



I-70 Supplemental Environmental Impact Statement

Glossary

AADT – average annual daily traffic, a measure of the number of vehicles crossing a specified point on an average day during the year.

AASHTO – American Association of State Highway and Transportation Officials.

access control – measures taken to control the flow of vehicles getting on and coming off a roadway, typically includes highways with interchanges.

alignment segmentation – the separation of alignments into short segments that can be evaluated individually.

alluvial soil – soils formed of materials such as clay, silt and sand deposited on land by streams.

ambient – existing or surrounding levels such as ambient noise or air quality levels.

ambient air quality standards – standards set by the Environmental Protection Agency detailing the acceptable levels of air pollutants.

anaerobic conditions – a situation where oxygen is absent or essentially absent from the environment; in terms of wetlands, when water has displaced the oxygen from the soil.

approach improvement – lane capacity improvements made to the roadways which approach an intersection, typically adding left- and/or right-turn lanes.

Army Corps of Engineers – (COE) a branch of the US Army responsible for administration of the Clean Water Act.

arterial – a local roadway that provides a primary route for through traffic.

assign trips – done in computerized traffic modeling, the act of determining what route is typically used for traveling between any two locations, and entering that information in a computerized model.

at-grade intersection – a point where two roadways intersect at the same elevation, typically requiring traffic control such as a stop sign or traffic signals.

auxiliary lane – a non-continuous travel lane on the outside of a roadway used to facilitate the entering or exiting of traffic.

baseline condition – the existing or projected conditions that would exist if improvements were not provided.

benching – a method of cutting a rock formation for roadway excavation that results in a stair-step configuration.

benefited receptors – those locations that would see a positive benefit from a highway improvement; for example, those homes that would experience less highway noise.

berm – a raised, earthen edge or shoulder running alongside a road to create a barrier or screen.

biface fragment – an artifact or portion of a stone artifact which has been worked or chipped on both sides to form an edge.

breakdown flow – a situation when the flow of traffic is beginning to slow due to the large number of vehicles on the road.

breakdown point – the traffic volume at which the capacity of a roadway is exceeded.

calibrate – in traffic modeling, the act of adjusting the model so that it correctly portrays the existing conditions of the area.

capacity – with respect to transportation, the number of vehicles that a roadway can reasonably accommodate over a certain period of time.

chert – the undissolvable remnant of carbonate rock such as limestone and dolomite; residual material.

clear zone area – an area adjacent to the roadway driving surface that should be free of roadside hazards such as trees, boulders and non-breakable sign posts.

CO – carbon monoxide.

COE – *see Army Corps of Engineers.*

collector road – a small roadway that transfers traffic between larger (arterial) streets and local roads.

colluvial soil – soil composed primarily of material which has been deposited at the base of steep slopes, usually by slides or erosion.

commercial land uses – areas of land that generally are used for commercial development.

committed improvement – roadway improvement that has been approved and funded.

consumer surplus techniques – economic analysis techniques used for the estimation of cost savings due to improved travel conditions and safety.

contiguous – adjacent or adjoining.

contingency – in terms of dollar expenditures, an amount that is added to the total cost to account for unforeseen costs.

core – a stone that has been used to create a tool or other artifact, or a stone that has been made into a tool or other artifact.

Corps of Engineers – *see Army Corps of Engineers.*

corridor advisory council – (CAC) a group of local government, civic and residential group representatives assembled by the study team to give advice regarding how study activities are perceived

within the community, to suggest how activities could be enhanced, and to help build consensus for the study process.

Cowardin System – a system used in the classification of wetlands.

cultural resource – a generic term for sites and structures that have some historic, archeological or architectural significance.

CWA – Clean Water Act.

decibel dBA Leq(h) – decibel (a-weighted scale or dBA) is the unit of measurement for traffic noise and Leq(h) is the equivalent sound level of traffic for a one-hour duration.

DEIS – *see draft environmental impact statement.*

delisting – the process of removing something from a list.

demarcate – to illustrate a boundary line.

density – the concentration or intensity of something expressed as a rate relative to time or space.

depressed median – the area between separated lanes of a roadway that is lower than the surface of the roadway.

design criteria – a set of particular project guidelines that define the alignment of a roadway and must be followed in the design and construction of the roadway.

design standards – a set of physical standards established by each state, including the roadway size and configuration for highway design and construction.

design year – a year, generally no less than 20 years in the future from when it is expected that a highway project will be constructed, signifying the point in time at which the improvements will operate at their functional capacity.

design-hour traffic – the peak hourly traffic volume for the design year.

diagnostic artifact – an object that has identifiable characteristics allowing it to be categorized according to time period, function, and manufacturing technique.

directional transitions – design elements of a roadway that accommodate changes in the path of travel.

discounted total savings – the projected future dollar savings that are due to a roadway improvement, shown in current dollar value.

draft environmental impact statement – (DEIS) the first draft of an environmental impact statement that is made available to the public and review agencies for their comment.

drum – storage container.

DEIS – *see draft environmental impact statement.*

EIS – *see environmental impact statement.*

elongated/split diamond – an interchange configuration consisting of typical on- and off-ramps but with two cross roads which make frontage roads necessary to connect the beginning and end points of the ramps between the cross roads.

empirical studies – studies with conclusions and findings based on experimental and observational data.

environmental control point – a land area or site that includes natural or man-made resources which would require special studies or permits to use as right-of-way for a highway project; areas to be avoided if practical to do so.

environmental impact statement – (EIS) the disclosure document for a project study that details the known and anticipated impacts on an area's natural, cultural, social and economic environments.

EPA – Environmental Protection Agency (of the United States).

errant vehicles – vehicles that have deviated from the proper course.

evaluation factor – a basis on which to compare two or more alternatives.

expressway – a multi-lane, typically four or more, highway with limited controlled access; access points may consist of intersections or interchanges.

farmland of statewide importance – land that is suitable for crop production, but is susceptible to flooding more often than once in two years during the growing season.

fatal flaw – an impact of an alternative that is of such a magnitude or significance that the alternative is eliminated from further consideration.

FEMA – Federal Emergency Management Agency.

FHWA – Federal Highway Administration.

FIS – *see flood insurance studies.*

flake – a stone artifact that has been removed from its source (a core) by pressure or percussion.

flood insurance studies – studies conducted to identify flood hazards for floodplain management and flood insurance purposes; administered by the Federal Emergency Management Agency (FEMA).

floodplain – portion of a river valley that historically floods or that can presently flood; includes the floodway and floodway fringe.

floodway – calculated portion of a floodplain that cannot be filled or impeded in any way according to regulations of the Federal Emergency Management Agency.

floodway fringe – calculated portion of a floodplain that can be developed subject to regulations of the Federal Emergency Management Agency.

fly-over ramp – interchange ramp that crosses over a roadway and then ties back into the roadway via a normal ramp entrance.

forced flow – a condition when the excessive number of vehicles on a roadway slows the free movement of traffic.

forgiving roadway – a roadway that includes design features to accommodate driver error.

free-flow conditions – a condition when the movement of traffic on a roadway is at a speed that should be expected for the type of facility.

freeway – a multi-lane, typically four or more, highway with access provided only at grade-separated interchanges.

freeway element – the basic components of a freeway.

freight – cargo being transported for commerce, manufacturing or personal use, usually via commercial vehicles.

general purpose lanes – interstate highway lanes used by any type of legal, motorized traffic.

geometric design – the design of a roadway where the horizontal and vertical components, expressed as line segments and curves, are set to specific lengths and directions.

grade – the degree of rise or descent of a surface typically expressed as a percent (change in elevation divided by change in length); in terms of transportation, the change in the longitudinal elevation of a roadway is expressed as a grade.

grade-separated – a roadway crossing which has an overpass or underpass.

HC – hydrocarbons.

HEC-2 modeling – a water surface elevation computer model developed by the Hydraulic Engineering Center of the Army Corps of Engineers.

Hectare – a unit of metric measurement; measures surface area, typically land; one hectare equals approximately 2.47 acres.

horizontal alignment/curve – the configuration of a roadway comprised of curves and straight sections.

hydric soils – soils under the influence of a wetland that are saturated during the growing season.

inclusions – a small amount of a soil type included in but separate from another soil type, often found by its location in the landscape; for example, hydric soils are often inclusions in other soil types and are sometimes found in topographic depressions.

infrastructure – the underlying foundation for development; for example, a city's water, sewer or road systems.

intermittent stream – a stream that does not flow year-round; may have water on a seasonal basis.

intersection control – a mechanism used in controlling and/or directing traffic through an area where two roads converge, for example, traffic signals, left- or right-turn lanes, etc.

interstate freeway – a freeway that traverses through more than one state and is designated as part of the federal interstate system.

interstate standard – a set of criteria that must be met in the design and construction of an interstate freeway.

ISTEA – Intermodal Surface Transportation Efficiency Act, legislation passed by the U.S. Congress in 1991 which emphasizes enhancing a transportation system's efficiency, monitoring and improving its performance, and ensuring that future investments reflect consideration of their economic, environmental, and quality-of-life impacts.

jurisdictional wetlands – wetlands (see definition of wetlands) that could be subject to the provisions of Section 404 of the Clean Water Act and therefore under the jurisdiction of the Army Corps of Engineers.

karstic features – a topography in which the underlying limestone has been dissolved by water in varying degrees and locations forming caverns, sink holes, and depressions that may or may not be connected.

lacustrine – part of the Cowardin classification system of wetlands; an area that includes wetlands and deepwater habitats located in a topographic depression or dammed river channel; lacking trees and shrubs.

land use – the categorization of land according to its use; for example, commercial, recreational.

LCV – see *long combination vehicle*.

leach-type septic field system – a wastewater treatment system that disperses waste materials through a series of horizontal pipes buried underground and extending from the septic tank.

level of service – (LOS) a measure of a highway's ability to serve a specific volume of traffic, defined by letters A through F.

line source dispersion model – a model that determines the concentrations of pollutants entered into the environment from traffic.

link – term used by planners to define the individual roadway alignments within a segment (*see alignment segmentation*).

lithic procurement zone – an area used in prehistoric or historic times to obtain stone materials which were later worked into tools; an area with one or more of these sites, similar to a quarry.

local road – a roadway that primarily serves local traffic.

long combination vehicle – freight carriers made up of more than two trailers and/or over 90 feet in length.

LOS – *see level of service*.

losing stream – a stream that drains into underground channels or loses its flow to groundwater, typically found in karst topography (*see karstic features*).

major investment study – (MIS) a transportation study, usually conducted in an urban area, to identify transportation needs (for example, the need for more bus service) and strategies to address those needs.

matrix / matrices – a method of displaying values in columns and rows that makes it easy to compare information.

MDC – Missouri Department of Conservation.

MDNR – Missouri Department of Natural Resources.

measures of effectiveness – (MOE) a group of factors that measure the effectiveness of a roadway, such as vehicle miles traveled, vehicle hours traveled, average speed, accident cost, travel cost, etc.

memorandum of agreement – (MOA) a document of agreement between different reviewing government agencies that stipulates the responsibilities and procedures to be undertaken with regard to a particular issue or element.

metropolitan planning organization – (MPO) an organization that oversees the development of an urban area; similar to a regional planning commission.

There are seven MPOs in Missouri: St. Joseph, Kansas City, Joplin, Springfield, Jefferson City, Columbia and St. Louis.

minimize impact – the act of decreasing the negative effects of a particular action.

MIS – *see major investment study*.

mitigation – measures taken to eliminate or reduce the effects of a problem.

MOA – *see memorandum of agreement*.

MOBILE5a – a computer modeling program designed by the Environmental Protection Agency to calculate average vehicle emission rates.

mobility provider – transportation facility (road, highway, bus route) that allows people to travel from one point to another.

MoDOT – Missouri Department of Transportation.

MOE – *see measures of effectiveness*.

mosaic – in transportation, an aerial photograph of a land surface.

MPO – *see metropolitan planning organization*.

MSS – Missouri Speleological Survey, a survey conducted to locate and characterize caves within the state of Missouri.

multi-modal – involving more than one form of transportation.

multiple regression equation – an equation that contains multiple variables to determine a best fit solution for a given number of cases.

NAC – *see noise abatement criteria*.

national ambient air quality standards – the criteria for measuring pollutants in the air, ambient air meaning the general conditions over an area.

natural feature – a generic term used to indicate outstanding geological features or rare terrestrial or aquatic communities or species.

neotropical (forest interior birds) – birds that migrate from locations throughout the U.S. to tropical regions during winter; birds that nest primarily in large forested areas, especially in the Midwest.

NFIP – National Flood Insurance Program.

noise abatement criteria – guidelines established by the Federal Highway Administration for measuring and mitigating noise related to highway construction and operation.

noise contour width – the width of the area, generally centered along the roadway where the noise is generated, where noise levels exceed a specified level.

noise receptor – a structure or site (house, business, church, park, etc) in which highway noise is audible.

non-diagnostic – an object or artifact with characteristics allowing it to be classified according to function, time period or manufacturing technique; a non-diagnostic artifact may have one or two of these characteristics, but not all three.

NOx – nitrogen oxide.

NRCS – Natural Resources Conservation Service.

NRHP – National Register of Historic Places.

NWI – National Wetlands Inventory.

O&M Cost – operations and maintenance costs, the costs involved in operating and maintaining a highway.

overtopping – the flow of water over a highway.

overtopping protection – measures taken to prohibit the flow of water over a highway.

P3 – *see public private partnership.*

parent rock – the mineral materials from which soil forms.

partially-folded diamond – an interchange configuration consisting of one loop ramp and three standard ramps.

passive retention treatment pond – a low-maintenance treatment pond used in the storage of storm-water runoff.

palustrine – part of the Cowardin classification system of wetlands; includes all non-tidal wetlands dominated by trees and shrubs.

perennial stream/wetland – a stream that has measurable flow of water all year long.

physiography – the study of the physical characteristics of an area's natural features.

plate – a series of exhibits showing the location of improvement alternatives.

point – an artifact that has been completely manufactured for its intended use (arrowhead).

pollutant loading – the amount of pollutants being released into the environment.

PPP – *see public private partnership.*

preferred alternative – based on the evaluation of the alternatives and their impacts, the option for improving a roadway that has been recommended in the DEIS for implementation by AHTD, in coordination with the FHWA and MoDOT.

prevailing conditions – the present climate of the social, economic and natural environments.

primary impact – those impacts which are a direct result of the project.

primary receptors – structures that are directly receiving impacts such as noise, air, water, and etc.

prime farmland – areas of level or nearly level, well-drained soils suitable for crop production; the highest quality cropland in the county.

prime farmland if drained – areas of naturally wet soils normally found on nearly level bottomlands along rivers and streams; can be made suitable for crop production if adequately drained.

profile – a side or elevation view of a road.

proximal impact – an impact on a structure or other element that is due to its close spatial relationship to the highway.

Public Private Partnership – a venture which is funded and operated through a partnership between a governmental agency and one or more private sector companies. These ventures are sometimes referred to as PPP or P3.

que / queues – line.

RCRA – Resource Conservation and Recovery Act, legislation for the management of hazardous waste sites.

recharge – the process of surface water replenishing the sub-surface groundwater supply system (see losing stream).

record of decision – (ROD) a document that states the government's decision to either continue a highway improvement project into design or to postpone the improvement; this document is executed upon the completion of the EIS and provides the authority for federal funds to be utilized in the construction of the improvements.

recovery area – the area of a roadway provided to help drivers regain control of their vehicle.

regional highway – a highway that serves and connects several communities in a region.

regional planning commission – a body or group, typically enabled through state laws, concerned with the economic and development planning of a geographic region.

regulatory stream – a stream that is regulated under the provisions of the Clean Water Act, Section 404 permitting process (see Section 404 of the CWA).

residual soil – soils formed by bedrock that have been worn away by the elements.

retail – the sale of goods or articles directly to the customer.

right-of-way – the property needed for the construction of a roadway.

riparian – term used to classify vegetation that is associated with rivers and streams; water source has had influence over the type of vegetation that is present; similar to riverine.

riverine – term used to classify vegetation that is associated with rivers and streams; water source has had influence over the type of vegetation that is present; similar to riparian.

roadway deficiencies – elements of a roadway that do not meet current state or federal design standards
roadway design feature – design characteristics of a roadway.

roadway line – the straight part of a roadway alignment.

roundabout – a type of intersection control where traffic enters a one-way stream around a central island, yielding to the traffic already within the roundabout.

RPC – see *regional planning commission*.

scoping – the process of gathering information about a project's important issues.

secondary impact – impacts which result from actions caused or influenced by the project; an example would be impacts caused by new development induced by the project.

section (roadway section) – an elevation view of the front of a roadway.

Section 106 – a review process under the National Historic Preservation Act. It requires federal agencies to take into account the effects of their projects on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the project prior to taking action to implement it.

Section 4(f) – a federal procedure for reviewing projects which may affect a public park, wildlife refuge or historic site. The report produced is referred to as the Section 4(f) evaluation. The FHWA may not approve the use of land from a significant publicly owned park or recreation area; wildlife or waterfowl refuge; or any significant historic site unless there is no feasible and prudent alternative to the use of land from the property and the project includes all possible planning to minimize harm to the property resulting from the project.

Section 404 of the CWA – a regulatory program of Clean Water Act; the Clean Water Act regulates discharges of dredged or fill materials into “waters of the United States” which includes jurisdictional wetlands and other special aquatic sites (Section 404 is the permit process).

selected alternative – after public review at an official hearing, the option for improving a roadway that has been selected.

sherd – a fragment of a prehistoric or historic ceramic artifact or vessel.

signalized intersection control – traffic light used to direct and control traffic where two roads come together.

slip ramp – a diagonal ramp connecting parallel roads typically traveling in the same direction.

socio-economic data – demographic data relating to the social environment.

solid waste transfer station – a station that receives garbage for transfer to the disposal site.

stabilized shoulders – roadway shoulders that are made of asphalt or concrete and not of gravel.

tangent – in a roadway description, the straight area the connects two consecutive curves.

TAZ – *see traffic analysis zone.*

temporally diagnostic – an artifact which can be placed into a very specific time period due to its distinguishing characteristics.

terrestrial community – an area of the earthly environment defined by the predominant natural feature of the landscape; for example, a forest, prairie or savannah.

theoretical capacity – the calculated or unproven amount of traffic that an arterial roadway can maintain in a given period of time.

through lane – a lane of a roadway that is intended for traffic that does not turn or exit.

through trip – a trip from one point to another that does not stop in a given area.

TOL – *see truck only lanes.*

toll(s) – a user fee paid by a driver for roadway use. It is often based on the mileage traveled on a roadway facility.

topographic data – information related to the surface features of a region such as rivers, lakes, canals or bridges.

topographic depression – an area where the ground sags (i.e. low point).

topography – surface features of a region such as rivers, lakes, canals or bridges.

traffic analysis zone (TAZ) – a geographical unit used to represent homogeneous employment, population and travel characteristics within a certain area.

transportation cost savings – the amount of total monies saved through improved system operations (travel distance, travel time and accidents).

transportation network – the entire group of roadways included in the study area.

transportation systems management (TSM) – measures taken to improve the operations or efficiencies of a transportation system, usually small-scale improvements that focus on improving existing systems such as traffic signals or changes in access travel demand modeling – a computer model procedure that projects the future traffic volumes on the transportation network.

traveled way – the portion of the roadway where vehicles travel.

truck-only lanes – (TOL) dedicated highway lanes for heavy truck usage that are physically separated from the general purpose lanes of a highway.

TSM – *see transportation systems management*

uneconomical remnants – the land remaining after right-of-way acquisition that has less than optimal or only minimal utility for certain activities, such as a very small portion of farmland.

urban arterial roadway – roadway in an urban area that provides a primary route for through traffic.

USDI – United States Department of the Interior.

USEPA – United States Environmental Protection Agency.

USFWS – United States Fish and Wildlife Service.

USGS – United States Geological Survey.

vehicle hours of travel – (VHT) a measure of the amount of time vehicles are on the road on a daily basis within a transportation network; in computerized traffic modeling, this measure is calculated by summing the travel time made by each vehicle trip in the transportation network.

vehicle kilometers (miles) of travel – (VK(M)T) a measure of the aggregated distances vehicles travel between their origin and destination on a daily basis within a transportation network; in computerized traffic modeling, this measure is calculated by

summing the travel distances made by each vehicle trip in the transportation network.

vertical alignment/curve – the configuration of a roadway comprised of changes in vertical slope or elevation.

VHT – *see vehicle hours of travel.*

VK(M)T – *see vehicle kilometers (miles) of travel.*

wetlands – areas that are saturated or inundated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions; generally includes marshes, fens, swamps, bogs and similar areas.

windshield survey – a cursory, drive-by review conducted from a vehicle from nearby public right-of-way.

