

# North Houston Highway Improvement Project

## Glossary of Terms

**Alternative:** General term that refers to possible approaches to meeting the need for and purpose of the project including corridor, transportation mode, and alignment. Typically refers to the No Build and the Build Alternatives.

**Ambient Air Quality:** The state of quality of the air in the surrounding environment.

**Area of Influence (AOI):** The geographic boundary within which possible indirect development and potential indirect impacts could occur.

**Area of Potential Effect (APE):** The geographic area within which an undertaking may cause changes in the character or use of any resources present.

**At-Grade:** Describes a roadway that will be relatively close to the existing ground elevation and not elevated on a bridge structure.

**Attainment:** Status of the various pollutants described in the National Ambient Air Quality Standards (NAAQS); a condition where a pollutant meets NAAQS.

**Average Daily Traffic (ADT):** Average traffic volume in a 24-hour period on a particular roadway.

**Build Alternative:** The Build Alternative consists of a roadway constructed or reconstructed on a new or existing location within the project area.

**Carbon Monoxide (CO):** A colorless, odorless, poisonous gas that is formed as a product of the incomplete combustion of carbon and is emitted directly by automobiles and trucks.

**Community Cohesion:** The connections between and within communities which are essential for serving the needs of the residents.

**Control-Section-Job (CSJ) Numbers:** CSJ numbers are numbers assigned to all on-system public highways in Texas. The CSJ is a unique, nine-digit identification for a project.

**Corridor:** General location of a highway and its surrounding areas.

**Cultural Resources:** Patterned physical remains of human activity distributed over the landscape through time.

**Cumulative Effect/Impact:** An impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions.

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**Detention Basin (detention pond):** A detention pond is a man-made feature built to hold and store flood water or other surface runoff for later release.

**Diamond Lanes:** A class of HOV lanes that operate without the physical barriers, generally pavement markings, to separate HOV traffic from general traffic.

**Direct Impact:** Direct effects are caused by the action and occur at the same time and place (40 CFR 1508.8).

**Endangered Species:** Species defined through the Endangered Species Act as being in danger of extinction throughout all or a significant portion of its range and published in the *Federal Register*.

**Environmental Constraints/Sensitive Resources:** Ecological, socio-economic, or cultural areas that may restrict or confine the placement of a project. Examples include areas of sensitive habitat, wetlands, cemeteries, or parks.

**Environmental Impact Statement (EIS):** A formal document prepared under the requirements of the National Environmental Policy Act of 1969 (NEPA), Section 102(2)(c) that considers significant environmental impacts expected from implementation of a major federal action. The EIS process includes both a draft and final statement (DEIS and FEIS), and extensive public involvement.

**Environmental Justice:** In accordance with Executive Order 12898, the avoidance of actions that cause disproportionately high and adverse impacts on minority and low income populations with respect to human health and the environment.

**Flood Hazard Zone:** The area inundated during a 100-year flood event.

**Floodplain:** The portion of a river or stream valley, adjacent to the channel, which is covered with water when the river or stream overflows its banks at flood stage. It is also defined as lowland and relatively flat areas adjoining inland and coastal waters including, at a minimum, that area subject to a one percent or greater chance of flooding in any given year (the 100-year floodplain).

**Floodway:** The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

**Grade Separated Intersection:** A point where two highways or a highway and railroad meet and the through traffic/train from each facility is separated by an overpass/underpass.

**High Occupancy Toll (HOT) Lanes:** HOT lanes charge low occupancy vehicles a toll, while high-occupancy vehicles are allowed to use the lanes free or at a discounted toll rate.

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**High Occupancy Vehicle (HOV) Lanes:** Lanes used for carpools, vanpools, and buses that are usually separated from general-purpose lanes by concrete traffic barriers.

**Historic Archeological Site:** Any subsurface cultural manifestation dated post-European.

**Impact/Effect:** In environment analyses, the words “impact” or “effect” are used to express the extent or severity of an environmental problem, e.g., the number of persons displaced by a new transportation facility. As indicated in CEQ 1500 (Section 1508.8), impacts and effects are considered to be synonymous. Impacts or effects may be ecological, aesthetic, historic, cultural, economic, social, or health related, and they may be direct, indirect, or cumulative.

**Indirect Effect/Impact:** An impact that is caused by an action, and is later in time or farther in distance but is still reasonably foreseeable.

**Intelligent Transportation Systems (ITS):** A broad range of activities and systems that use advanced technology to increase overall transportation system efficiency. ITS technologies are applied to infrastructure, vehicles, travelers, and the operators of transportation system components.

**Interchange:** Interchange is 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. A proposed interchange will be designated as an interchange when the construction contract has been awarded, regardless of whether it is open to the public.

**Interstate Highways (IHs)/Freeways:** These are divided highways with two or more lanes designated for the exclusive use of vehicular traffic. These roadways are intended to provide uninterrupted flow. There are no signalized or stop-controlled at-grade intersections. Direct access from adjacent properties is not permitted. Access is limited to ramp locations, and opposing directions are separated by a raised barrier, a median, or a raised traffic island. Examples of IHs are IH 10, IH 45, and IH 610.

**Level of Service (LOS):** Operating conditions within a stream of traffic describing safety, traffic interruptions, speed, freedom to maneuver, comfort, and convenience. Six levels of service are defined, designated A through F, with A representing the best conditions and F the worst.

**Light Rail Transit (LRT):** Typically a “light” vehicle that may operate in an open ROW or within a street in mixed-flow with traffic. Overhead wires often supply power to the transit vehicle. Light rail can carry medium-to-heavy passenger volumes.

**Logical Termini:** The Federal Highway Association (FHWA) memorandum *Guidance on the Development of Logical Project Termini* (FHWA, 1993) defines termini as: (1) rational end points for a transportation improvement, and (2) rational end points for a review of environmental impacts.

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**Low-Income Population:** A population whose household income is below the Department of Health and Human Services poverty guidelines.

**Major Facilities:** Roadways that carry a large number of vehicles, possibly serving more regional traffic.

**Managed Lane Facility:** A separate facility within a freeway that combines several desirable features to optimize capacity, LOS, and air quality benefits; one feature is that the facilities have limited entry and exit opportunities. The second feature of a managed facility is the possible collection of tolls as a means of value pricing. Value pricing means that tolls would change based on peak-hour trips or vehicle occupancy.

**Median:** The median is the portion of a divided highway separating the opposing traffic flows. A median may be traversable or non-traversable.

**Median, non-traversable:** A non-traversable median is a physical barrier in a roadway or driveway that separates vehicular traffic traveling in opposite directions. Non-traversable medians include physical barriers (such as a concrete barrier, a raised concrete curb and/or island, and a grass or a swale median) that prohibit movement of traffic across the median.

**Median, raised:** A raised median is one that is higher in elevation than the traveled way and usually outlined with a curb.

**Median, traversable:** 1. A traversable median is a median that by its design does not physically discourage vehicles from entering or crossing over it. This may include painted medians. 2. A traversable median, whether raised, depressed or flush, consists of a visible separation without any physical obstruction and which can be crossed with ease and comfort.

**Median barrier, concrete:** A concrete median barrier is a type of median providing a physical obstruction to crossing.

**Metropolitan Planning Organization (MPO):** The MPO is a federally designated, regional agency that works with state and local governments, the private sector, and the region's citizens to plan coordinated transportation systems designed to move goods and people affordably, efficiently, and safely. Major products produced by the MPO include a long-range Regional Transportation Plan (RTP), a shorter-term Transportation Improvement Program (TIP), a Congestion Management System (CMS), and a Unified Planning Work Program (UPWP). The Houston-Galveston Area Council (H-GAC) is the MPO in the Houston region.

**Minor Arterials:** These roadways interconnect and supplement the principal arterial system with a greater emphasis on land access and a lower level of traffic mobility. They provide intra-community service and connect rural collector roadways to the urban highway system.

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**Mobile Source Air Toxics (MSATs):** A category of substances in the air that are known or suspected of causing cancer or other health problems in humans, and for which a National Ambient Air Quality standard (NAAQS) does not exist (i.e., excluding ozone, carbon monoxide, particulate matter, sulfur dioxide, nitrogen oxide).

**Mobility:** Refers to the movement of people or goods.

**Mode (Transportation):** Types of transportation uses that might include bus transit, HOV lanes, rail, bicycle, and pedestrian.

**National Register:** The National Register of Historic Places (NRHP), as maintained by the United States Department of the Interior, pursuant to 16 USC § 470a. Properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. It is the nation's official list of cultural resources worthy of preservation.

**NEPA Document:** Any document or report prepared by or on behalf of a federal agency pursuant to the National Environmental Policy Act (NEPA) for a project including, but not necessarily limited to, any Environmental Assessment (EA), Finding of No Significant Impact, Draft EIS (DEIS), Final EIS (FEIS), or Record of Decision, but not including any pre-decisional, deliberative, or privileged materials.

**No Build Alternative:** This alternative represents a continuation of the existing transportation facilities, which incorporates the execution of planned and/or committed roadway improvements, TSM, TDM, and modal transportation improvements, new planned roadway construction, ITS, and Smart Streets/Access Management (operational management techniques to reduce delay, improved traffic flow and reduce crashes, including traffic light synchronization; deployment of roundabouts; medians; constructing or extending, as needed, turn bays; consolidation of duplicate driveways; and partial grade separation of some traffic lanes at major intersections).

**Nonattainment:** An area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for criteria pollutants.

**Notice of Intent (NOI):** An NOI is published in the *Federal Register* to notify the public that an agency is preparing an EIS.

**Potential Archeological Liability Map (Houston District of PALM):** A geoarcheological model designed as a decision-support tool for use by TxDOT in the compliance process. It allows a prior assessment of geoarcheological potential and the potential impact on archeological resources by transportation activities without requiring a field visit.

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**Preferred Alternative:** The alternative that the proponent (FHWA/TxDOT) believes would fulfill its statutory mission and responsibilities and is consistent with the need for and purpose of the project, while giving consideration to economic, environmental, technical, and other factors, including public and agency comments received in response to the DEIS. This alternative may or may not be the same as the Recommended Alternative identified in the DEIS.

**Prehistoric Archeological Site:** Any cultural manifestation predating European contact.

**Principal Arterials:** These roadways provide an integrated network of roads that connect principal metropolitan areas and serve virtually all urban areas with a population greater than 25,000. They serve long distance travel demands such as statewide and interstate travel. Principal arterials can be grouped into freeway principal arterials and non-freeway principal arterials.

**Project Area:** The area that encompasses alternatives. For the North Houston Highway Improvement Project, the project area includes the IH 45 corridor from near downtown Houston to the North Sam Houston Tollway, also known as Beltway 8, the Beltway 8 connector from IH 45 to the Hardy Toll Road, the IH 610 connector from IH 45 to the Hardy Toll Road corridor, the Hardy Toll Road corridor from IH 610 (the North Loop) to Beltway 8, and US Highway 59 and IH 10 near downtown Houston. To assist in the design and analysis of alternatives for this project, it has been divided into three study segments:

- Segment 1 is from Beltway 8 to IH 610
- Segment 2 is from IH 610 to IH 10
- Segment 3 is the Downtown Loop System

**Project Coordination Plan (PCP):** In an effort to provide more efficient environmental reviews for project decision making, Section 6002 of Public Law 109-59, "Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users," (SAFETEA-LU), enacted August 10, 2005, implemented the development of a coordination plan for all projects for which an Environmental Impact Statement (EIS) is prepared under the National Environmental Policy Act of 1969 (NEPA). The purpose of the SAFETEA-LU Coordination Plan, commonly referred to as the PCP, is to describe the roles of the lead agencies and the cooperating and participating agencies and to coordinate public and agency participation in and comment on the environmental review process for the project.

**Recommended Alternative:** Refers to the recommended Build Alternative at the time of the publication of the DEIS. Selection of this alignment is based on public and agency outreach results and an analysis and comparison of the potential effects on the physical, biological, and human environment of each Alternative.

**Resource Study Area (RSA):** A geographic area identified for each resource that will be evaluated during the cumulative effects analysis. The health of the resource is evaluated within the entire RSA.

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### **Right of Way (ROW) (also Right-of-Way):**

1. Right of way is a general term denoting land, property or interest therein, acquired for or devoted to transportation purposes.
2. Right of way is a general term denoting land, property or interest therein, acquired for or devoted to a highway for the construction of the roadway. Right of way is the entire width of land between the public boundaries or property lines of a highway. This may include purchase for drainage.

**Riparian:** Pertaining to anything connected with or immediately adjacent to the banks of a stream.

**Section 106:** Section 106 of the National Historic Preservation Act of 1966, 16 USC § 470(f). Pertains to the protection and preservation of historic properties.

**Section 4(f):** Section 4(f) of the Department of Transportation Act of 1966, 49 USC § 303(c). Pertains to the protection of a Section 4(f) resource.

**Section 4(f) Resource:** Any park, recreation area, wildlife or waterfowl refuge or historic site that is protected under Section 4(f).

**Study Area:** The large area within which corridor selection took place for the development of alternatives to address the need for and purpose of the project.

**T & E Species:** Threatened and endangered species defined through the Endangered Species Act and published in the Federal Register. (See Threatened Species and Endangered Species in this list)

**Threatened Species:** Species defined through the Endangered Species Act as likely to become endangered within the foreseeable future throughout all or a significant portion of its range and published in the *Federal Register*.

**Toll Lane:** A toll lane is a lane for use of which a toll, or fare, is collected from users. The toll may be collected 24 hours each day or during peak traffic periods only. A toll lane may also be used in conjunction with an HOV lane to allow motorists not meeting the HOV passenger requirements to pay a toll to use the dedicated lane. This is typically referred to as a HOT lane.

**Traffic Analysis Zone (TAZ):** A traffic analysis zone is the unit of geography most commonly used in conventional transportation planning models. The size of a zone varies, but for typical metropolitan planning software, a zone of under 3,000 people is common. The spatial extent of zones typically varies in models, ranging from very large areas in the suburban areas to as small as city blocks or buildings in central business districts.

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**Transportation Demand Management (TDM) Alternatives:** Behavioral changes to commuters' travel habits that result in fewer vehicles during peak hours. Examples would be carpooling/vanpooling, employee trip reduction programs, compressed work weeks, telecommuting, flex-time, and employer incentives.

**Transportation System Management (TSM) Alternatives:** Management to make the existing transportation system as efficient as possible. Examples would be park and ride lots, ridesharing, HOV facilities, traffic signal coordination, and intersection improvements.

**Travel Demand:** The number of users desiring to travel the highway system based on the available roadway network.

**Upland Habitat:** Land that has sufficient dry conditions for hydrophytic vegetation, hydric soils, and/or wetland hydrology to be lacking. Any area that is not a wetland, deepwater aquatic habitat, or other special aquatic site is considered upland habitat.

**Volume to Capacity (V/C):** The ratio of current traffic flow rate to capacity of a specified roadway or section of roadway.

**Vehicle Hours Traveled (VHT):** The time (in hours) that users spend on the roadway system during a specific time period.

**Viewshed:** All land seen from one static point.

**Watershed:** A specific geographic area drained by a major stream or river.

**Wetlands:** Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated conditions.