LIST OF ABBREVIATIONS AND ACRONYMS

ACRONYM	
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans With Disabilities Act
ADAAG	Americans With Disabilities Act Accessibility Guidelines
ADOT	Arizona Department of Transportation
ADT	average daily trips
APS	accessible pedestrian signal
ARS	Arizona Revised Statutes
ASU	Arizona State University
BOR	Bureau of Reclamation
BRT	bus rapid transit
CAP	Central Arizona Project
CAWCD	Central Arizona Water Conservation District
CIP	Capital Improvement Plan
CMAQ	Congestion Mitigation and Air Quality
CPTED	Crime Prevention Through Environmental Design
DS&PM	Design Standards and Policies Manual
ESL	Environmentally Sensitive Lands
ESLO	Environmentally Sensitive Lands Ordinance
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GIS	Geographic Information System
HCM	Highway Capacity Manual (prepared by Transportation Research Board)
HCT	high capacity transit
HOV	high occupancy vehicle
ISTEA	Intermodal Surface Transportation Efficiency Act (1991)
ITS	intelligent transportation system
LAB	League of American Bicyclists
LOS	level of service
LRT	light rail transit
LTAF	Local Transportation Assistance Fund
MAG	Maricopa Association of Governments
METRO	Valley Metro Rail
MPH	miles per hour
MUTCD	Manual on Uniform Traffic Control Devices
NAOS	Natural Area Open Space
NCUTCD	National Committee on Uniform Traffic Control Devices

NHTSA	National Highway Traffic Safety Administration
RPTA	Regional Public Transportation Authority
RTP	Regional Transportation Plan (prepared by Maricopa Association of Governments)
ROW	right-of-way
RWMP	Right-of-Way Management Program
SAFETEA	Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy For Users
SCC	Scottsdale Community College
SOV	single occupancy vehicle
SRTS	Safe Routes to School
STP	Surface Transportation Program
TAZ	traffic analysis zone
TEA-21	Transportation Equity Act for the 21st Century
TIP	Transportation Improvement Program
TMA	transportation management association
TMC	traffic management center
TPC	Tournament Players Club
USDOT	United States Department of Transportation
VMT	vehicle miles traveled
VPD	vehicles per day

GLOSSARY

TERM	DEFINITION
accessible	An environment or facility that provides equal access to people with different abilities.
accessible pedestrian signal	A device that communicates information about the WALK phase in audible and vibrotactile formats.
Americans with Disabilities Act	This federal civil rights law was passed in 1990. The law prohibits discrimination against people with disabilities, and requires public entities and public accommodations to provide accessible accommodations for people with disabilities.
arterial roadway	A roadway with partial control of access, with some at-grade intersections, intended to move high volumes of traffic over longer distances and higher speeds than secondary roadways.
bicycle level of service	Level of bicycle access and safety, measured quantitatively; factors that create friction between the bicyclist and the environment.
bus rapid transit	A form of advanced bus service which combines the advantages of rail transit with the flexibility of buses. Bus rapid transit (BRT) uses a dedicated or shared guideway to provide limited stop service in medium to heavy travel demand corridors. Traffic signal priority is given to BRT vehicles as they operate in designated bus or high occupancy vehicle lanes. Phoenix's RAPID bus service is the closest to BRT in this region. Average maximum passenger loads are 60 to 90; maximum operating speeds are 55 to 65 miles per hour.
capital costs	Nonrecurring costs required to construct roadway and transit systems, including costs of right-of-way, facilities, transit vehicles, transit vehicle power distribution, associated administrative and design costs, and financing charges during construction.
collector streets	Streets in which traffic in a particular neighborhood flows to exit or enter the neighborhood.
complete streets	Complete streets are designed and operated to enable safe and comfortable access for all users, particularly non-motorized modes. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street.
Crime Prevention through Environmental Design	Crime Prevention through Environmental Design is a series of design principles that can result in an environment being safer and more secure for pedestrians.
cross slope	The grade that is perpendicular to the direction of accessible pedestrian travel.
Crosswalk	According to Arizona State Law (Section 28.601), a crosswalk is "that part of the roadway at an intersection included within the prolongations or connections of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or, in absence of curbs, from the edges of the traversable roadway." A crosswalk is also "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."
curb ramp	A combined ramp and landing that accomplishes a change in level at a curb. This element provides street and sidewalk access to pedestrians using wheelchairs and other mobility devices.
detectable warning	A surface feature of truncated dome material built in or applied to the walking surface to advise of an upcoming change from pedestrian to vehicular way.

effective walkway width	The portion of the sidewalk that is free from barriers such as utilities, slower pedestrians, people waiting, furniture, building elements or plant material.
feasible	Capable of being accomplished with a reasonable amount of effort, cost, or other hardship. With regard to Americans with Disabilities Act (ADA) compliance, feasibility is determined on a case-by-case basis. For example, it might not be feasible to install a ramp that meets ADA Accessibility Guidelines (ADAAG) specifications on a very steep hill, but it would be feasible to install an ADAAG ramp at the entrance of a building.
grade	The slope parallel to the direction of travel that is calculated by dividing the vertical change in elevation by the horizontal distance covered.
grade-separated crossings	Facilities such as overpasses, underpasses, skywalks, or tunnels that allow pedestrians and motor vehicles to cross a street at different levels.
headway	The time interval between identical points of successive vehicles passing the same point along the way (e.g., 10 minute headways). The frequency of transit service on a particular route or line.
high quality transit	Transit service that provides 15 minute or better headways at peak hours and 30 minute or better service during the rest of the day.
home-based work trips	Work trips having either origin or destination at the home.
human scale	A scale of surroundings that is proportional to the human comfort level.
interchange	The system of interconnecting ramps between two or more intersecting roadways or guideways that are grade-separated.
intelligent transportation systems	A wide range of wireless and wire line communications-based information and electronics technologies, integrated into a transportation system's infrastructure, and in transit vehicles, with the intent to relieve congestion, coordinate traffic signals, improve roadway safety and operational efficiency, and enhance special event traffic management.
intersection	According to Arizona State Law (Section 28.601), an intersection is "the area embraced within the prolongation or connection of the lateral curb lines, or if none, the lateral boundary lines of the roadways of two highways that join one another at, or approximately at, right angles, or the area within which vehicles traveling on different highways joining at any other angle may come in conflict. If a highway includes two roadways thirty or more feet apart, each crossing of each roadway of the divided highway by an intersecting highway is a separate intersection. If the intersecting highway also includes two roadways thirty or more feet apart, each crossing of two roadways of the highways is a separate intersection."
landing	A level area of sidewalk at the top of a curb ramp facing the ramp path.
landscaped strip	The street right-of-way between the constructed curb and the sidewalk.
level of service and flow rates	For bicyclists, a set of characteristics that indicates the quality and quantity of service measured as bicycle access and safety; factors that create friction between the bicyclist and the environment. For transit systems, a set of characteristics that indicates the quality and quantity of transportation service provided including characteristics that are quantifiable (system performance, e.g., frequency, travel time, travel cost, number of transfers, safety) and those that difficult to quantify (service quality, e.g., availability, comfort, convenience, modal image).

	For highway systems, a qualitative rating of the effectiveness of a highway or highway facility in serving traffic, in terms of operating conditions. The *Highway Capacity Manual* identifies operating conditions ranging from A, for best operations (low volume, high speed) to F, for worst conditions. For paratransit, a variety of measure meant to denote the quality of service provided; generally in terms of total travel time or a specific component of total travel time. For pedestrians, sets of area occupancy classifications, such as recommended sidewalk widths relative to adjacent land uses and densities, to connect the design of pedestrian facilities with levels of service (A for best through F for worst).
level of service - intersection	Level of congestion at intersection measured in delay per vehicle: "A" $\leq$ 0 to 10 seconds "B" $>$ 10 to 20 seconds "C" $>$ 20 to 35 seconds "D" $>$ 35 to 55 seconds "E" $>$ 55 to 80 seconds "F" $>$ 80 seconds
level of service - roadway	**LOS A:** Free-flow operations. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. This LOS affords the motorist a high level of physical and psychological comfort. Incident effects are easily absorbed at this level. **LOS B:** Free-flow operations. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. Incident effects are still easily absorbed. **LOS C:** Speeds continue to remain high, but freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more vigilance on the driver's part. The driver now experiences a noticeable increase in tension because of this additional vigilance. Minor incidents may still be absorbed, but the local deterioration in service will be substantial. **LOS D:** Speeds begin to decline slightly. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort level. Even minor incidents can be expected to cause queuing because the traffic stream has little space to absorb disruptions. **LOS E:** Operations at this level become marginal, where traffic flow becomes irregular and speed varies, but rarely reaches posted speed limits. Any disruption to the traffic stream, such as a vehicle entering from a ramp or changing lanes, can cause following vehicles to give way to admit the vehicle. This can establish a disruption wave that propagates throughout the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate even the most minor disruptions, and any incident can be expected to produce a serious breakdown with extensive queuing. Maneuverability within the traffic stream is limited, and the level of physical and psychological comfort afforded the driver is reduced. This level of service is usually experienced when roadway volumes exceed designed capacity. **LOS F:** This is the lowest measurement of service efficiency. Traffic flow breaks down, resulting in stop-and-go conditions. Maneuverability within the traffic stream is extremely limited, and the level of physical and psychological comfort afforded the driver can be severe.

life cycle cost	Life cycle cost is the combined capital and maintenance cost of a capital investment, in this case an individual infrastructure project, applied to the present value of the asset.
light rail transit	Transit mode characterized by an overhead electric power source and by its ability to operate in both an at-grade and/or a grade-separated environment, Light rail may use shared or exclusive rights-of-way, high or low platform loading and multi-car trains or single cars. Average passenger capacity is 120 to150, with maximum operating speeds of 55 to 65 miles per hour.
line haul	A transit system that offers service along a line or corridor with relatively few stops. (A light rail transit or bus rapid transit line operating with stations spaced at least one mile apart would be an example of line haul service.)
local bus	Local bus service consists of standard size transit vehicles (usually 40-foot buses) and is generally characterized by buses operating along the major arterial grid network. The vehicles make frequent stops and may require passengers to transfer in order to reach their destinations. Local bus service is the most common form of transit service in the region; Route 72 on Scottsdale Road is an example of local bus service.
Manual of Uniform Traffic Control Devices (MUTCD)	The Manual of Uniform Traffic Control Devices establishes uniform standards for traffic control devices that regulate, warn, and guide road users along United States roadways.
minimum clear zone	An area, measured from the outermost point of the sidewalk café to the nearest obstruction in the pedestrian travel way that is continuous and free of obstructions, and at least 6-feet wide.
mode	A particular form or method of travel distinguished by vehicle type, operation technology, and right-of-way separation from other traffic.
model	Transportation models are computerized procedures for predicting changes in travel patterns in response to changes in development patterns, transportation systems, and demographics given certain assumptions about travel behavior based on existing conditions.
motorized wheelchair	Any self-propelled wheelchair that is used by a person for mobility.
multimodal	Having or involving several modes of transportation.
multi-use path	Trails that accommodate bicyclists and pedestrians. Preferred term to use is shared-use path.
non-home based trips	Trips having neither origin or destination at the home.
no-build alternative	The baseline alternative of not making any changes to the existing transit system and roadway network, except for those changes already programmed. It is used as a baseline against which the other proposed alternatives are compared.
paratransit	Paratransit provides transportation for those unable to access traditional fixed route service, such as seniors and passengers with disabilities. The Americans with Disabilities Act (ADA) requires that complementary paratransit service be provided in all areas within three-fourths of a mile of fixed route bus service. Extended service hours are usually provided for individuals who qualify under ADA. The East Valley Dial-a-Ride is an example of paratransit.
peak period	A specified period for which the volume of traffic is greater than that during any other similar period (e.g., peak hour, peak five minutes, etc.)

pedestrian	According to Arizona State Law, a pedestrian is "… any person afoot. A person who uses an electric personal assistive mobility device or a manual or motorized wheelchair is considered a pedestrian unless the manual wheelchair qualifies as a bicycle. For the purposes of this paragraph, motorized wheelchair means a self-propelled wheelchair that is used by a person for mobility (A.R.S. 28-101). Pedestrians also include rollerskaters, in-line skaters, and skateboarders. Pedestrians also include users of "electric personal assistive mobility devices", which "means a self balancing two nontandem wheeled device with an electric propulsion system that limits the maximum speed of the device to fifteen miles per hour or less and that is designed to transport only one person" (A.R.S 28-101).
pedestrian access route	A continuous and unobstructed walkway within a pedestrian circulation path that provides accessibility.
pedestrian facility	Pedestrian facilities include sidewalks, curb ramps, multiuse paths, multiuse trails, crosswalks, traffic calming features, grade-separated crossings, and other elements that encourage pedestrian movement such as landscaping, site furnishings and amenities, and public art. Pedestrian facilities also include design strategies that help to make walking safer, more convenient and more comfortable.
pedestrian flow rate	The number of pedestrians passing a point per unit of time, expressed as pedestrians per minute (p/min) or pedestrians per 15 minutes (p/15 min). A "point" refers to a perpendicular line of sight across the walkway.
pedestrian latent demand model	A travel demand model that estimates the potential amount of pedestrian activity that could occur along a roadway if conditions were ideal for walking and impediments to walking were removed.
pedestrian level of service	Level of pedestrian access and safety, measured quantitatively.
pedestrian space	The average area available to each pedestrian, expressed as square feet per pedestrian (ft2/p).
pedestrian speed	The average pedestrian walking speed, expressed in units of feet per second (ft/s) or feet per minute (ft/min).
pedestrian unit flow rate	The flow rate per unit of effective walkway width, expressed as pedestrians per minute per foot (p/min/ft).
person-trip	The movement of one person to one destination, by any mode of travel.
principles of universal design:	**Equitable use:** Usable by people of all capabilities, measurable by the spectrum of capabilities **Flexibility of use:** Measurable by the range of capabilities served **Simple and Intuitive:** The simplicity of information **Perceptible information:** The manner in which the information is communicated **Tolerance for error:** Broad spectrum for operational efficiency **Low physical effort:** Operable with a small amount of force **Size and Space for Approach and Use:** Appropriate size and space provided for approach, reach, manipulation, and use
public right-of-way	Land which by deed, conveyance, agreement, easement, dedication, usage or process of law is reserved for or dedicated to the general public for street, highway, alley, public utility, pedestrian walkway, bikeway or drainage purposes.

pushbutton locator tone	A repeating sound that identifies the pushbutton location and indicates the need to actuate pedestrian timing.
rapid transit	Rail or motorbus transit service operating completely separate from all modes of transportation on an exclusive right-of-way.
right-of-way	Land which by deed, conveyance, agreement, easement, dedication, usage or process of law is reserved for or dedicated to the general public for street, highway, alley, public utility, pedestrian walkway, bikeway or drainage purposes.
roadway	According to Arizona State Law, a roadway is that portion of a highway that is improved, designed or ordinarily used for vehicular travel, exclusive of the berm or shoulder. If a highway includes two or more separate roadways, roadway refers to any such roadway separately but not to all such roadways collectively.
running slope	The grade that is parallel to the direction of travel, expressed as a ratio of rise to run or as a percent.
safety zone	According to Arizona State Law a pedestrian safety zone is the area or space that is both 1) officially set apart within a roadway for the exclusive use of pedestrians and 2) protected or either marked or indicated by adequate signs as to be plainly visible at all times while set apart as a safety zone.
sidewalk	According to Arizona State Law (Section 28.601), a sidewalk is the "portion of the street between the curb lines or lateral lines of the roadway and adjacent property lines intended for use by pedestrians."
sidewalk café	A permitted area within the public right-of-way consisting of tables, chairs and other accessories for the use of consumption of food and/or beverages sold to patrons from, or in, an adjacent cafe or restaurant.
street furniture	Features that enhance the comfort of pedestrians including benches, trash receptacles, transit shelters and other hardscape.
traffic	pedestrians, ridden or herded animals, vehicles, and other conveyances either singly or together while using a highway for purposes of travel.
traffic analysis zones	A traffic analysis zone (TAZ) is a special area delineated by state and/or local transportation officials for tabulating traffic-related data- especially journey-to-work and place-of-work statistics. A TAZ usually consists of one or more census blocks, block groups, or census tracts. The U.S. Census Bureau first provided data for TAZs in conjunction with the 1980 census, when it identified them as "traffic zones."
traffic congestion	Congestion usually relates to an excess of vehicles on a portion of roadway at a particular time resulting in speeds that are slower - sometimes much slower - than normal or "free flow" speeds. Congestion often means stopped or stop-and-go traffic. Previous work has shown that congestion is the result of seven root causes, often interacting with one another. **Traffic volumes exceed roadway design capacity.** **Physical Bottlenecks ("Capacity")** – Capacity is the maximum amount of traffic capable of being handled by a given highway section. Capacity is determined by a number of factors, some of which are listed as: the number and width of lanes and shoulders; merge areas at interchanges; and roadway alignment (grades and curves). **Traffic Incidents** – Events that disrupt the normal flow of traffic, usually by physical impedance in the travel lanes. Events such as vehicular crashes, breakdowns, and debris in travel lanes are the most common form of incidents.

	Work Zones – Construction activities on the roadway that result in physical changes to the highway environment. These changes may include a reduction in the number or width of travel lanes, lane "shifts," lane diversions, reduction, or elimination of shoulders, and even temporary roadway closures. **Weather** – Environmental conditions can lead to changes in driver behavior that affect traffic flow. **Traffic Control Devices** – Intermittent disruption of traffic flow by control devices such as railroad grade crossings and traffic signals also contribute to congestion and travel time variability. **Special Events** – Special cases of demand fluctuations whereby traffic flow in the vicinity of the event will be radically different from "typical" patterns. Special events occasionally cause "surges" in traffic demand that overwhelm the system. **Fluctuations in Normal Traffic** – Day-to-day variability in demand leads to some days with higher traffic volumes than others. Varying demand volumes superimposed on a system with fixed capacity also results in variable (i.e., unreliable) travel times.
transit	Transportation system principally for moving people in an urban area and made available to the public usually through paying a fare. Typical vehicles used for transit include buses, rail cars, and other fixed guideway vehicles. (Transit service available in the City of Scottsdale consists of paratransit, trolleys, and regional bus.)
transit level of service	Measurement of service frequency, length of service, and passenger capacity, valuing higher frequencies (lower "headways"), longer service hours, and higher capacity over their opposites.
transportation demand management	A general term for strategies that encourage more efficient use of existing transportation resources. Transportation Demand Management (TDM) strategies may include ride-sharing, carpooling, vanpooling, transit, telecommuting, walking, bicycling, compressed work weeks, as well as the information network to advise prospective users of available resources, and technical assistance to prospective users to implement TDM programs.
travel time reliability	How consistent travel conditions are from day-to-day and how much travel times vary over the course of time.
truncated domes	Small domes with flattened tops that are used as tactile warnings at transit platforms and curb edges.
vibrotactile	A vibrating surface, located on the accessible pedestrian signal button, that communicates information through touch.
walkway	Transportation facility built for use by pedestrians; walkways include sidewalks and paths.