

APPENDIX A – ACRONYM LIST

3R / 3-R	Resurfacing, Restoration, and Rehabilitation
4R / 3-R	Resurfacing, Restoration, Rehabilitation, and Reconstruction
AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
AC	Asphalt Concrete
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
AEE	Association of Engineering Employees
AGC	Association of General Contractors of America
ASAP	As Soon As Possible
ASCE	American Society of Civil Engineers
ATE	Associate Transportation Engineer
ATR	Automatic Traffic Recorders
ATS	Advanced Transportation Systems (subcommittee of AASHTO)
ATSSA	American Traffic Safety Service Association
BLM	Bureau of Land Management
BMP	Beginning Mile Point
BMP	Best Management Practice
BMS	Bridge Management System (ISTEA)
BNRR	Burlington Northern Railroad
CAC	Citizens Advisory Committee
CAD / CADD	Computer Aided Drafting and Design
CalTrans	California Department of Transportation
CAT	Countermeasure Analysis Tool
CBD	Commercial Business District
CCA(A)	Clean Air Act (Amendment)
CFS	Cubic Feet per Second
CMS	Changeable Message Sign(s) (see VMS – preferred)
CMS	Congestion Management System (ISTEA)
CP	Cathodic Protection
CPM	Critical Path Method (method of scheduling)
CTWLTL	Continuous Two-Way Left Turn Lane, “Twiddle”
DBA	Doing Business As

DEQ	Department of Environmental Quality
DHV	Design Hourly Volume
Dia.	Diameter
DLCD	Division of Land Conservation and Development
DM	District Manager
DMS	Dynamic Message Sign (see VMS)
DMV	Driver and Motor Vehicle Services
DUII	Driving Under the Influence of Intoxicants
E&C	Engineering and Contingencies
EA	Environmental Assessment
EA	Expenditure Account
EAC / HMAC	Emulsified Asphalt Concrete / Hot Mix Asphalt Concrete
EB	Eastbound
ECL	East City Limits
EIS	Environmental Impact Statement
EMP	Ending Mile Point
EMS	Emergency Medical Services
EP	Edge of Pavement
EPA	Environmental Protection Agency
ES	Edge of Shoulder
FAA	Federal Aviation Administration
FAQ	Frequently Asked Questions
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
GIS	Geographic Information System
GPS	Global Positioning System
HCM	Highway Capacity Manual
HEP	Hazard Elimination Program
HOV	High Occupancy Vehicle
I/D	Incentives / Disincentives
ID	Inside Diameter
IGA	Inter-Governmental Agreement
ISTEA	Intermodal Surface Transportation and Efficiency Act
ITE	Institute of Transportation Engineers (formerly Traffic)
ITIS	Integrated Transportation Information System

ITS	Intelligent Transportation System
kg	Kilogram
km	Kilometer
km/h	Kilometers per Hour
LCDC	Land Conservation and Development Commission (Oregon)
LL	Live Load
LMC	Latex Modified Concrete
LOS	Level of Service
m	Meter
MCTD	Oregon Motor Carrier Transportation Division
MHz	MegaHertz (millions of cycles per second)
mm	Millimeter
MP	Milepoint, Milepost
MPO	Metropolitan Planning Organization
MUTCD	Manual on Uniform Traffic Control Devices
NB	Northbound
NCHRP	National Cooperative Highway Research Program
NCL	North City Limits
NEPA	National Environmental Protection Act
NHS	National Highway System
NHTSA	National Highway Traffic Safety Administration
NIMBY	Not in My Backyard
NTS	Not to Scale
OAR	Oregon Administrative Rules
OD	Outside Diameter
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
ORS	Oregon Revised Statutes
OSHA	Occupational Safety and Health Administration (U.S.)
OSP	Oregon State Police
OSU	Oregon State University
OTC	Oregon Transportation Commission
OTIA	Oregon Transportation Investment Act
OTP	Oregon Transportation Plan
OVWS	Overheight Vehicle Warning System

Oxing	Overcrossing
PCC	Portland Cement Concrete
PCE	Passenger Car Equivalents
PCMS	Portable Changeable Message Sign
PDT	Project Development/Design Team (also PT for Project Team)
PE	Preliminary Engineering
PE	Professional Engineer (registered)
PIN	Personal Identification Number
PM	Project Manager
PMC	Polymer-modified Concrete
PS&E	Plans, Specs, and Estimates
PSF	Pounds per Square Foot
PSI	Pounds pre Square Inch
PT / PDT	Project Team / Project Development Team
PUC	Public Utility Commission
PVMS	Portable Variable Message Sign
QA	Quality Assurance
QPL	Qualified Products List
R&D	Research and Development
R/W	Right of Way
RAME	Region Access Management Engineer
RATS Team	Region and Technical Services Team
RDWY	Roadway
REA	Revised Environmental Assessment
Rev.	Revised, Revision Date
RFP	Request for Proposal
RIG	Resource Issues Group
RFQ	Request for Qualifications
ROD	Record of Decision
RR	Railroad
RTP	Regional Transportation Plan
RWIS	Roadside Weather Information Sign
SB	Southbound
SCL	South City Limits
SF	Square Feet, ft ²
SH, Shld	Shoulder

SHPO	State Historic Preservation Office
SI	Le Systeme International d'Unites (Metric System)
SOV	Single Occupant Vehicle
SPIS	Safety Priority Index System
SPRR	Southern Pacific Railroad
SRCM	Soils and Rock Classification Manual (ODOT)
SSD	Stopping Sight Distance
STA	Special Transportation Area
STE	State Traffic Engineer
STIP	Statewide Transportation Improvement Plan
STIP-SIP	Statewide Transportation Improvement Program – Safety Investment Program
STR	Section, Township, and Range (surveying)
SU	Single Unit Truck
T&E	Threatened and Endangered
TAC	Technical Advisory Committee
TAG	Technical Advisory Group
TCD	Traffic Control Devices
TCM	Traffic Control Measures
TCP	Traffic Control Plan
TCPE	Traffic Control Plans Engineer
TCS	Traffic Control Supervisor
TDB	Transportation Development Branch
TDM	Transportation Demand Management
TE	Transportation Engineer
TEA-21	Transportation Equity Act for the 21 st Century
TEOS	Traffic Engineering and Operations Section
TGM	Transportation Growth Management
Thk	Thick, Thickness
TIP	Transportation Improvement Plan
TIS	Transportation Impact Study
TMA	Truck Mounted Impact Attenuator
TMP	Traffic Management Plan
TP & DT	Temporary Protection & Direction of Traffic
TPAU	Transportation Planning Analysis Unit
TRB	Transportation Research Board

TS&L	Type, Size, and Location
TSP	Transportation System Plan
TSRM	Technical Services Resource Manager
TSS	Temporary Sign Support
TSSU	Traffic Systems Services Unit
TTC	Temporary Traffic Control
TTI	Texas Transportation Institute
TVT	ODOT's Transportation Volume Tables
TWLTL	Two-Way Left-Turn Lane
U of O	University of Oregon
UBA	Urban Business Area
UGB	Urban Growth Boundary
UP	University of Portland
UPRR	Union Pacific Railroad
USDOT	United States Department of Transportation
V/C	Volume to Capacity Ratio
VE	Value Engineering
VMS	Variable Message Sign
VMT	Vehicle Miles of Travel (Vehicle Miles Traveled)
w/	With
w/o	Without
WB	Westbound
WCL	West City Limits
WIM	Weigh in Motion
WS	Wearing Surface
WSDOT	Washington State Department of Transportation
Wt.	Weight
WYSIWYG	What-You-See-Is-What-You-Get, "Wizzy Wig"
Xing	Crossing

APPENDIX B – GLOSSARY OF TERMS

TERM	DEFINITION
3-R Project	A project involving resurfacing, restoration, or rehabilitation of an existing highway.
4-R Project	A project involving reconstruction of an existing highway.
AASHTO	American Association of State Highway and Transportation Officials.
Abutment	Supports at the end of the bridge used to retain the approach embankment and carry the vertical and horizontal loads from the superstructure. Current terminology is bent or end bent.
Access Control	The condition where the legal right of owners or occupants of abutting land to access a highway is fully or partially controlled by the Department of Transportation.
Access Management	Measures regulating physical connections to streets, roads, and highways from public roads and private driveways.
ADT (Average Daily Traffic)	The average number of vehicles passing a certain point each day on a highway, road, or street.
Advance Plans	90% complete plans including special provisions normally sent at 15 weeks.
Advance Review	Complete review prior to final approval. All of PS&E must be provided and nearly complete.
Advertisement	The period of time between the written public announcement inviting proposals for projects and the opening of the proposals (bid or letting date).
Aggregate	Rock of specified quality and gradation.
Aggregate, Coarse	Aggregates predominantly retained on the No. 4 sieve for Portland cement concrete and those predominantly retained on the 1/4" for asphalt concrete.
Aggregate, Dense Graded	A well-graded aggregate so proportioned as to contain a relatively small percentage of voids.
Aggregate, Fine	Those aggregates which entirely pass the 3/8" sieve.
Aggregate, Open Graded	A well-graded aggregate containing little or no fines, with a relatively large percentage of voids.
Aggregate, Well-Graded	An aggregate possessing proportionate distribution of successive particle sizes.
Air-Entraining Agent	A substance used in concrete to increase the amount of entrained air in the mixture. Entrained air is present in the form of minute bubbles and improves the workability and frost resistance.
Alignment	Geometric arrangement of a roadway (curvature, etc.).
Allowable Headwater	The maximum elevation to which water may be ponded upstream of a culvert or structure as specified by law or design.

TERM	DEFINITION
Alternative Modes	Modes such as rail, transit, carpool, walking, and bicycle which provide transportation alternatives to the use of the single-occupancy automobiles.
Approach	[OAR 734-020-0420(1)] All lanes of traffic moving toward an intersection or mid-block location from one direction.
Approach Road	A roadway or driveway connection between the outside edge of the shoulder or curb line and the right-of-way line of the highway, intended to provide vehicular access to and from said highway and the adjoining property.
Apron	The paved area between wingwalls at the end of a culvert.
Asphalt	Asphalt cement.
At-Grade Crossing	A crossing of two highways or a highway and a railroad at the same level.
Asphalt Concrete	A mixture of asphalt cement, graded aggregate, mineral filler, and additives, as required.
Average Daily Traffic (ADT)	Average Daily Traffic (ADT) – The average 24-hour volume of traffic, being the total during a stated period divided by the number of days in that period. Unless otherwise stated, the period is a year.
Award	Written notification to the bidder that the bidder has been awarded a contract.
Axle Load	The load borne by one axle of a traffic vehicle.
Backfill	Material used to replace or the act of replacing material removed during construction; also may denote material placed or the act of placing material adjacent to structures.
Backwater	The water upstream from an obstruction in which the free surface is an elevation above the normal water surface profile.
Ball-bank Indicator	A curved level which is used to determine the safe speed around a curve, as indicated by trial speed runs. The indicator measures the centrifugal force on the vehicle. The ball-bank indicator is designed to show the combined effect of the vehicle body roll angle, the centrifugal force, and the superelevation angle of the roadway.
Base Course	The layer of specified material of designed thickness placed on a subbase or a subgrade to support a surface course.
Bedrock	The solid rock underlying soils or other superficial formation.
Bench Mark	A relatively permanent material object bearing a marked point whose elevation above or below an adopted datum is known.
Bench Repair	Repairs made to signal control equipment by the Traffic Systems Services Unit (TSSU).
Best Management Practices	Techniques which reflect current thinking on a specific subject.

TERM	DEFINITION
Bid Schedule	The list of bid items, their units of measurement, and estimated quantities bound in the proposal booklet. (When a contract is awarded, the Bid Schedule becomes the Schedule of Contract Prices.)
Bidder	Any qualified individual or legal entity submitting a proposal in response to an advertisement.
Biennium	For the State of Oregon, a two-year period, always odd numbered years, starting July 1 and ending two years later on June 30.
Bleeding (Concrete)	The movement of mixing water to the surface of freshly placed concrete.
Borrow	Material lying outside of planned or required roadbed excavation used to complete project earthwork.
Box Culvert	A culvert of rectangular or square cross-section.
Breakaway	A design feature that allows a device such as a sign support to yield or separate upon impact. The release mechanism may be a slip plane, plastic hinges, fracture elements, or a combination of these.
Bridge End Panel	A reinforced concrete slab placed on the approach embankment adjacent to, and usually resting upon, the abutment back wall; the function of the approach slab is to carry wheel loads on the approaches directly to the abutment, thereby eliminating any approach roadway misalignment due to approach embankment settlement.
Bridge Railing	A longitudinal barrier whose primary function is to prevent an errant vehicle from going over the side of the bridge structure.
Bushings	A lining used to reduce friction and/or insulate mating surfaces usually on steel hanger plate bearings.
Buttress	A rock fill placed at the toe of a landslide in order to resist further slide movement. The slide toe is excavated to below the zone of sliding before placing rock fill.
Capacity	The maximum number of vehicles (vehicle capacity) or passengers (person capacity) that can pass over a given section of roadway or transit line in one or both directions during a given period of time under prevailing roadway and traffic conditions.
Cast-in-Place	The act of placing and curing concrete within formwork to construct a concrete element in its final position.
Catch Basin	A receptacle, commonly box shaped and fitted with a gridded inlet and a pipe outlet drain, designed to collect the rain water and floating debris from the roadway surface and retain the solid material so that it may be periodically removed.

TERM	DEFINITION
Cathodic Protection	A means of preventing metal from corroding; this is done by making the metal a cathode through the use of impressed direct current and by attaching a sacrificial anode.
Centerline	A defined alignment from which specific information is identified.
Change Order	A written order issued by the Engineer to the contractor modifying work required by the contract and establishing the basis of payment for the modified work.
City Street	A public road which is owned and operated by a city government intended for use of the general public for vehicles or vehicular traffic.
Clear Zone	Roadside border area starting at the edge of the traveled way that is available for safe use by errant vehicles. Establishing a minimum width clear zone implies that rigid objects and certain other hazards with clearances less than the minimum width should be removed and relocated outside the minimum clear zone or remodeled to make breakaway, shielded, or safely traversable.
Cobbles	Particles of rock, rounded or not, that will pass a 12" square opening and be retained on a 3" sieve.
Cofferdam	A barrier built in the water so as to form an enclosure from which the water is pumped to permit free access to the area within.
Cohesionless Soil	A soil that, when unconfined, has little or no strength when air-dried and that has little or no cohesion when submerged.
Cohesive Soil	A soil that, when unconfined, has considerable strength when air-dried and that has significant cohesion when submerged. Clay is a cohesive soil.
Commercial Vehicle	A vehicle that is used for the transportation of persons for compensation or profit, or designated or used primarily for the transportation of property.
Compaction	The process of densifying a layer of soil or rock material by using static or vibratory rollers made specifically for this purpose.
Concept Plans	Plans to determine the basic features of a project including alignments, typical sections, slopes, preliminary drainage, and TS&L bridge plans.
Concrete Overlay	1.5" to 2" of concrete placed on top of the deck, used to extend the life of the deck and provide a good riding surface.
Continuous Two-Way Left-Turn Lane	A traversable median that is designed to accommodate left-turn egress movements from opposite directions; Abbreviated as "TWLTL" and often pronounced, "Twiddle"
Contract	The written agreement between the Division and the contractor describing the work to be done and defining the obligations of the Division and the contractor.

TERM	DEFINITION
Contract Plans	Detailed drawings and diagrams usually made to scale showing the structure or arrangement, worked out beforehand, to accomplish the construction of a project and/or object(s).
Contract Time	The number of calendar days shown in the proposal which is allowed for completion of the work.
Contractor	The individual or legal entity that has entered into a contract with ODOT.
Coordinates	Linear or angular dimensions designating the position of a point in relation to a given reference frame. It normally refers to the State Plane Coordinate System.
Core	A cylindrical sample of concrete removed from a bridge component for the purpose of destructive testing.
County Road	A public road which is owned and operated by a county government intended for use by the general public for vehicles or vehicular traffic.
Course	A specified surfacing material placed in one or more lifts to a specified thickness.
Crash Cushion	An impact attenuator device that prevents an errant vehicle from impacting fixed object hazards by gradually decelerating the vehicle to a safe stop or by redirecting the vehicle away from the hazard.
Crash Tests	Vehicular impact tests by which the structural and safety performance of roadside barriers and other highway appurtenances may be determined. Three evaluation criteria are considered, namely (1) structural adequacy, (2) impact severity, and (3) vehicular post-impact trajectory.
Creep	Time dependent inelastic deformation under elastic loading of concrete or steel resulting solely from the presence of stress.
Cross Section	The exact image formed by a plane cutting through an object, usually at right angles to a central axis or alignment.
Crossover	A technique used to shift live traffic from one side of a divided roadway either into the median or onto the remaining half of the highway not under construction. Also called an "on-site diversion", it may also cross traffic out onto a temporary roadway running parallel to the work area.
Crosswalk	Any portion of a roadway at an intersection or elsewhere that is distinctly indicated for pedestrian crossing by lines or other markings on the surface of the roadway that conform in design to the standards established for crosswalks.
Crown Section	Roadway section with the height of the center of the roadway surface above its gutters.
Culvert	A pipe, a reinforced concrete box, or a series of pipes or boxes that provide an opening under the ground for passage of water or other uses.

TERM	DEFINITION
Curb	A vertical or sloping member along the edge of a pavement or shoulder forming part of a gutter, strengthening or protecting the edge, and clearly defining the edge of vehicle operators.
Curing	The preparation of a material by chemical or physical processing for keeping or use; treating concrete by covering its surface with some material to prevent the rapid evaporation of water.
Delamination	Subsurface separation of concrete into layers.
Deliverables	Engineering work to be submitted.
Demand	The number of users desiring service on the highway system.
Design Speed	A speed determined by traffic volumes, the geographic characteristics of the area, geometric layout of the existing facility, number of traffic lanes, and the posted speed for use in designing a project. Within the TCP discipline, Design Speed equates to the Pre-construction Posted Speed of the roadway facility.
Design Volume or Design Hourly Volume	A volume determined for use in design representing traffic expected to use the highway. Unless otherwise stated, it is an hourly volume. ODOT uses the 30 th highest hour as its design hour.
Deviation	A departure from an access management standard.
DLCD	Department of Land Conservation and Development.
“Doghouse” (signal head)	A five indication, traffic control signal display used for control of P/P left turn lanes consisting of a single, circular red indication centered at the top with circular and arrow indications for yellow and for green in the middle and lower portion of the display, respectively.
E&C	<i>Engineering & Contingencies</i> are ODOT’s costs to administer the construction contract. In addition, Contingencies are unforeseen costs due to design changes, construction, extra work price agreements or types of problems caused by weather, accidents, etc. by the contract pay item.

TERM	DEFINITION
Environmental Classes	<p>(1) Class I Environmental Impact Statement: Projects that normally involve significant changes in traffic capacities and patterns. These projects generally involve major right-of-way acquisitions. Both draft and final Environmental Impact Statements are required.</p> <p>(2) Class II Categorical Exclusions: Projects that normally involve the improvement of payment conditions on traffic safety but little, if any, change in traffic capacities or patterns. Right-of-way requirements must be minor. These projects are categorically excluded from further environmental documentation, unless permit requirements indicate otherwise.</p> <p>(3) Class III Environmental Assessment: Projects that do not clearly fall within Class I or Class II. These projects require assessments to determine their environmental significance.</p>
Erosion Control Designer	The person assigned to specify the proper methods for control of the flow of particulates and sedimentation for a given project.
Expansion Joint	A joint in concrete that allows expansion due to temperature changes, thereby preventing damage to the surface.
Expressway	Highways that provide for safe and efficient high speed and high volume traffic movements.
Extra Work	Work not included in any of the contract items as awarded but determined by the Engineer necessary to complete the project according to the intent of the contract. This may be paid on a negotiated price, force account, or established price basis.
Failsafe System	Failsafe system is hard wired to the signal controller and operates independently of any other signal function. The default state of a failsafe system is flashing mode.
Falsework	A temporary construction on which permanent work is wholly or partially supported until it becomes self-supporting. For cast-in-place concrete or steel construction, it is a structural system to support the vertical and horizontal loads from forms, reinforcing steel, plastic concrete, structural steel, and placement operations.
FHWA	Federal Highway Administration.
Final Review	The last in the review process; PS&E must be complete.
Fiscal Year	For the State of Oregon, July 1 through June 30 of the next year.
Flood Plain	An area that would be inundated by a flood.
Forms	A structural system constructed of wood or metal used to contain the horizontal pressures exerted by plastic concrete and retain it in its desired shape until it is hardened.

TERM	DEFINITION
Freeway	A fully access controlled throughway.
Freeway Median	The space between inside shoulders of the separated one-way roadways of a divided highway.
Functionally Obsolete Bridges	Those bridges which have deck geometry, load carrying capacity, clearance, or approach roadway alignment which no longer meets the usual criteria for the system of which they are a part as defined by the Federal Highway Administration.
Geotextiles	Sheets of woven or non-woven synthetic polymers or nylon used for drainage and soil stabilization.
Glare Shield	A device used to shield a driver's eye from the headlights of an oncoming vehicle.
Grade Separation	A crossing of two highways or a highway and a railroad at different levels.
Green Concrete	Concrete that has set but not appreciably hardened.
Grout	A mixture of cementitious material and water having a sufficient water content to render it a free-flowing mass, used for filling (grouting) the joints in masonry, for fixing anchor bolts, and for filling post-tensioning ducts.
High Speed	When the posted speed on a roadway is ≥ 45 mph.
Highway	(ORS 801.305) Every public way, road, street, thoroughfare and place, including bridges, viaducts and other structures within the boundaries of this state, open, used or intended for use of the general public for vehicles or vehicular traffic as a matter of right.
Highway Capacity Manual (HCM)	The Highway Capacity Manual is the standard "Bible" for most traffic analysis; however, the HCM does not provide procedures that are appropriate for work zone analysis.
HOV Lanes	High-Occupancy Vehicle lanes, special road lanes which can only be used by vehicles with more than one occupant.
Hydration	The process by which cement combines with water to form a hard binding substance.
Hydrodemolition	Process to abrade or remove a surface, such as concrete, by streams of water ejected from a nozzle at high velocity.
Incidental Work	Work necessary for fulfillment of the contract but which is not listed as a pay item in the contract and for which no separate or additional payment will be made.
Intermodal connectors	Short lengths of roads that connect intermodal facilities to the state highway system.
International System of Units (SI)	The modernized metric system.
Intersection	The area of the roadway created when two or more roadways join together at any angle.

TERM	DEFINITION
ISTEA	Intermodal Surface Transportation Efficiency Act, passed by Congress in 1991.
ITS	Intelligent Transportation System.
Key Number	Number assigned to a project by Program Section to identify it in the Project Control System (PCS). All structures in a project have the same key number; bridges are numbered separately.
Lane Closure Restrictions	ODOT often limits the hours that work zone traffic lanes and roads may be closed in an effort to reduce motorist delay, inconvenience and crash potential.
Leveling	A course of construction to restore horizontal and vertical uniformity to existing pavements, normally continuous throughout the project limits.
Lift	The nominal compacted thickness of material placed by equipment in a single pass.
Live Load	Force of the applied moving load of vehicles and/or pedestrians.
LOS	Level of Service – a range of operating conditions defined for each type of facility and related to the amounts of traffic that can be accommodated at each level.
Low Speed	When the posted speed on a roadway is \leq 40 mph.
Low Volume Road	Any roadway with an AADT < 400 vehicles.
Mandatory Source	A material source provided by ODOT from which the contractor shall obtain materials.
Manual Classification of Traffic Counts	Federal Government directed vehicle classification that breaks the class of vehicles into 16 types. Traffic counts with vehicles broken down into their 16 types are necessary for most ODOT project work.
Manual Traffic Counts	Performed by ODOT personnel and available from ODOT Traffic Data Section in the Transportation Development Branch. Traffic counts used for analysis should be close to the work area and on the same type of highway designation and should also have been taken in the last three years.
Material	Any natural or man-made substance or item specified for use in the construction of the project.
Median	A continuous divisional island which separates opposing traffic and may be used to separate left turn traffic from through traffic in the same direction as well. Medians may be designated by pavement markings, curbs, guideposts, pavement edge or other devices.
Median Pedestrian Island	A non-traversable median section designed to provide an area where pedestrians can take refuge while crossing the traffic stream approaching from the left, and then the traffic stream approaching from the right.

TERM	DEFINITION
Micro Silica (Silica Fume) (MC)	Very fine non-crystalline silica used as an admixture in concrete to improve the strength, permeability, and abrasion resistance.
Mode of Transportation	A means of moving people and/or goods.
Modular Expansion Joints	Multiple, watertight joint assemblies for bridges requiring expansion movements greater than 4”.
MPO	Metropolitan Planning Organization – a planning body in an urbanized area of over 50,000 population which has responsibility for developing transportation plans for that area.
Mylars	Drawings on mylar. The final “legal” drawing used for signatures and printing contract plans.
NHS	National Highway System – a system of Statewide and Interstate Highways and intermodal connectors meeting federal criteria (approximately 155,000 miles total), designated by Congress in the National Highway System Designation Act of 1995.
Non-traversable Median	A median which, by its design, physically discourages or prevents vehicles from crossing it except at designated openings which are designed for turning or crossing movements and are designed to impede traffic from crossing the median. Examples include curbed medians or concrete barrier medians, also included are depressed grass or landscaped medians.
OAR	Oregon Administrative Rules – Rules written by a government agency intended to clarify the intent of an adopted law.
Occupancy	<p>(1) The amount of time motor vehicles are present in a detection zone expressed as a percent of total time. This parameter is used to describe vehicle density, a measure of highway congestion.</p> <p>(2) The number of passengers in a vehicle which, when used in conjunction with vehicular volume, provides information on the total number of persons accommodated on a transportation link or within a transportation corridor.</p>
Operating Rating (Permit Loads)	The absolute maximum permissible stress level to which a structure may be subjected. It is that stress level that may not be exceeded by the heaviest loads allowed on the structure. Special permits for heavier than normal vehicles shall be issued only if such loads are distributed so as to not produce stress in excess of the operating stress.
OR Route	A route system established and regulated by the Oregon Transportation Commission to facilitate travel on main highways throughout the state.

TERM	DEFINITION
ORS	Oregon Revised Statutes – The laws that govern the State of Oregon.
OTC	Oregon Transportation Commission – ODOT’s governing body; the Commission has five members appointed by the Governor.
Outer Separation	The area between the traveled ways of a through traffic roadway and a frontage road or street.
Pavement	Asphalt concrete or Portland cement concrete placed for vehicular use on highway, road and street traveled ways, shoulders, auxiliary lanes, and parking areas.
Peak Hour	Hour of the day with the most traffic, usually during morning and evening commute times. Generally not the design hour.
Pedestrian	A person on foot, in a wheelchair, or walking a bicycle.
Pile	A long, slender piece of wood, concrete, or metal to be driven, jettied, or cast-in-place into the earth or river bed to serve as a support or protection.
Plastic Deformation	Deformation of material beyond the elastic range.
Preliminary Plans	75% complete plans, normally sent at 20 weeks.
Preliminary Review	In the review process, plans should be approximately 75% complete.
Prestressed Concrete	Concrete in which there have been introduced internal stresses (normally pretensioned steel) of such magnitude and distribution that the stresses resulting from given external loadings are counteracted to a desired degree.
Pretensioned	Any method of prestressing in which the strands are tensioned before the concrete is placed.
Principal Arterial (Urban, Controlled Access)	A street or highway in an urban area which has been identified as unusually significant to the area in which it lays in terms of the nature and composition of travel it serves. The principal arterial system is divided into three groups: Interstate freeways, other freeways and expressways, and other principal arterials (with no control of access). Principal arterials should form a system serving major centers of activity, the highest traffic volume corridors, and the longest trip desires and should carry a high proportion of the total urban area travel on a minimum of mileage.
Project Manager	The Engineer’s representative who directly supervises the engineering and administration of a contract.
Proposal	A written offer by a bidder on forms furnished by the Division to do stated work at the prices quoted.

TERM	DEFINITION
Plans Specifications and & Estimates (PS&E)	Plans, Specifications, and Estimates: Usually it refers to the time when the plans, specifications, and estimates on a project have been completed and referred to FHWA for approval. When the PS&E has been approved, the project goes to bidding.
Pumping	The ejection of mixtures of water, clay, and/or silt along or through transverse or longitudinal joints, crack or pavement edges, due to vertical movements of the roadway slab under traffic.
Queue	A line of vehicles waiting to be served by the highway system. The queue can be determined graphically, as shown in the WZ Traffic Analysis Guide, Chapter 2.
Raised Median	A non-traversable median where curbs are used to help delineate the boundary between the median and the adjacent traffic lane and to elevate the surface of the median above the surface of the adjacent traffic face.
RAME	Region Access Management Engineer – An individual, who is a registered professional engineer and who, by training and experience, has comprehensive knowledge of ODOT's access management standards, policies, and procedures and has professional expertise in traffic engineering concepts which underlie access management principles.
Realignment	Rebuilding an existing roadway on a new alignment where the new centerline shifts outside the existing right-of-way and where the existing road surface is either removed, maintained as an access road, or maintained as a connection between the realigned roadway and a road that intersects the original alignment.
Redline	Marked up drawing, typically in red pencil, with review comments or changes proposed.
Region Traffic Engineer/Manager	Registered Professional Engineer, or person working under direct supervision of a Registered Professional Engineer, responsible for traffic operations in the Region. Actual position titles may vary from region to region.
Right-of-Way	A general term denoting publicly-owned land, property or interest therein, usually in a strip acquired or devoted to transportation purposes. The entire width between the exterior right-of-way lines including the paved surface, shoulders, ditches, and other drainage facilities in the border area between the ditches or curbs and right-of-way line.
Riprap	A facing of stone used to prevent erosion. It is usually dumped into place, but is occasionally placed by hand.
Road Designer	The person assigned to specify the project requirements for the road portion of a given project.

TERM	DEFINITION
Roadside Barrier	A longitudinal barrier used to shield roadside obstacles or non-traversable terrain features. It may occasionally be used to protect pedestrians from vehicle traffic.
Roadway	That portion of a highway improved, designed, or ordinarily used for vehicular travel, exclusive of the berm or shoulder. If a highway includes two or more separate roadways, the term “roadway” refers to any such roadway separately, but not to all such roadways collectively.
Rubble	Irregularly shaped pieces of varying size stone in the undressed condition obtained from a quarry.
Sand	Particles of rock that will pass a No. 4 sieve and be retained on a No. 200 sieve.
Scaffolding	Temporary elevated walkway or platform to support workmen, materials and tools.
Scarify	To loosen, break up, tear up, and partially pulverize the surface of soil or of a road.
Scour	Erosion of a river bed area caused by water flow.
Screeding	The process of striking off excess material to bring the top surface to proper contour and elevation.
Seal	A concrete mass poured under water in a cofferdam that is designed to resist hydrostatic uplift. The seal facilitates construction of the footing in dry conditions.
Seasonal Adjustments	Adjusting the traffic count data so that it reflects the time of year during which construction will take place, if different from the traffic count date.
Seed File	A CAD file which has been set up with certain generic parameters. Typically they come with certain reference files attached.
Shoofly	Detour alignment of temporary roadway around a fixed object, such as a railroad track or bridge. Very similar to an on-site diversion, yet often less formal in its design and anticipated duration.
Shotcrete	Mortar or concrete pneumatically projected at high velocity onto a surface.
Shoulder(s)	[ORS 801.480] The portion of a highway, whether paved or unpaved, contiguous to the roadway that is primarily used by pedestrians, for the accommodation of stopped vehicles, for emergency use and for lateral support of base and surface courses, exclusive of auxiliary lanes, curbs, and gutters.
Shrinkage	Contraction of concrete due to drying and chemical changes, dependent on time.

TERM	DEFINITION
Shy Distance (E-Distance)	The distance from the edge of the traveled way beyond which a roadside object will not be perceived as an immediate hazard by the typical driver, to the extent that the vehicle's placement or speed will be changed. Often it is an extra 2' added to the right shoulder where roadside barriers are used. The left shoulder is increased only when the shoulder is 10' or more.
Sight Distance	The length of roadway ahead visible to the driver.
Silt	Soil, passing a No. 200 sieve, that is non-plastic or exhibits very low plasticity.
Slope	The degree of inclination to the horizontal. Usually expressed as a: <ul style="list-style-type: none"> ● ratio, such as 25:1, indicating 1 unit rise in 25 units of horizontal distance or run, i.e. run/rise ratio, ● decimal fraction (0.04), ● degree (2°) or ● percent (4%).
Slope Paving	Pavement placed on the slope in front of an abutment to prevent soil erosion.
Special Event	Any planned activity that brings together a community or group of people for an expressed purpose including, but not limited to, parades, bicycle races, road runs and other activity that result in changes to traffic volumes on the state highway creating total or partial closure of state highways or state highway sections.
Special Provisions	The specifications for a project that augment and have authority over the standard and supplemental specifications. They are commonly referred to as "specials".
Specifications	The body of directions, provisions, and requirements, together with written agreements and all documents of any description, made or to be made, pertaining to the method or manner of performing the work, the quantities, and the quality of materials to be furnished under the contract.
Standard Detail	A detail which can be copied from one project to another and can be modified to fit the project needs.
Standard Drawings	Detailed drawings for work or methods of construction that are selectively included in a project book.
Standard Specifications	Detailed specifications for project work, found in the Oregon Standard Specification Construction Book.
State Highway	The State Highway System as designated by the Oregon Transportation Commission, including the Interstate system.
State Highway Index Number	An Oregon Transportation Commission approved identifier assigned to a highway. Every state highway has a state highway index number, commonly referred to as a State Highway Number.

TERM	DEFINITION
State Highway Name	An Oregon Transportation Commission approved name used in conjunction with a State Highway Index Number to identify a state highway.
State Highway System	Public roads owned and operated by the State of Oregon through the Oregon Department of Transportation.
State Plane Coordinates	The plane-rectangular coordinate system established by the United States Coast and Geodetic Survey. Plane coordinates are used to locate geographic position.
Station	A distance of 100 feet measured horizontally.
Stirrup	Vertical U-shaped or rectangular shaped bars placed in concrete beams to resist the shearing stresses in the beam.
Structures	Bridges, retaining walls, endwalls, cribbing, buildings, culverts, manholes, catch basins, drop inlets, sewers, service pipes, underdrains, foundation drains, and other like or similar features which may be encountered in the work.
Subbase	A course of specified material of specified thickness between the subgrade and a base.
Subgrade	The top surface of completed earthwork on which subbase, base, surfacing, pavement, or a course of other material is to be placed.
Sufficiency Rating	A method of evaluating data by calculating four separate factors to obtain numeric value which is indicative of bridge sufficiency to remain in service. The result of this method is a percentage in which 100% would represent an entirely sufficient bridge and 0% would represent an entirely insufficient or deficient bridge.
Superelevation	The difference in elevation between the inside and outside edges of a roadway in a horizontal curve; required to counteract the effects of centrifugal force.
Superstructure	Those parts of a structure above the substructure, including bearing devices.
TEA-21	The Transportation Equity Act for the 21 st century.
Tining	Used on finished concrete deck or slab surfaces to provide friction and reduce hydroplaning. Grooves are placed in the plastic concrete or cut into the hardened concrete.
Traffic Control Device (TCD)	<ol style="list-style-type: none"> (1) Any sign, signal, marking, or device placed, operated or erected for the purpose of guiding, directing, warning or regulating traffic. (2) Any device that remotely controls another traffic control device by electrical, electronic, sound or light signal. (3) Any sign that is held or erected by a highway maintenance or construction crew working in the highway.
Traffic Lane	That part of the traveled way marked for moving a single line of vehicles.

TERM	DEFINITION
Traveled Way	That part of the roadway for moving vehicles, exclusive of shoulders and auxiliary lanes.
Traversable Median	A median that by its design does not physically discourage or prevent vehicles from entering upon or crossing it and are typically built to provide a separation between opposing traffic but do not impede traffic from crossing the median. Such medians include painted medians and continuous two-way left-turn lanes.
Typical Section	A cross-section established by the plans which represents in general the lines to which the contractor shall work in the execution of the contract.
UGB	Urban Growth Boundary – The area surrounding an incorporated city in which the city may legally expand its city limits.
US Route	A route system established by the US Congress to facilitate travel on main highway throughout the nation. This route system is regulated by an AASHTO committee.
Utility	A line, facility, or system for producing, transmitting, or distributing communications, power, electricity, heat, gas, oil, water, steam, waste, storm water not connected with highway drainage, or any other similar commodity which directly or indirectly serves the public. The term utility shall also mean the utility company, district, or cooperative, including any wholly owned or controlled subsidiary.
V/C Ratio	Volume to Capacity Ratio – A measure of roadway congestion, calculated by dividing the number of vehicles passing through a section of highway during the peak hour by the capacity of the section. V/C is the mobility criteria for Oregon highways, as defined in the 1999 Oregon Highway Plan.
VMT	Vehicle Miles of Travel – Miles traveled per vehicle multiplied by the total number of vehicles.
Warning Lights	Portable, lens-directed, enclosed lights. The color of the light emitted shall be yellow. They may be used in either a steady-burn or flashing mode. Refer to MUTCD, Section 6F.72.
Warrants	The criteria by which the need for a safety treatment or improvement can be determined.
Water/Cement Ratio	The weight of water divided by the weight of cement in a concrete; ratio controls the strength of the concrete.
Wearing Surface	The top layer of a pavement designed to provide structural values and a surface resistant to traffic abrasion.
Weep Hole	A drain hole through a wall to prevent the building up of hydraulic pressure behind the wall.

TERM	DEFINITION
Wet Signature	Final mylar plots requiring the signature of the responsible professional and must be signed by hand. Electronic versions of professional stamps are acceptable, but signatures are not.
Work Zone (WZ)	An area of a highway with construction, maintenance or utility work activities. It extends from the first warning sign to the “End Road Work” sign or the last traffic control device.
WZ Traffic Analysis Request Form	The form requesting to have WZ Traffic Analysis performed for a project. Most commonly filled out by TCP Designers or Project Leaders and sent to a WZ Traffic Analyst. A copy of the ODOT Request Form is included in Appendix C.

APPENDIX C – FORMS

Use the following INTEROFFICE MEMO (which is also available from ODOT’s Traffic Engineering & Operations Section) to request **Speed Zone Reductions**:



STATE OF OREGON
Department of Transportation

INTEROFFICE MEMO
Traffic Engineering & Operations

Worksheet for Determining the Need for a Reduced Speed Zone for Work Zones

The presence of one or more factors does not require a reduced speed, but an assessment by traffic engineering staff should be made to determine from review of the plans and/or operation if a speed reduction is needed. It is assumed for all of the factors that they are present for a continuous length of 1/4 mile or more. Shorter travel restrictions should be appropriately signed with advance warning and warning signs.

PROJECT: _____

Requested By: _____ **Date:** _____

1. Table of Factors

WORK TYPE	ACTIVITY AREA	√	FACTORS FOR REDUCED SPEED for >1/4 mile (0.4 km)
Roadside Activity	Activities that are more than 10 ft. (3.05 m) from the edge of the traveled way		None
Shoulder Activity	Activities that encroach on the area closer than 10 ft. (3.05 m) but not closer than 2 ft. (0.06 m) to the edge of the traveled way		<ul style="list-style-type: none"> • Workers present for extended periods within 10 ft. (3.05 m) of traveled way unprotected by barriers • Horizontal curvature with a safe speed of 10 mph (16.1 km/hr) or more less than the posted speed
Lane encroachment	Activities that encroach in the area from the edge of the traveled way to 2 ft. (0.06 m) from the edge of the traveled way		<ul style="list-style-type: none"> • Workers present for extended periods within 2 ft (0.06 m) of traveled way unprotected by barrier • Horizontal curvature with a safe speed of 10 mph (16.1 km/hr) or more less than the posted speed • Barrier or pavement edge drop-off within 2 ft (0.06 m) of traveled way
Moving operation, shoulder	Activities that require an intermittent or moving operation on the shoulder		None

<p>Lane closure (1 or more)</p> <p>Design speed ___MPH</p>	<p>Activities that encroach on the area between the centerline and the edge of traveled way</p>	<ul style="list-style-type: none"> • Workers present for extended periods in the closed lane unprotected by barrier • Lane width reduction of 1 ft. (0.03 m) or more with a resulting lane width of 10 ft. (3.05 m) or less • A series of traffic control devices encroaching on a lane open to traffic or within a closed lane but within 2 ft (0.06 m) of the edge of the open lane that can't be moved to a safer location • Barrier or pavement edge drop-off within 2 ft (0.06 m) of traveled way for >1/4 mile (0.4 km) • Horizontal curvature with a safe speed of 10 mph (16.1 km/hr) or more less than the posted speed
<p>Temporary detour</p> <p>Design speed ___MPH</p>	<p>Activities requiring the diversion of traffic to a temporary detour, either over existing roads or temporary road</p>	<ul style="list-style-type: none"> • Lane widths on the detour of 10 ft (3.05 m) or less • Speed reduction of 10 mph (16.1 km/hr) or more on transition with less than 1/4 mile (0.4 km) length between transitions • Significant increase in traffic volumes for the detour facility sufficient to cause continuous, unusual congestion
<p>Centerline or lane line encroachment</p> <p>Design speed ___MPH</p>	<p>Activities that encroach upon the area on both sides of the centerline of a roadway or lane line of a multi-lane highway</p>	<ul style="list-style-type: none"> • Workers present for extended periods in the closed lane unprotected by barrier • Lane width reduction of 1 ft. (0.03 m) or more with a resulting lane width of 10 ft. (3.05 m) or less • A series of traffic control devices encroaching on a lane open to traffic or within a closed lane but within 2 ft (0.06 m) of the edge of the open lane that can't be moved to a safer location • Barrier or pavement edge drop-off within 2 ft (0.06 m) of traveled way for >1/4 mile (0.4 km) • Horizontal curvature with a safe speed of 10 mph (16.1 km/hr) or more less than the posted speed

2. Detail work zone areas where above restrictions apply (include begin and end milepoints/stations):

3. Detail how work zone changes (phasing, moving of work areas, etc.) affect the above restrictions:

4. Any other information unique to this work or location which affects your decision to request a lowered speed:

SUPPORTING SIGNATURES

Work Zone Traffic Control Design (plans): _____

Traffic Control Plans Designer

Region Traffic (active project): _____

Region Traffic Manager:

Project Manager (active project): _____

Crew No.:

BORDERING STATE PROJECTS LETTER

Oregon

John A. Kitzhaber, M.D., Governor

Department of Transportation

{Address}
 {Telephone}
 {FAX}

DATE: {Date}

TO: (Name)
 (Title)
 (Organization)
 (Address, Phone #)

RE: {Project Name, Highway, County, KN}

ODOT is presently preparing contract plans for the (Project Name) Project. This will be a (Project Description) project. ODOT anticipates the need for advance warning signing and traffic control to extend into the State of (State). This project is scheduled to be open for contractor bidding on (Month, Day, Year).

ODOT will be using Standard Drawing RDXXX for temporary traffic control during the construction of this project. The detail that we propose to use on Standard Drawing RDXXX will be the "(Detail Title)". This Standard Drawing has been included for your reference.

ODOT will also be requiring that the Contractor include the State of (State), the (State DOT formal title), the (State) Director of Transportation, officers, and employees of the State of Idaho as additional insured named on insurance policies issued for this project, or furnish an additional insured endorsement naming the same as Additional Insured but only with respect to the Contractor's activities to be preformed under this contract.

ODOT requests the authority to install and maintain temporary traffic control signs and devices, within the state of (State) right-of-way for the duration of this project. Please advise regarding the lead time and other permit information required.

Your timely reply to this request will be appreciated. If you have any questions regarding this project please feel free to contact (Designer name) at (503) (Designer Phone #) or (Name) at (503) (Phone #)

Sincerely,

(Manager's Name)
 (Managing Engineer's Title)



TECHNICAL SERVICES
 Traffic Engineering and Operations Section
 Office Phone: (503) 986-3568
 Fax Number: (503) 986-4063

TRAFFIC SIGNAL APPROVAL REQUEST FORM

Under provisions of OAR 734-020-0430 and the delegated authority, the State Traffic Engineer must approve all traffic signal installations, modifications, and removals.

Permanent Signal:	<input type="checkbox"/> New	<input type="checkbox"/> Modification	<input type="checkbox"/> Removal
Temporary Signal:	<input type="checkbox"/> Intersection	<input type="checkbox"/> Work Zone/Bridge	
Expected Duration of Use:	from <input type="text"/>	to <input type="text"/>	

Project Name:		Location:	
Highway Name:		At:	
Route No.:	File Code:	M.P.:	
Region:	District:	County:	City:

Applicant:	Title: Region Traffic Manager
Phone:	Email:
Contact Name:	Phone:

The required Traffic Signal Engineering Investigation (see ODOT Traffic Manual), including the following elements, is attached.

- Diagram of Intersection (showing current and future vehicular and pedestrian volumes)
- Traffic Signal Warrants Analysis
- Conceptual Traffic Signal Design
- Safety Analysis
- Operational Analysis
- Transportation Plan Consistency
- Other Agency Support (local, rail, etc.)
- Application for State Highway Approach
- Other (specify)

Additional Information:

Signature:	Date:
------------	-------

***** Traffic Engineering and Operations Section Use Only *****	
Received By:	Date Received:
Assigned To:	Date Completed:
File Code:	

Traffic Analysis Work Request Form

Key No: _____ Prefix: _____ County: _____

Project Name: _____

Hwy. Name: _____ Hwy. No.: _____

Beginning MP: _____ End MP: _____

Requested by: _____ Phone: _____

Section: _____

Request Date: _____ Due Date: _____ Date Out: _____

Job Field Options

- | | |
|---|--|
| <input type="checkbox"/> Project Analysis | <input type="checkbox"/> Cost Analysis |
| <input type="checkbox"/> Interchange Analysis | <input type="checkbox"/> Detour Analysis |
| <input type="checkbox"/> Signal Analysis | <input type="checkbox"/> Work Zone |
| <input type="checkbox"/> Storage Analysis | |

Projected Work Required

- | | |
|--|--|
| <input type="checkbox"/> Two Way - One Lane | <input type="checkbox"/> Chip Seal |
| <input type="checkbox"/> Daily Lane Closures | <input type="checkbox"/> Left Turn Storage |
| <input type="checkbox"/> Extended Lane Closures | <input type="checkbox"/> Signals |
| <input type="checkbox"/> Limited Total Closures/Blasting | <input type="checkbox"/> Slow Downs |
| <input type="checkbox"/> Full Closures/Detour | <input type="checkbox"/> Extra Closure Lengths |

Brief Project Summary:

APPENDIX D - TRAFFIC CONTROL PLANS CHECKLIST

Traffic Control Task/Item	Yes	No	N/A	In Plans
Has traffic analysis been requested?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have local events been looked at?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holidays and weekends considered?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speed Zone Reduction Request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temp. Traffic Signal Request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vert./Horiz. Clearances checked	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has MCTD been notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Work Zone Types:	Yes	No	N/A	In Plans
Beyond Roadway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shoulder Closure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lane Constriction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lane Closure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Two-lane, two-way operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Four-lane, two-way operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intermittent Closure(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crossover(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controlled Delay (“Rolling Stop”)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Two (Multi) Lane closure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Detour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Self-regulating Diversion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flagger-regulated Diversion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Signal-regulated Diversion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extended Traffic Queues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overlay, Inlay/Overlay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On/Off Ramp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blasting Zone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

TP&DT	Yes	No	N/A	In Plans
Tubular Markers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tubular Marker Moves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Guard Rail Anchors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Guard Rail End Pieces/Transitions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pole Base/Inlet Covers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work Zone Delineation Fencing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temp. Chain Link Fencing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signs:	Yes	No	N/A	In Plans
Temporary Delineators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incidental Flagging Hours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Falsework Illumination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ROADWORK AHEAD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ROADWORK NEXT XX MILES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
END ROAD WORK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FLAGGER (SYMBOL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BE PREPARED TO STOP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PROJECT INFO SIGNS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRAFFIC FINES DOUBLE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HZ/VERT CLEARANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRUCKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
500 FT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SHOULDER WORK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SHOULDER CLOSED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LANE DROP (SYMBOL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RIGHT LANE CLOSED AHEAD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEFT LANE CLOSED AHEAD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CURVE (SYMBOL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
XX MPH (RIDER)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ARROW (SYMBOL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GROOVED PAVEMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BUMP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO CENTER STRIPE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NEXT XX MILES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LOOSE GRAVEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DO NOT PASS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PASS WITH CARE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ABRUPT EDGE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CENTER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RIGHT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LEFT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
REDUCE SPEED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPEED ZONE AHEAD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPEED XX	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DO NOT PASS {ONE LANE DETOUR}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PASS WITH CARE {1-LANE DETOUR}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ONE LANE ROAD AHEAD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signs:	Yes	No	N/A	In Plans
YIELD AHEAD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
YIELD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TO ONCOMING TRAFFIC (RIDER)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SIGNAL (SYMBOL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
STOP HERE ON RED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
END 25 MPH SPEED ZONE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BLASTING ZONE AHEAD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TURN OFF 2-WAY RADIOS & CELL PHONES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CHEVRONS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MEDIAN CLOSED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RAMP NARROWS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EXIT OPEN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
JCT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
STREET CLOSED TO THRU TRAFFIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ROAD/STREET CLOSED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KEEP (ARROW) LEFT/RIGHT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ONE WAY (ARROW)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DETOUR AHEAD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DETOUR 1000 FT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DETOUR 500 FT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DETOUR (ON ARROW)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DETOUR (DIAMOND SHAPE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DETOUR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DETOUR (W/ARROW L/R)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DETOUR (W/ARROW UP/ANGLE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
END DETOUR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NORTH/SOUTH/EAST/WEST/TO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ROUTE SHIELDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DIRECTIONAL ARROWS (SYMBOLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SIDEWALK CLOSED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BICYCLE (SYMBOL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ON ROADWAY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Quantities (not lump sum):	Yes	No	N/A	In Plans
Concrete barrier (Std, "Tall", "Zipper")	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Concrete barrier moves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Concrete barrier removal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barrier machine (For "Zipper")	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporary guard rail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporary barricades – Type III	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporary barricades – Type II	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Truck Mounted Impact Attenuator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporary Plastic Drums	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surface Mounted Tubular Markers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temp. Tape Removable/Non-Removable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temp. Flexible Pavement Markers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporary Striping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporary Stripe Removal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Durable Stripe Removal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sequential Arrow Sign	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Portable Changeable Message Sign	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Traffic Control Supervisor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flagging Hours (From Cost Est. Unit)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pilot Car Hours (From Cost Est. Unit)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DETOURS:	Yes	No	N/A	In Plans
Weight Restrictions				
Vertical & Horizontal Clearances				
Trail Blazers (Detour guide signs)				
Geometrics (turning radii, etc.)				
Bridge weight restrictions				
Notify local governments				
Local Business Access				
Local Residence Access				
Detour Striping				
Pedestrian/Bike detour provisions				
Emergency vehicle impacts				
Public transit impacts				
School bus impacts				
US Mail Services				
Pavement Section – adequate depth?				
Reconnaissance of the route				
Street Parking along the detour				

APPENDIX E - DESIGN CONVERSION CHARTS

METRIC ↔ ENGLISH

Appendix E – Design Conversion Charts

METRIC AND ENGLISH UNITS

Sizing Increments	
English (Inches)	Metric (mm)
3	76
6	152

Sign Letter Heights	
English (Inches)	Metric (mm)
4	102
5	127
6	152
8	203
10	254
10 2/3	271
12	305
13 1/3	339
15	381
16	406
18	457

Border / Radius Sizes	
English (Inches)	Metric (mm)
1/2	13
1	25
1 1/2	38
2	51
3	76
6	152
9	229
12	305

Arrow Sizes	
English (Inches)	Metric (mm)
4 X 6	102 X 152
5 X 7	127 X 178
6 X 9	152 X 229
8 X 12	203 X 305
10 X 16	254 X 406
15 1/8 X 24 1/4	384 X 616
18 1/4 X 29 1/4	464 X 743
22 1/4 X 35 5/8	565 X 905

APPENDIX F - TCP TEAM MEMBER ROLES & RESPONSIBILITIES

TCP TEAM MEMBER ROLES & RESPONSIBILITIES

STATE TRAFFIC CONTROL PLANS ENGINEER

- Responsible for developing, updating, teaching and interpreting statewide design standards and practices used in the development of temporary traffic control plans for highway construction projects.
- Provides technical information and recommendations regarding the development and implementation of temporary traffic control plans.
- Assists in the development of Standard Specifications, Special Provision language and Standard Drawings to be used in the development of temporary traffic control plans within ODOT highway construction contracts.
- Provides construction support for Region and OBDP personnel in helping to interpret or implement traffic control measures and/or traffic operation issues within project traffic control plans.
- Publishes ODOT's "*Traffic Control Plans Design Manual*".
- Publishes ODOT's "*Short Term Traffic Control Handbook for Operations of 3 Days or Less*".
- Publishes ODOT's "*Work Zone Tour Summary Report*".
- Delivers ODOT's 3-day TCP Design Course.
- Leads ODOT Traffic Control Plans *Resource Issues Group (RIG)* quarterly meetings. Meetings are used to maintain statewide consistency and uniformity of Traffic Control Plan design standards and practices. Meetings are also used for the sharing of information and current developments within each Region as they pertain to the temporary traffic control discipline.

TCP QUALITY ASSURANCE ENGINEER

- Responsible for development, maintenance, interpretation of traffic control plan quality assurance program.
- Researches, develops, and implements standards, specifications, and procedures related to work zone traffic control plans design statewide. Reviews and makes recommendations on exceptions to design standards, specifications and procedures statewide.
- Reviews plans, specifications and engineering estimates prepared by Tech Centers, consultants, and local agencies for quality assurance. Reviews completed plans for conformity with design standards, safety features and funding limitations.
- Provides technical assistance to Region Traffic Control Plans Designers, City and County Public Works agencies and consulting firms in the design of Traffic Control Plans.
- Provides temporary traffic control plans design training to Region Traffic Control Plans Designers and consultants.
- Provides work zone traffic analysis training to Region Traffic Control Plans Designers and consultants.
- Consults with construction project designers on the requirements of stage construction of some projects.
- Participates in the ODOT Traffic Control Plans *Resource Issues Group (RIG)* quarterly meetings. Meetings are used to maintain statewide consistency and uniformity of Traffic Control Plan design standards and practices.

TCP STANDARDS ENGINEER

- Responsible for development, maintenance, interpretation of temporary traffic control plans design practices and standards, standard specifications, special provisions, standard drawings, and cost estimate data.
- Researches, develops, and implements standards, specifications, and procedures related to work zone traffic control plans design statewide. Reviews and makes recommendations on exceptions to design standards, specifications and procedures statewide.
- Reviews plans, specifications and engineering estimates prepared by Tech Centers, consultants, and local agencies for quality assurance. Reviews completed plans for conformity with design standards, safety features and funding limitations.
- Provides technical assistance to Region Traffic Control Plans Designers, City and County Public Works agencies and consulting firms in the design of Traffic Control Plans.
- Participates as a member of the Qualified Products List Committee. Provides input to the committee regarding the testing, application, approval or disapproval of temporary traffic control devices and products submitted by vendors.
- Provides temporary traffic control plans design training to Region Traffic Control Plans Designers and consultants.
- Consults with construction project designers on the requirements of stage construction of some projects.
- Assists Region and/or field personnel in determining appropriate construction signing techniques and/or traffic handling methods for situations that arise during construction of projects.
- Participates in the ODOT Traffic Control Plans *Resource Issues Group (RIG)* quarterly meetings. Meetings are used to maintain statewide consistency and uniformity of Traffic Control Plan design standards and practices.

WORK ZONE TRAFFIC ANALYST

- Responsible for development, maintenance, and interpretation of Work Zone Traffic Analysis tool.
- Researches, develops, and implements standards, specifications, and procedures related to work zone traffic analysis statewide. Reviews and makes recommendations on exceptions to design standards, specifications and procedures statewide.
- Researches, develops, and implements standards, specifications, and procedures related to work zone traffic control plans design statewide. Reviews and makes recommendations on exceptions to design standards, specifications and procedures statewide.
- Reviews plans, specifications and engineering estimates prepared by Tech Centers, consultants, and local agencies for quality assurance. Reviews completed plans for conformity with design standards, safety features and funding limitations.
- Provides technical assistance to Region Traffic Control Plans Designers, City and County Public Works agencies and consulting firms in the design of Traffic Control Plans.
- Provides temporary traffic control plans design training to Region Traffic Control Plans Designers and consultants.
- Provides work zone traffic analysis training to Region Traffic Control Plans Designers and consultants.
- Consults with construction project designers on the requirements of stage construction of some projects.
- Publishes ODOT's "*Work Zone Traffic Analysis Manual*".
- Delivers ODOT's 2-day WZTA Design Course
- Participates in the ODOT Traffic Control Plans *Resource Issues Group (RIG)* quarterly meetings. Meetings are used to maintain statewide consistency and uniformity of Traffic Control Plan design standards and practices.

REGION TRAFFIC CONTROL PLANS DESIGNERS

- Region TCP Designers are viewed as the Region temporary traffic control “Experts” in answering questions and requests for technical support, advice, interpretation and resources
- Region TCP Designers play a key role in determining work area mobility impacts and communicating that information to ODOT Motor Carrier Transportation Division’s Freight Mobility Representatives and the local Regional Mobility Manager
- Region TCP Designers are primarily responsible for developing the Traffic Control Plans for ODOT highway construction projects within their Region. The TCP for these projects typically includes the following:
 - Traffic Control plan sheets
 - Project-specific Special Provisions
 - A TCP-related cost estimate

Projects assigned may vary greatly in complexity. Roadway types may vary from freeways to urban arterial highways to rural, two-lane highways. Project scopes may range from:

- Modernization upgrades or capacity improvements
 - New facility construction
 - Facility reconstruction or rehabilitation
 - Transit system retrofits; or even,
 - Emergency repairs or corrections
- TCP Designers frequently review and make comment on consultant-designed TCPs for ODOT projects, as well as local City or County Public Works agency projects
 - TCP Designers also attend ODOT Project Development Team meetings and work with project team members to refine TCPs for their projects
 - Designers will frequently visit project sites to obtain vital physical data to be used in the development of their TCPs
 - Designers may be involved with conducting the work zone traffic analysis, used to develop Lane Restrictions for highway construction contracts
 - Designers provide post-award TCP construction support to Region Construction personnel for situations that may arise during construction
 - Designers participate in quarterly meetings of the ODOT TCP Resource Issues Group (RIG) – the statewide discussion group of ODOT TCP Designers
 - For TCP-related questions concerning an ODOT STIP, OTIA or other In-house project, please contact the appropriate Region TCP Designer