Background:

It is in the national interest to maintain the Interstate System to provide the highest level of service in terms of safety and mobility. Adequate control of access is critical to providing such service. As stewards of the Federal-aid Highway Program, the Federal Highway Administration (FHWA) is accountable to the users of the system. Consistent with our responsibilities, the Colorado Division Office is committed to preserving the integrity and safety of the Interstate system through preservation of access control and ensuring that all real property within the boundaries of the facility are devoted exclusively to approved transportation purposes.

This guidance is meant to assist the Colorado Department of Transportation (CDOT) in determining when the Colorado Division Office needs to be involved and describes our actions required to ensure preservation of access control for the Interstate system.

This guidance is only applicable to the Interstate system. For modification of access control on non-Interstate facilities, CDOT is not required to obtain FHWA approval. Responsibility for control of access of non-Interstate facilities was turned over to the state by ISTEA in such a manner that the state is not acting on our behalf, but, rather has full authority to make access decisions.

To assure the Interstate system provides the “highest level of service in terms of safety and mobility…” and to protect the integrity and the extensive investment associated with it, the FHWA has retained all approval rights for the control of access to the Interstate system. FHWA approval is necessary for all new/modified permanent and temporary access points to the Interstate system or its Right-of-Way, regardless of funding and project oversight.

Use of ROW

The State of Colorado shall assure that all real property within the boundaries of a federal-aid facility is devoted exclusively to the purpose of that facility and is preserved free of all other public or private alternative uses, unless such alternative uses are permitted by federal regulation (23CFR710.403). An alternative use must be consistent with the continued operation, maintenance, and safety of the facility and such use shall not result in the exposure of the facility’s users, or others, to hazards.

Prior to allowing any temporary or permanent change of use or occupancy of the Right-of-Way (ROW) along the Interstate, CDOT must obtain prior FHWA written approval for the change in use or occupancy as well as any change in access control required for entry. Additionally, the CDOT must charge current fair market value or rent for the use of the real property interests, except those allowed by 23 CFR 710.403(d) and Chapter 7 of the CDOT ROW manual.
Use or occupancy for any public or private Non-Transportation use will be approved by the Colorado Division Office as an Airspace Lease Agreement in accordance with 23CFR710.405 and the procedures outlined in Chapter 7 of the CDOT ROW manual. The CDOT Regions should work directly with the CDOT HQ Property Management section in obtaining FHWA lease agreement approvals.

By regulation, airspace leases are not applicable to railroads and public utilities, along with bikeways and pedestrian walkways. Airspace lease agreements are required for private road encroachments in the ROW, but are not required for publicly owned roads. In all cases FHWA approval of changes in access control are required.

**Access Breaks or changes in control of access**

“No change may be made in control of access, without the joint determination and approval of the SHA and FHWA…,” 23CFR 620.203 (h). Thus, both temporary and permanent modifications of access control for transportation and non-transportation purposes require FHWA approval. No person shall construct any access across the line, nor shall they cross the line into the facility’s right-of-way without this approval.

Control of Access is accomplished by the acquisition of access control. It is indicated by the placement of an Access Control line (A-line) which can be found on the CDOT ROW plans and is usually located on the property line. The access may also be controlled with Police Power which may or may not be identified in the ROW plans but are created by Statutes and Codes; for example, the Colorado State Access Code does not allow access between frontage roads and the mainline. If reference cannot be found of the existence of an A-line or control by Police Power, the property line shall be considered the access control line for the purpose of FHWA approval.

FHWA approval of access breaks (sometimes referred to as Locked gate access) is required for both transportation purposes (maintenance and construction) and for non-transportation purposes (private installations and encroachments). The approval shall be obtained through the CDOT HQ Property Management section in accordance with Chapter 7 of the CDOT ROW Manual.

**Access to the Interstate:**

FHWA approval of an **Interstate Access Request (IAR)** addressing the 8-Policy points is required when a new interchange is added to the interstate system or when there will be a major modification or reconfiguration of an interchange.

Examples:
- Adding a new interchange to the interstate system;
- Adding new ramps to an existing interchange;
- Changing alignment of ramp to a different intersecting street; and
- Changing type of ramp (e.g. loop to direct)
Access approval under an IAR is a two-step process that was developed to help the state manage risk and provide flexibility. It is intended to identify fatal flaws and to help balance the risk and ensure the investment in the environmental document is not wasted. The first step is a finding of operation and engineering “acceptability”. Compliance with the NEPA procedures need not precede this determination. The second step is the final “approval” which cannot precede the completion of NEPA. Often these steps are done at the same time, however, it is not necessary. FHWA’s participation in the development of projects can help everyone better understand FHWA’s requirements. However, it does not imply FHWA’s approval or anticipated approval of an IAR.

All new and partial interchanges in a transportation management area (TMA), as defined in 23USC 134(i), and new and major modifications to Freeway to Freeway interchanges must be reviewed by FHWA Headquarters, for determination of “acceptability”. Final approval is relatively quick once the operational and engineering acceptability has been determined and NEPA is completed.

For guidance for the Preparation of an IAR, please see the “FHWA Colorado Division Guidance for the Preparation of a FHWA INTERSTATE ACCESS REQUEST” attached.

**Minor Interchange Modifications:**

FHWA concurrence of a **Minor Interchange Modification Request (MIMR)** showing no adverse impact to the operations and safety of the Interstate system is required for modifications to an interchange where an IAR is not appropriate, but there is the potential or possibility to adversely impact the operations and/or safety of the mainline or adjacent interchanges.

When it has been determined that an IAR is not appropriate, CDOT, in cooperation with the FHWA operations engineer assigned to the respective area, will determine what kind of request, if any, is required.

If CDOT and FHWA agree that the modification does not have the potential or possibility to adversely impact the operations and safety of the interstate or is a modification that improves the operations of the Interstate, a MIMR is not required and no FHWA concurrence or approval beyond access control changes is required.

Examples of Modifications that have the potential to adversely impact operations and or safety:

- Changing alignment of a ramp where the gore is closer to a gore point of another interchange (weave distance is reduced);
- Adding lanes to an on ramp (either by restriping or physical construction);
- Changing acceleration and deceleration lanes on the mainline;
- Changing ramp termini intersection so it could cause or allow an increase in the flow of traffic onto the interstate; and
- Changing the ramp termini intersection that could cause an increase in queue lengths on the ramp.
Examples of Modifications that may not have the potential to adversely impact:

- Moving the gore of a ramp further from other gore points;
- Adding lanes to an off ramp;
- Changing the termini of a ramp to facilitate the movement of vehicles off the ramp;
- Reconfiguring frontage roads; and
- Improving cross streets (e.g. traffic lanes, adding bike and pedestrian lanes).

For guidance on the preparation of a MIMR, please see the “FHWA Colorado Division Guidance for the Preparation of a FHWA MINOR INTERCHANGE MODIFICATION REQUEST” attached.

Access for Construction:

Temporary construction access is typically approved by the FHWA in the PS&E approval process for FHWA oversight projects. The FHWA’s approval of the CDOT form 418 is to be considered approval of all temporary accesses found in the construction plans on these projects.

If the temporary construction accesses are not in the plans the CDOT Project Engineers have the authority to approve ingress/egress to and from the interstate mainline and ramps (that occurs within the project limits) from a location within the interstate right-of-way. FHWA approval is required for contractor ingress/egress to and from the Interstate that are outside of the project limits. FHWA approval is also required for temporary crossing of the Access Control Line, those access points that break the existing R.O.W. fences, A-lines, and from Frontage roads not previously approved by FHWA during the PS&E approval, regardless of oversight responsibility.

For additional guidance on access for construction, please see the “FHWA Colorado Division Guidance for Temporary Construction Access on the Interstate” attached.
Background:

The Federal Highway Administration (FHWA) has retained all approval rights to the control of access to the interstate system. This is necessary to protect the integrity of interstate system and the extensive investment associated with it. To obtain approval from FHWA to access the interstate a request for access, in conformance with this guidance, must be submitted to FHWA through the Colorado Department of Transportation (CDOT).

FHWA access approval is required when access on the interstate system is added or modified. This applies to all access changes on the interstate system regardless of funding and oversight. Each entrance or exit point, including “locked gate” and temporary construction access, to the mainline interstate is considered to be an access point. This guidance is limited to:

- New Interchanges
- Modifications to existing interchanges involving access control revisions for new ramps or relocation or elimination of existing ramps

Interchange reconfiguration is considered to be a change in access even though the number of actual points of access may not change; for example, replacing one of the direct ramps of a diamond interchange with a loop, or changing a cloverleaf interchange into a fully directional interchange is considered as revised access.

Access approval is a two-step process that was developed to help the state manage risk and provide flexibility. It is intended to identify fatal flaws and to help ensure the investment in the Environmental document is not wasted. The first step is a finding of operational and engineering “acceptability.” The second step is the final “approval.” Often these are done at the same time, however it is not necessary. The finding of operational and engineering acceptability is the most lengthy and time consuming of the two steps; it requires consideration of the eight policy points addressed hereinafter. All new partial interchanges, new interchanges in the transportation management area (TMA), as defined in 23 USC 134(i), and new or major modifications to Freeway to Freeway interchanges go to FHWA HQ in Washington, DC, for this determination of “acceptability.” Because both the Division Office and HQ review the document, this could be a lengthy process. Final approval is relatively quick once the operational and engineering acceptability has been determined.

The FHWA approval constitutes a federal action, and, as such, requires that National Environmental Policy Act (NEPA) procedures are followed. Compliance with the NEPA procedures need not precede the determination of engineering “acceptability.” However, final “approval” of access cannot precede the completion of NEPA. Once NEPA has been completed, “approval” of access is granted as long as no changes resulted to the “accepted” concept.
Access Request:

The access request must be submitted by CDOT to the FHWA Division Office regardless of who is initiating the request. Prior to submittal to FHWA the request shall be reviewed by CDOT Regional Traffic Office and the Region’s access manager.

The request should be a stand-alone document. The referencing of information in other documents (Feasibility Study, Environmental Documents) is discouraged. The information from these documents should be provided in the appropriate section of the access request. Excerpts may be included as appendices.

It should consist of an introduction that describes the project and it’s need. The document should be clearly written for someone that is not familiar with the project, the area, or the state. Vicinity maps are very helpful. There are many cases where the request will be reviewed and approved by someone that is not familiar with the project or the area.

The request shall address the eight policy points italicized below. Some general guidance on what is expected is provided. Typically, the better access request packages have taken each requirement and dedicated a section of the request to illustrate how that requirement is met. Example: Chapter 1 is policy point 1 with its attachments.

Policy requirements:

1. *The existing interchanges and/or local roads and streets in the corridor can neither provide the necessary access nor be improved to satisfactorily accommodate the design-year traffic demands while at the same time providing the access intended by the proposal.*

   Describe the proposed new or revised access and explain the need for the access point. Need must be established by showing: 1) that the current or future traffic cannot be accommodated by improvements to the existing roadway network and the existing interchanges/ramps, and 2) that the traffic demanding the new/revised access is regional traffic (longer trips) rather than local traffic circulation. Capacity required for local traffic (shorter trips) is not an adequate need explanation.

2. *All reasonable alternatives for design options, location and transportation system management type improvements (such as ramp metering, mass transit, and HOV facilities) have been assessed and provided for if currently justified, or provisions are included for accommodating such facilities if a future need is identified.*

   Describe the different alternatives considered and why the selected alternative was chosen. This description should include why the layout for the selected alternative was chosen, include the other configurations and if something is prohibiting the use of an alternative design. (Example: Considered a flyover but jurisdictional wetlands prohibits its construction, a loop ramp was considered but it can’t handle the volume of traffic required.) Cost is usually not the only reason, it plays in the decision but is not justification for a poor design.

   Answer the question, why this design?
3. The proposed access point does not have a significant adverse impact on the safety and operation of the Interstate facility based on an analysis of current and future traffic. The operational analysis for existing conditions shall, particularly in urbanized areas, include analysis of sections of Interstate to and including at least the first adjacent existing or proposed interchange on either side. Crossroads and other roads and streets shall be included in the analysis to the extent necessary to assure their ability to collect and distribute traffic to and from the interchange with new or revised access points.

A traffic and operational analysis needs to be performed that includes an analysis of adjacent segments of the freeway as well as nearby existing and proposed interchanges. The results must demonstrate at year of implementation and design year the adequacy of:

- Freeway mainline
- Freeway weaving
- Freeway diverge
- Ramp merge
- Ramp/Crossroad intersection
- Crossroads and other local streets ability to effectively collect and distribute traffic from the new or revised interchange.

Analysis results should be presented in the request at critical points (e.g., weave, merge, diverge, accident sites, HOV lanes) along the affected section of Interstate (mainline and ramps) and on the surface street system for both the AM and PM. Show new congestion points which would be introduced by the proposal, and congestion points which should be improved or eliminated, any locations at which congestion is compounded, and any surface street conditions which would affect traffic entering or exiting the Interstate. This should be presented for existing, year of implementation, and design year.

The limits of the analysis on the Interstate shall at a minimum be through the adjacent interchanges on either side of the proposed access. In urban areas it is often necessary to consider the two adjacent interchanges in both directions. Distances to and projected impacts on adjacent interchanges should be provided in the request.

The limits of the analyses on the existing or improved surface street system will be the extent of the system necessary to show that the surface street system can safely and adequately handle any new traffic loads resulting from the new/revised access point.

The analysis at a minimum needs to be based on the current “Highway Capacity Manual” operational analysis procedures. If other procedures are used, include data sufficient and compatible with HCM to allow verification of the results using HCM procedures at the extent possible (see attached).

The request must contain Freeway mainline and crossroad/local street traffic volumes (ADT and DHV) including turning movements for current year, implementation year, and design year, and the number of mainline and crossroad lanes including auxiliary lanes or collector distributor roads.

The attached drawings LOS, Volume, Roadway Network are examples of graphics provided for a new interchange at 144th Ave. It should be noted how the analysis has extended beyond the minimum recommended adjacent interchange. This was done
because there are traffic impacts on 128th over three miles away caused by the access of 144th to I-25. They also serve as good examples of data presentation. These drawings were also provided for time of implementation and when compared against them it is very easy to access the impacts to the Interstate and the local street network.

An accident analysis must identify accident history and rates in the freeway section and surface streets affected and project the rates which will result from traffic flow and geometric conditions imposed by the proposed access.

4. The proposed access connects to a public road only and will provide for all traffic movements. Less than “full interchanges” for special purposes access for transit vehicles, for HOV’s, or into park and ride lots may be considered on a case-by-case basis. The proposed access will be designed to meet or exceed current standards for Federal-aid projects on the Interstate System.

It should be illustrated that the access connects to a public road and will provide all traffic movements. If a less than “full interchange” is being requested, justification must be provided. It must be shown why the missing traffic movements are not being provided and are not required.

If the interchange is being built in phases where there will be a time where a less than “full interchange” is provided, the phasing and operations should be described in detail.

5. The proposal considers and is consistent with local and regional land use and transportation plans. Prior to final approval, all requests for new or revised access must be consistent with the metropolitan and/or statewide transportation plan, as appropriate, the applicable provisions of 23 CFR part 450 and the transportation conformity requirements of 40 CFR parts 51 and 93.

The proposed new/revised access will affect adjacent land use and vice versa with respect to traffic demand generated. Therefore, the request, including transportation management strategies incorporated, shall reference and demonstrate the consistency of the proposed access with: land use plans, zoning controls and transportation ordinances, and regional and local transportation plans which include the proposal.

6. In areas where the potential exists for future multiple interchange additions, all requests for new or revised access are supported by a comprehensive Interstate network study with recommendations that address all proposed and desired access within the context of a long-term plan.

If the access request is occurring in a developing area or in an area that has the potential for future interchange additions, it should be shown how this access has been part of a comprehensive Interstate network study and is consistent with it. The request must demonstrate that the proposed new/revised access is compatible with other feasible new access points. A reference to the study and brief summary of the study and its recommendations should be provided. Do not attach the study.
7. The request for a new or revised access generated by new or expanded development demonstrates appropriate coordination between the development and related or otherwise required transportation system improvements.

When the request for a new or revised access is generated by new or expanded development, demonstrate appropriate coordination between the development and related or otherwise required transportation system improvements.

Show that those proposed new/revised access points driven by private development include commitments to complete the non-interchange improvements which are necessary for the interchange to work as proposed.

8. The request for new or revised access contains information relative to the planning requirements and the status of the environmental processing of the proposal.

The request should conform to the plan. The status of the environmental processing should include the type of environmental document and when it was signed. If it has not yet been signed, briefly describe the status and schedule of the document along with its anticipated completion.
**Recommended Attachments:**
Layout of interchange (existing and future)
Layout of interchange showing LOS and Traffic Volumes
HCS data output/ or output from software used for analysis for policy point

**Recommendations to Expedite FHWA Approval**
Attached illustrations are clear and cover an adequate area.

All information is provided in the request and it is a stand-alone document. The referencing of information in other documents is discouraged so the reviewer does not have to spend time reviewing other documents for required information (Feasibility Study, Environmental Documents).
Basic Information for Traffic Analysis of Added Access to Interstate

Note: Data must be sufficient so that FHWA can do independent analysis.

Sketch/Layouts, etc., to show relationship to adjacent interchanges and ramps along with lane configuration.

Distances between ramps.

Design speed.

Grades.

Truck percentages – mainline/ramps/other.

Adjacent factors (peak factor, etc.).

Traffic volumes – mainline, ramps, impacted intersections/roadways for each option (including no-build).

  a.m./p.m. peaks, ADTs
  current (open to traffic) and design year

Traffic analysis (minimum – HCM procedures)

  mainline/ramp capacities
  weave sections
  merge/diverge checkpoints (including adjacent interchanges)
  impacted intersections/roadways capacity

Specific situations may require additional information. In urban area with closely spaced interchanges, it may be necessary to go beyond the adjacent interchanges.
Background:

Interstates are classified by the State of Colorado’s access code as Category F-W and are located at the top of the classification hierarchy. It is imperative this classification of roadway operate in a manner that facilitates mobility safely. Additionally, FHWA’s policy reads: “it is in the national interest to maintain the Interstate system to provide the highest level of service in terms of safety and mobility.” As stewards of the Federal-aid Highway Program, the Federal Highway Administration (FHWA) is accountable to the users of the system and is committed to preserving the integrity and safety of the Interstate system.

FHWA concurrence in minor modifications of interchanges is required to ensure that the modifications will allow the interchange and Interstate system to continue to operate safely and that the operations of the mainline or adjacent interchanges will not be adversely impacted.

The purpose of this paper is to establish guidance to address requests that are minor in nature but may have the potential to adversely impact the Interstate system mainline or adjacent interchanges. It provides guidance on documenting the effects of planned improvements of an interchange when the “Interstate Access Request” addressing the eight policy points is not appropriate. Although specific operational analysis will be required, the level of analysis is generally less than that needed for an Interchange Access Request.

Examples of Modifications that have the potential to adversely impact operations and or safety:

- Changing alignment of a ramp where the gore is closer to a gore point of another interchange (weave distance is reduced);
- Adding lanes to an on ramp (either by restriping or physical construction);
- Changing acceleration/deceleration lanes on the mainline;
- Changing ramp termini intersection so it could cause or allow an increase in the flow of traffic onto the Interstate; and
- Changing the ramp termini intersection that could cause an increase in queue lengths on the ramp.

If CDOT and FHWA agree that the modification(s) do not have the potential or possibility to adversely impact the operations and safety of the Interstate, or is a modification that improves the operations of the interstate, a Minor Interchange Modification Request (MIMR) is not required and no FHWA concurrence or approval beyond changes to the access control line are required.
Examples of Modifications that may not have the potential to create adverse impacts:

- Moving gore of a ramp further from other gore points;
- Adding lanes to an off ramp;
- Changing the termini of a ramp to facilitate the movement of vehicles off the ramp;
- Reconfiguring frontage roads; and
- Improving the cross street (e.g. traffic lanes, adding bike and pedestrian lanes).

The adding of a new interchange or new ramps to an existing interchange, changing the configuration, changing the alignments of a ramp to a different intersecting street, changing the type of ramp (e.g. loop to direct), or eliminating an existing ramp from an interchange are all examples of modifications that require an **Interchange Access Request** that address the eight policy points. These modifications cannot be approved with a **MIMR**; please refer to “FHWA Colorado Division Guidance for the Preparation of a FHWA INTERSTATE ACCESS REQUEST.”

**Request:**

The **MIMR** requesting FHWA concurrence of no adverse impact to the operations or safety of the Interstate must be submitted by CDOT to the FHWA Division Office. Prior to submittal to FHWA, the request shall be reviewed by the CDOT Regional Traffic Office.

The request should be a stand-alone document that is clearly written for someone that is not familiar with the project or the project area. The referencing of information in other documents (feasibility study, environmental documents) is discouraged. The information from these documents should be provided in the request. Excerpts may be included as appendices.

The **MIMR** should generally be very short and it is recommended that a memo format be used. It should be addressed to the FHWA Colorado Division Administrator with attention to the Operations Engineer for that Region.

The request should include the following:

- Request for concurrence that there will be no adverse impact to the mainline or adjacent interchanges;
- Introduction that describes the project and its need (what is the project and why is it being done);
- Site Location: Description or map that includes the adjacent interchanges;
- Operational Analysis showing there is no adverse impact to the Interstate system. The documents and level of analysis required is generally less than an Interchange Access Request. CDOT, in cooperation with the FHWA, will determine the appropriate level of analysis and documentation required. In general it will include looking at the merges and weaves beyond the gore and any impact it may have to the Interstate main line; and
- Request to modify the access control line to accommodate the interchange modification. A ROW plan depicting the proposed modification should be included.
Background:

FHWA approval is required when access on the interstate system is added or modified. This applies to all access changes on the interstate system regardless of funding and oversight. Each entrance or exit point, including “locked gate” and temporary construction access, to the mainline interstate is considered to be an access point. This guidance is limited to:

Temporary construction access

For guidance on obtaining FHWA approval for New Interchanges, Modifications to existing interchanges involving access control revisions for new ramps or relocation or elimination of existing ramps reference “FHWA Colorado Division Guidance for the Preparation of a FHWA Interstate Access Request” obtainable from the Colorado Division Office.

Temporary construction accesses are those access points created for the construction of the project and will only be used during construction. This access should be looked at in two ways, the Ingress/Egress to the Interstate from the site of work to the mainline and the Crossing of the Access Control Line, usually located on the ROW line.

Access Approval Authority:

Typically temporary construction access points for FHWA oversight projects are approved by the FHWA in the PS&E approval process. The FHWA’s approval of the CDOT form 418 is to be considered approval of all temporary accesses found in the construction plans and as well acceptance of the special provisions and there requirements of the Traffic Control Plan. Under the Special Provisions the CDOT Project Engineer receives site access plans from the contractor for approval. For ingress/egress to the interstate mainline and ramps that occurs within the project limits from a location within the interstate right-of-way the CDOT Project Engineer has the authority to approve. For contractor ingress/egress to the Interstate that is outside of the project limits FHWA approval is required.

Temporary Crossing of the Access Control Line, those access points that break the existing R.O.W. fences, A-lines, and from Frontage roads, requires FHWA approval regardless of oversight responsibility.
**Ingress/Egress To The Interstate:**

For ingress/egress access to the Interstate and its ramps that fall within the approval authority of CDOT, CDOT is expected to consider the following when approving the access control plan. The FHWA Operations Engineer during their field inspections should review the access control plan and make a determination if they concur with it. The determination should be documented in the Operations Engineer’s Construction Inspection Report.

When the access point falls outside of the project limits CDOT should contact the appropriate Operations Engineer and provide them with the appropriate information required for the determination.

The following items should be considered when reviewing the request for an access change:

NEPA: Is the request in compliance with the NEPA document prepared for the project. Specifically will there be an impact to the natural environment beyond the original plans.

Safety/Traffic:
- Weaving
- Adequate accel and decel
- Adequate sight distance

Operation:
- If for construction access, frequency of use
- Details of how the Contractor intend to prevent debris on the travel way.
- Will this affect traffic for local events. e.g. football games
- Traffic control Plans that show all Signing, Striping plans and Flagging

Duration: How long will the access point be used.

**Crossing of the Access Control Line**

The approval of access in to the work site that breaks existing R.O.W fences, A-lines, and from frontage roads beyond those identified in the project plans requires FHWA approval. This approval is primarily required because of the potential environmental impacts not considered in the original project NEPA document.

The request for approval shall be made in writing from CDOT and shall include the appropriate NEPA document. Because the of NEPA clearance required, the Region’s Environmental Group needs to be involved.