
10.0 GLOSSARY OF TERMS

Acceptable Community Fish Rating: Rating used in Great Lakes Environmental Assessment Section, procedure 51.

Alternative: A combination of potential road segments or transportation improvements which link US-31 from Napier Avenue to I-94 and I-196/US-31. Alternatives for the US-31 Improvement Study include No-Build (Do nothing), Transportation System Management, and a series of potential freeway Build Alternatives.

American Association of State Highway and Transportation Officials (AASHTO): A nonprofit, nonpartisan association representing highway and transportation departments in the 50 states, the District of Columbia and Puerto Rico whose primary goal is to foster the development, operation and maintenance of an integrated national transportation system.

Annual Average Daily Traffic (AADT): The average number of vehicles passing a fixed point in a 24-hour time frame. Used as a measure of traffic volume on a roadway.

Archaeological Site: A place where people lived or carried out an activity in the past such as a pioneer homestead or Native American fishing camp.

Architectural Resource: A building or building remains with potential historic significance based on its age, type, or its association with a person(s) or event(s).

Auxiliary Lane: An additional lane on a freeway to connect an on-ramp and an off-ramp with no barrier separation from the through traffic on the mainline freeway.

Clear Zone: The unobstructed, relatively flat area provided beyond the edge of the travel way for the recovery of errant vehicles. The clear zone includes any shoulders or auxiliary lanes.

Coefficient of Conservatism: Values assigned to native plant species, ranging from 0-10, to quantify the affinity of that plant to be representative of a pre-settlement plant community.

Collector-Distributor (C/D) Road: Used to eliminate weaving and reduce the number of merge and diverge points on the through roadway while satisfying the demand for access to and from the freeway. Collector-Distributor roads may be separated from the freeway by a barrier or grass median separator.

Congestion: The level at which transportation system performance is no longer acceptable due to traffic interference. The level of acceptable performance may vary by type of transportation facility, geographic area, and/or time of day.

Cross-Section: Depicts the characteristics of a roadway facility including lane, shoulder and typical right-of-way widths.

Cultural Resources: A location, building, or place with potential historic or archaeological significance.

Cumulative Impacts: The impact on the environment which results from the incremental impact of action(s) when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such action(s).

Deflection Limit: The amount of bending allowed for a bridge deck when it is supporting a load.

Design Loading: The amount of weight a bridge is designed to hold.

Design Hour: An hour with traffic volumes that represent a reasonable value for designing the geometric and control element of a facility.

Design Speed: A travel speed used to design the horizontal and vertical alignments of a highway.

Diverge: A movement in which a single lane of traffic separates into two lanes without the aid of traffic control devices such as when vehicles exit a freeway.

Draft Supplemental Environmental Impact Statement (DSEIS): A DSEIS is prepared whenever there are changes, new information, or further developments on a project which result in significant changes to the environmental impacts of a project which are not identified in the most recently distributed version of the draft or final Environmental Impact Statement.

Facility: Any type of transportation infrastructure such as highways, local roads, transit centers, High Occupancy Vehicle (HOV) lanes, etc. that is used to move people and goods.

Farmlands of Local Importance: The Natural Resources Conservation Service defines these farmlands as "those lands that are nearly prime and that economically produce high yields when treated and managed according to modern farming methods. Some may produce as high a yield as prime farmlands, if conditions are favorable" (USDA, 1983).

Federal Highway Administration (FHWA): Division of the U.S. Department of Transportation which funds highway planning and construction programs.

Fen: A rare wetland that is low in nutrient systems and receives carbonate-rich ground water from seeps and springs.

Final Environmental Impact Statement (FEIS): A document prepared in accordance with the National Environmental Policy Act (NEPA) identifying and addressing the social, economic, and environmental impacts of a Recommended Alternative. The FEIS also addresses public comments received during the formal public commenting period as well as the public comments received throughout the NEPA process.

Final Supplemental Environmental Impact Statement (FSEIS): A FSEIS is prepared whenever there are changes, new information, or further developments which result in significant changes to the environmental impacts of a project which are not identified in the most recently distributed version of the draft or final Environmental Impact Statement. The FSEIS identifies and addresses the social, economic, and environmental impacts of a Recommended Alternative and addresses public comments received during the formal public commenting period as well as the public comments received throughout the NEPA process.

Floristic Quality Index (FQI): The more indicative a plant community is of pre-settlement plant communities the higher its floristic quality index (FQI) and its likelihood of containing threatened, endangered, and/or species of special concern.

Freeway: A divided highway for through traffic with limited access, the intersections of which are usually separated from other roadways by differing grades (i.e. bridges) and access provided by means of interchanges.

Gore Area: The area located immediately between the left edge of a ramp pavement and the right edge of the roadway pavement at a merge or diverge area.

Habitat: The place or type of site where a plant or animal naturally or normally lives, grows or is commonly found.

Hydric Soils: A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation.

Illustrative Alternatives: Preliminary concepts developed at the onset of a transportation planning project. Illustrative Alternatives are typically very conceptual by nature and are intended to examine a variety of possible alternatives to address the transportation needs of the study area, prior to detailed study to identify their feasibility.

Impacts: Effects which occur as a result of implementing a transportation improvement; direct impacts occur when proposed right-of-way actually crosses a resource in question such as a residence, business, wetland, or other resource.

Infrastructure: Term used to describe the physical assets of a society or community including roads, bridges, transit facilities, bikeways, sidewalks, parks, sewer/water systems, communications networks, and other capital facilities.

Interchange: A system of interconnecting roadways in conjunction with one or more grade separations that provides for the movement of traffic between two or more roadways or highways on different levels.

K-value: The length of a vertical curve divided by the algebraic difference between intersecting tangent grades used for the vertical design of a roadway.

Land Use: The way specific portions of land or the structures on them are used. Land use is typically based on local zoning guidelines. Example land uses include commercial, residential, industrial, retail, agricultural, vacant, etc.

Level-of-Service (LOS): A term that reflects the ability of a roadway to accommodate traffic. LOS ranges from A (representing free-flowing traffic at high speeds), B (speed somewhat restricted and short delays), C (speed is determined by traffic and moderate delays), D (tolerable but fluctuating speeds), E (roadway near capacity with limited speed and long delays) to F which has high congestion and generally restricted operating speeds.

Limited Access Facility: A freeway facility that does not have driveway access or roadway intersections. Access is limited to freeway interchanges.

Median: A barrier, often found on multi-lane roadways or freeways, which provides separation distance between conflicting traffic movements. A median can consist of either a grass or natural setting typical of a rural cross-section, or a concrete wall or guardrail barrier which is typical of an urban setting or confined right-of-way.

Merge: A movement in which two separate lanes of traffic combine to form a single lane without the aid of traffic signals or other right-of-way controls such as traffic entering onto a freeway from an on ramp.

Michigan Department of Environmental Quality (MDEQ): The state agency responsible for review of any wetland, potentially contaminated sites, air quality, or water quality impacts associated with the US-31 Improvement Project.

Michigan Department of Natural Resources (MDNR): The state agency responsible for review of state Threatened and Endangered Species, parkland, and fisheries impacts associated with the US-31 Improvement Project.

Michigan Department of Transportation (MDOT): The state agency responsible for planning, design, construction and maintenance of all interstate, U.S. and state highways, bridges and other modes of transportation within the state of Michigan.

Mitchell's Satyr Butterfly: The Mitchell's satyr butterfly (*Neonympha mitchelli*) is a federally endangered species. It is found in a series of disjunctive populations in the eastern United States, the majority of which are found in southern Michigan.

Mitigation: Actions provided to avoid, minimize, or compensate the effect of impacts occurring as a result of an activity.

Mottled Sculpin: A warm-water intolerant fish, found in coldwater streams and a common food source for trout. A significant presence of mottled sculpin in a stream is indicative of good water quality.

National Environmental Policy Act (NEPA): Federal act passed in 1969 which requires the assessment of the social, economic and environmental impact a federally funded or federally permitted project might cause, including identification of the purpose of and need for the project, and the evaluation of alternatives to minimize resulting impacts.

Natural Resources Conservation Service (NRCS): The federal agency responsible for providing leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.

Network: A transportation system with its many roadways and routes often shown either graphically or mathematically.

Non-Attainment Area: A designation by the Environmental Protection Agency of any place in the United States failing to meet national ambient air quality standards (NAAQS).

Non-Motorized Transportation: Bicycles, roller blades, running, walking, wheelchairs, scooters, sled dogs, etc.

Peak Hour: The 60-minute period in the AM or PM in which the largest volume of travel is generally experienced (e.g. rush hour).

Practical Alternative: Practical Alternatives are developed from refinements made to the initial Illustrative Alternatives. These alternatives are subject to increased levels of traffic, engineering and social, economic and environmental analysis as well as public comment to compare how they would operate and meet the purpose and defined goals of the project.

Preferred Alternative: The Preferred Alternative is selected from the Practical Alternatives after extensive engineering, social, economic and environmental analysis. It could include components of several Practical Alternatives in any combination found to be the most beneficial.

Prime Farmland: The Natural Resources Conservation Service has designated prime farmland as "land that has the best combination of physical and chemical characteristics for producing food, forage, fiber and oilseed crops. The land could be crop, pasture, range, forest, or other uses, but does not include urban built-up land or water bodies since these two are considered irreversible uses. It has the soil quality, growing season, and moisture supply needed to economically produce and sustain high yields when treated and managed according to modern farming methods, including water management" (USDA, 1983).

Public Hearing: A hearing formally advertised and convened so that any person who has a vested interest in property to be affected by a proposal has an opportunity to be heard.

Recommended Alternative: An alternative recommended in an environmental document such as a Final Environmental Impact Statement for Federal Highway Administration approval as required for design and construction utilizing federal funding.

Right-of-Way (ROW): Public land reserved for locating infrastructure such as a roadway or a utility line. A road right-of-way includes area for shoulders, drainage ditches, and fences in addition to the roadway.

Secondary Impact: Effects "caused by an action later in time or farther removed in distance (from the right-of-way), but which is still reasonably foreseeable" (40 CFR 1508.8).

Second and Third Order Coldwater Streams: A first-order stream is a headwater stream; it has no tributaries. Once this stream joins with another stream, the newly formed stream is called a second-order stream. A third-order stream is formed when another stream joins the second-order stream, and so on. A coldwater stream is a stream that has water temperature sufficient to support coldwater fish species (typically mean temperature less than 20 degrees Celsius in July).

Superelevation: The slope to which a roadway lane is angled.

Superstructures: Bridge framework located above the ground that receives and supports highway loads.

State Historic Preservation Office (SHPO): The state agency having jurisdiction over archaeological and aboveground historic resources (e.g. cultural resources).

Stopping Sight Distance: Stopping sight distance is the sum of two distances: (1) the distance a vehicle travels from the point an obstruction in the road is spotted to the time the brakes are applied; and (2) the distance needed to stop the vehicle from the instant the brakes are applied. These are referred to as brake reaction distance and braking distance, respectively.

Temporary Impact: Refers to impacts occurring during construction that cease to exist after construction associated with the project is completed (e.g. dust associated with construction activities).

Traffic Count: Mechanical, digital, or photographic means of quantifying the number and type of vehicles at a given location. Counts may be determined from raw base data (axle counts divided by two to give an estimation of passenger vehicles), or by more sophisticated means to quantify vehicle type (passenger, light truck, heavy truck, bus, etc.). Counts typically are performed for an identified peak period (AM - early/"rush hour" morning, PM - late/"rush hour" afternoon, or other industry-determined period) or for a 24-hour period. 24-hour counts may be adjusted for weather, seasonal, and other factors to arrive at a representative annual average daily traffic count (AADT).

Transit: Transportation mode involving buses, trains, and other vehicles that individually move larger numbers of people than do individual automobiles. Also known as mass transit, public transit, public transportation, or urban transit.

Transportation System Management (TSM): This Alternative consists of reasonable small-scale roadway improvements such as traffic signal improvements, turn restrictions, turn lanes, and short local road expansions.

Travel Demand: The counted or projected volume of traffic that is or will be utilizing a roadway in a specified time period (i.e., 24-hours, peak periods, etc.).

Travel Forecasting: The process by which demographic (population and employment) and land use projections are used to determine potential future vehicle trips on a given transportation network.

Trout Stream: A stream designated as potential trout habitat based on the average temperature of the water, approximately 55°F or colder.

Under Clearance: The vertical distance from the surface of a roadway to the bottom of a bridge deck crossing over that roadway.

Unique Farmlands: The Natural Resources Conservation Service has defined unique farmlands as "land other than prime farmland that is used for the production of specific high value food and fiber crops. These lands have a special combination of factors needed to economically produce sustained high quality yields of a specific crop when treated and managed according to modern farm methods. The special factors that make the land unique include soil quality, growing season, temperature, humidity, elevation, moisture supply, or other conditions such as nearness to market that favor growth of a specific crop. Moisture supply is in the form of stored moisture, precipitation, or a developed irrigation system."

United States Environmental Protection Agency (USEPA): The federal agency that is charged with protecting the natural resources and environment of the country.

United States Army Corps of Engineers (USACE): The federal agency responsible for review of all water crossings of navigable streams. The current US-31 study area does not include any navigable waterways. The USACE also serves in an advisory role on wetland impacts for Michigan highway projects.

United States Department of Agriculture (USDA): The federal agency responsible for review of any prime and unique farmland impacts associated with the US-31 Improvement Study.

United States Fish and Wildlife Service (USFWS): The federal agency responsible for review of the impacts on any federally listed Threatened and Endangered Species that may be associated with the US-31 Improvement Study. The USFWS also serves as an advisory agency for many other environmental issues.

Weaving: The crossing of two or more traffic streams traveling in the same direction along a significant length of a highway, without the aid of traffic control devices (except for guide signs).

Wetland Mitigation: Avoidance, minimization and compensation for the loss of functional values associated with wetlands impacted by an activity. The most common types of compensation include wetland restoration, (reestablishing some or all of the values associated with wetland where wetland formerly occurred) and wetland creation (establishing new wetland in an upland area).