the following:

- Incorrect route names, numbers, or wrong route shields
- Future NHS that is now open to traffic or partially open to traffic
- NHS route alignment that differs from official records maintained by CDOT and previously approved by FHWA
- Miscoding of NHS routes
- Intermodal connector description
- Intermodal length
- Strategic Highway Network (STRAHNET) coding that differs from the official STRAHNET record maintained by the Department of Defense’s Surface Deployment and Distribution Command.

To make such technical corrections, please contact Mike Neathery (mike.neathery@dot.gov).

### Deletion as Result of Change in Functional Classification from Principal Arterial

Per 23 CFR 470.107 (b), the National Highway System shall consist of “interconnected urban and rural principal arterials and highways...” Routes on the NHS, with the exception of NHS Intermodal Connectors and STRAHNET Connectors, must be functionally classified as a principal arterial. If an NHS route is reclassified to minor arterial or less, then upon notification from CDOT, FHWA will delete the segment from the NHS. Though a formal submittal is not required, the Office of Human Environment needs sufficient map/GIS documentation to properly locate and remove the segments from the NHS official record. CDOT should provide the following information to their FHWA Division Office for transmittal to FHWA HQ:

- Route name
- Route number
- From intersecting route/To intersecting route (or begin mile point to ending mile point) description of the route in question
- Segment length (in miles)
- City / County / MPO (jurisdictional identifier)
- Map locating subject segment
  - Accompanying GIS Shapefile of the subject segment only

When there are number deletions, provide an accompanying Excel spreadsheet. Below are fictional route examples under desired column headings:

City, County, or MPO	Route Name	Route Number	From (name or mile point)	To (name or mile point)	Length (miles)	Proposed NHS Action (Add or Delete)	Brief Justification
MPO Name	Cedar Ave	40	Spring Rd	US-12	6	Delete	Reclassified as a local street
City Name	Main St	34	A St	C St	2	Delete	Reclassified as a collector street
County Name	Memorial Hwy	23	1st Ave	24th Ave	12	Delete	Reclassified as a minor arterial

### Strategic Highway Network (STRAHNET) Modifications

The STRAHNET includes routes and connectors to major DOD installations important for national defense mobility. The STRAHNET is a subset of the NHS and follows previously noted “Guidelines for NHS Modification Submittals,” with added coordination with the Department of Defense’s Surface Deployment and Distribution Command Transportation Engineering Agency (SDDCTEA). FHWA coordinates to with the SDDCTEA to approve all STRAHNET changes.

The SDDC contact is Douglas Briggs, SDDCTEA, 618.220.5229 or douglas.e.briggs.civ@mail.mil