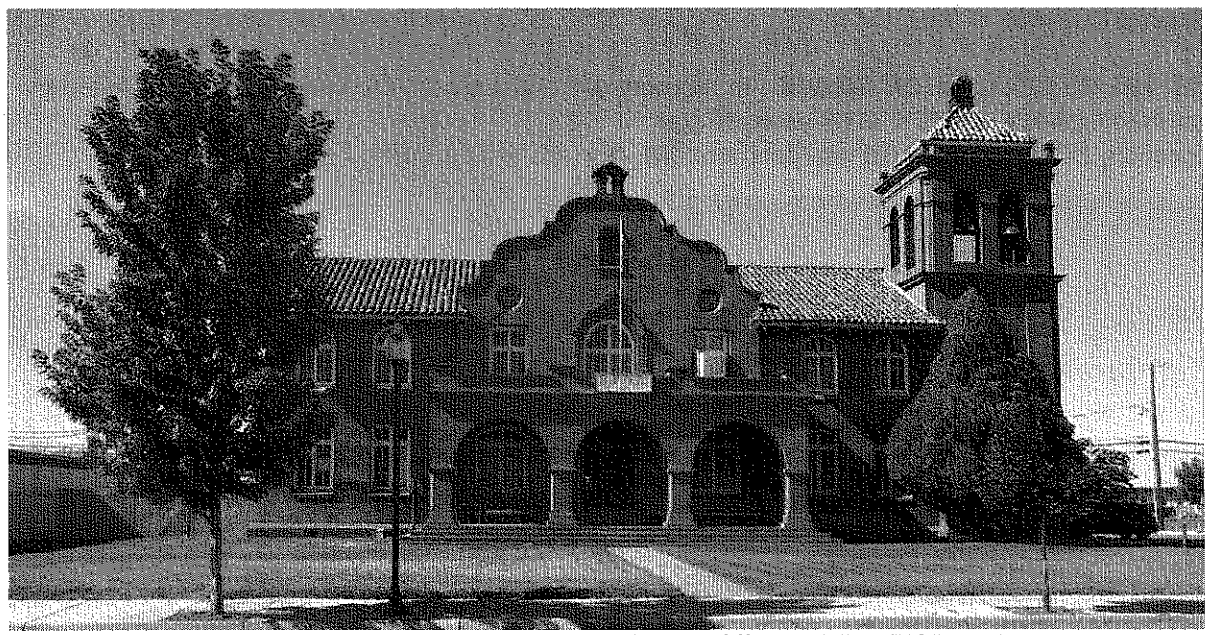


Figure 27. Nevada-California-Oregon Railway Company General Office Building (MOD 22.5)

California Historical Landmarks

Modoc County

NO. 16 INFERNAL CAVERNS BATTLEGROUND, 1867 - This is the site of the battle between U.S. troops and Shoshone, Paiute, and Pit Indians on September 26 and 27, 1867. The Indians took refuge in a series of caverns located at the top of a rocky slope. Over a third of the command was killed or wounded in the battle, six soldiers were buried at the foot of the slope.
Location: Ferry Ranch on Co Rd 60, site is 1 mi SW of Ranch, 6.5 mi NW of Likely

NO. 109 CHIMNEY ROCK - The chimney was cut out of the solid rock by Thomas L. Denson, who came west by the way of the Santa Fe Trail in 1852. In 1870 Denson built his cabin, the second building to be erected in the Pit River Valley, alongside a pyramid-shaped rock, cutting the fireplace and flue out of the solid rock itself.
Location: Beside RR track along State Hwy 395 (P.M. 30.3), 77 mi N of Alturas

NO. 546 APPLEGATE-LASSEN EMIGRANT TRAIL (FANDANGO PASS) - This spot marks the convergence of two pioneer trails used by emigrants during the years 1846-1850. The Applegate Trail, established in 1846, led from the Humboldt River in Nevada to the Willamette Valley in Oregon. The Lassen Cutoff, established by Peter Lassen in 1848, turned south at Goose Lake to the northern mines and settlements of California.
Location: Fandango Pass, 10.8 mi E of State Hwy 395 on Fandango Pass Rd (Co Rd 9), 9.2 mi W of Fort Bidwell

Lassen County

NO. 565 PETER LASSEN GRAVE - In memory of Peter Lassen, the pioneer who was killed by the Indians April 27, 1859, at 66 years of age.
Location: 2550 Wingfield Rd via Richmond Rd, 5 mi SE of Susanville

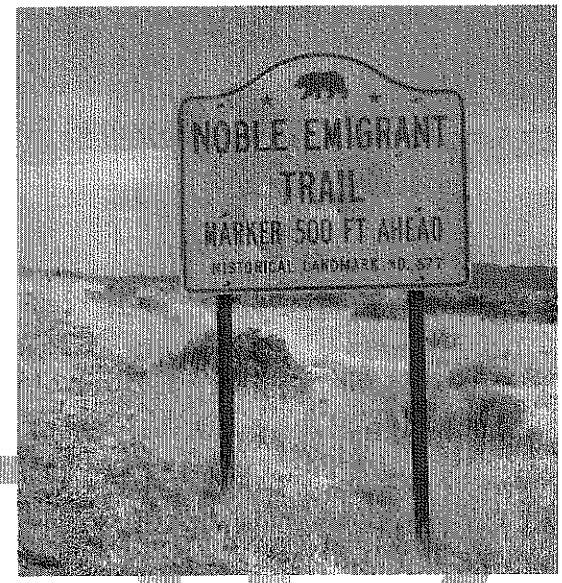


Figure 28. Noble Emigrant Trail Sign (LAS 81.2)

NO. 677 NOBLE EMIGRANT TRAIL - This route was first used in 1852 by emigrants to Northern California seeking to avoid the hardships of the Lassen Trail. It crossed the desert from the Humboldt River in Nevada, passed this point, and proceeded over the mountains to the town of Shasta. Later, 1859-1861, it was known as the Fort Kearney, South Pass and Honey Lake Wagon Road. On October 4, 1850, while hunting for Gold Lake, Peter Lassen and J. G. Bruff saw Honey Lake from this point.

The following is text printed on an interpretive sign at the historical marker:

Before the Nobles Trail

American Indians, including the Kammu Tukadu and Wadakhut bands of the Northern Paiute peoples, played a key role in the Euro-American overland migration. Although some of the emigrant trails were new, many mirrored earlier Indian routes that followed major river systems and crossed imposing mountain ranges.

Initially American Indians assisted and guided explorers and emigrants. However, as time progressed and the number of travelers increased, conflict and confrontations escalated.

Nearly 500,000 emigrants and their thousands of cattle, horses, and sheep, traveled west of the Mississippi River into and across American Indian traditional homelands from 1840 to 1860.

Negative impacts, including loss of traditional lifestyles, undermined the American Indians' political and economic independence. Today, the local Indian peoples use natural resources near the Nobles Trail to continue aspects of their traditional culture.

Another historical marker at the location:

> Nobles Trail – Paved with Cobble Stone
> *"It is the worst road we have traveled on the whole route… It is completely paved with cobble stone. The wagon would roll for a mile at a time without touching the ground." –William Gregg McPherson, Sep 23, 1859.*

Location: On State Hwy 395 (P.M. 80.5), 76 mi N of Litchfield

NO. 758 FORT JANESVILLE - Thoroughly terrified by 'The Ormsby Massacre,' the people of Honey Lake valley built themselves a stockade for protection from an Indian attack that never materialized.
Location: 0.1 mi N of Janesville Elementary School, Main St, Janesville

Other Historical Markers

Willow Ranch
Location: Marker is near Willow Ranch, California, in Modoc County. Marker is at the intersection of Willow Ranch Road and South Willow Ranch Road on Willow Ranch Road.

Inscription: This monument was erected in honor of all the people who were part of what once was a thriving community when the Crane Creek and Willow Ranch Lumber Companies were in operation here from 1929 to 1959. The land was given to Modoc County by the family of Mary Louise Dougherty in her memory.

In the early 1940's Willow Ranch was a thriving lumber mill. Logs were cut on the west side of Goose Lake. The logs were formed into rafts of 200,000 board feet and towed across the lake by boats like this one. It took five hours to cross on a calm day. This boat is 8' wide and 26' long and is protected by metal with steel "teeth" at its bow.

Erected: 1988 by Alturas Parlor 159 N.D.G.W., Modoc County Historical Society, Supervisor Melvin "Andy" Anderson July 17, 1988.

Trails West Inc. Markers

Lassen Trail – Pit River Ford
Location: In Alturas, California in Modoc County. Marker is setback from, but along Main Street (US 395) between McDowell Avenue and Water Street.
Inscription: "We crossed the creek here running between high banks, and drove a short distance down the north west side and encamped" – Elijah Preston Howell, Sep 6, 1849.

Lassen Trail – Conical Rocks
Location: Near California Historical Landmark No. 109 Chimney Rock, off US 395 near MOD 30.3.
Inscription: "Striking the river this morning I noticed a cluster of singular shaped rocks sticking up in spires of a conical shape 20 to 30 feet high" – Andrew Lopp Murphy, Sep 26, 1849.

APPENDIX G: ROUTE INVENTORY

BRIDGES AND HIGHWAY STRUCTURES

There are 32 Bridges and Structures on US 395.

Table 28: Bridges and Highway Structures

Post Mile	Bridge Number	Structure Name	Structure Type	Bridge Length	Width	Num Spans	Min VC over Rdway	Sidewalk Lt	Sidewalk Rt	Year Built	Year Wid/ Ext
SIE R002.19	13 0018R	Long Valley UC	105	21.3	12.8	1	0			1976	n/a
SIE R002.23	13 0018L	Long Valley UC	105	21.0	12.8	1	0			1976	n/a
LAS R000.10	07 0072L	Evans Canyon UC	105	18.3	12.8	1	0			1976	n/a
LAS R000.10	07 0072R	Evans Canyon UC	105	20.4	12.9	1	0			1976	n/a
LAS R001.09	07 0075L	Scott UC	105	17.1	12.9	1	0			1976	n/a
LAS R001.09	07 0075R	Scott UC	105	19.2	12.9	1	0			1976	n/a
LAS R004.60	07 0076L	Route 395/70 Separation	505	42.7	12.5	1	6.32			1976	n/a
LAS R004.60	07 0076R	Route 395/70 Separation	505	38.7	12.5	1	4.93			1976	n/a
LAS _015.87	07 0023	Long Valley Creek	101	23.4	12.9	1	0			2004	n/a
LAS R017.51	07 0068	Galeppi UC	201	20.7	12.8	3	0			1969	n/a
LAS R021.34	07 0052	Long Valley Creek Overflow	201	34.7	12.8	4	0			1969	n/a
LAS R022.97	07 0025	Doyle Overhead	204	54.9	12.8	3	7.14			1969	n/a
LAS R024.69	07 0053	Willow Ranch Creek	201	19.5	12.8	3	0			1969	n/a
LAS _026.19	07 0057	Long Valley Creek	119	12.2	13.1	3	0			1946	n/a
LAS _028.00	07 0056	Long Valley Creek	119	12.2	0.0	3	0			1946	n/a
LAS _062.19	07 0030	Standish Irrigation Canal	119	8.5	15.0	2	0			1936	1990
LAS R071.17	07 0080	Dill Slough	201	91.4	13.3	10	0			1992	n/a
LAS R071.92	07 0081	Susan River Overflow	201	91.4	13.3	10	0			1992	n/a
LAS _072.29	07 0034	Susan River	204	36.6	9.9	6	0			1954	1982
LAS R114.25	07 0074	South Termo Ditch	119	7.9	0.0	3	0			1971	n/a
MOD R001.93	03 0058	Flournoy Equipment UC	319	4.6	0.0	1	0			1965	n/a
MOD _003.73	03 0019	South Fork Pit River	201	28.0	9.9	4	0			1947	n/a
MOD R015.06	03 0055	Juniper OH	205	47.9	12.8	3	7.14			1971	n/a
MOD R016.52	03 0052	South Fork Pit River	201	51.8	12.8	6	0			1971	n/a
MOD R019.64	03 0053	South Fork Pit River	201	49.4	12.8	5	0			1971	n/a
MOD R020.77	03 0054	Alturas OH	205	50.3	12.8	3	7.04			1971	n/a
MOD _021.88	03 0023	North Fork Pit River	501	18.9	23.2	1	0	1.5	1.5	1971	n/a
MOD _026.23	03 0009	North Fork Pit River	201	41.8	13.5	5	0	0.2	0.2	1982	n/a
MOD _026.71	03 0010	Parker Creek	201	10.7	13.7	3	0			1954	n/a
MOD _032.62	03 0013	Toms Creek	101	4.3	0.0	1	0			1951	n/a
MOD _034.08	03 0014	Joseph Creek	101	5.9	13.8	1	99.99			1951	1954
MOD _054.46	03 0016	Willow Creek	811	5.2	15.1	1	0			1949	n/a

Traffic Control

Table 29 identifies locations on US 395 that have traffic signals or other traffic control devices.

Table 29: Traffic Control		
Post Mile	**Location**	**Description of Device**
LAS 61.58	Junction 36/395	Traffic signal
MOD 22.070	First Street	Flashing dual yellow signal for US 395 in both directions
MOD 22.480	Between Fifth and Eighth Streets	At-grade railroad crossing
MOD 22.764	Junction SR 299 south	Four-way stop with overhead flashing red lights

Agricultural Inspection Stations

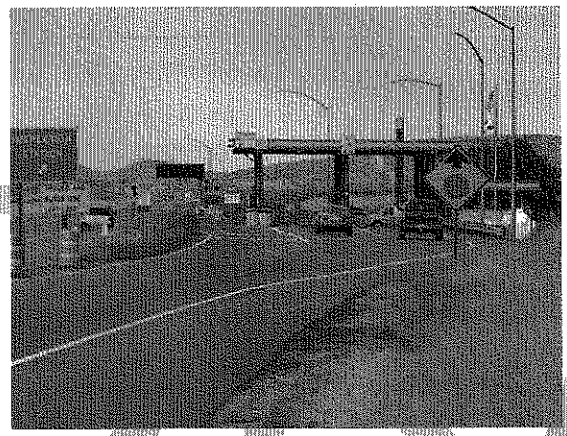


Figure 29. Long Valley Station (LAS R1.5)

An agricultural inspection station conducts agricultural inspections on all private and commercial vehicles near major borders. The California Department of Food and Agriculture operates the stations. Legal authority for inspection stations is found in the California Food and Agricultural Code, Sections 5341-5353 and 6301-6465.

Table 30: Agricultural Inspection Stations			
County	**Route**	**Post Mile**	**Name**
Lassen	US 395	R1.5	Long Valley Station
Modoc	US 395	27.0	Alturas Inspection Station

Chain Control Locations

Snow Chain Signs are traffic signs mounted on a fixed or portable support, conveying a message or symbol to regulate, warn, or guide traffic concerning snow conditions. The Department of Transportation reserves the right to prohibit any vehicle from entering a chain control area when it is determined the vehicle will experience difficulty in safely traveling the area. See **Table 31** for chain control locations.

Specific details about chain requirements can be found on the Caltrans website: http://www.dot.ca.gov/cttravel/chain-controls.html. To help keep you informed of changing conditions, Caltrans operates the Caltrans Highway Information Network (CHIN). Phone 1-800-427-ROAD (7623)

Table 31: Chain Control Locations			
County & Route	Chain Sign #	P.M.	Location
SIE-395	1-N	R0.4	Nevada Border
LAS-395	2-S	R4.4	.2 miles south of Hallelujah Junction
LAS-395	3-N	R4.8	.2 miles north of Hallelujah Junction
LAS-395	4-S	14.0	.3 miles south of Red Rock Road
LAS-395	5-N	14.3	Red Rock Road
LAS-395	6-S	R24.8	.6 miles north of Doyle
LAS-395	7-S	50.6	1.1 miles north of Honey Lake Rest Area
LAS-395	8-S	R61.1	Junction SR 36
LAS-395	9-N	92.2	.5 miles south of Karlo Road
LAS-395	10-N	129.3	.2 miles south of Madeline
LAS-395	11-S	138.3	1.7 miles south of Modoc county line

Maintenance Facilities

Maintenance Stations

The State Highway System represents a substantial taxpayer investment. State Statute mandates for the Department of Transportation to maintain the state highways, thus preservation of the existing system is a top priority for Caltrans. Maintenance Stations are facilities used by Caltrans to maintain the highway year-round. Field crews are responsible for daily maintenance of their assigned highway segments. Annual activities include snow removal, pothole patching, culvert cleaning, litter removal, paving, shoulder and weed maintenance. Caltrans maintenance staff also responds to highway incidents including traffic accidents, landslides, falling rocks, and hazardous material spills. The maintenance stations listed in **Table 32**, lists those stations that are responsible for US 395.

Figure 30. Susanville Maintenance Station (LAS R60.3)

Table 32: Maintenance Stations					
Number	Name	County	Route	PM	Facility
671	Beckwourth	Plumas	SR 70	81.3	Highway Maintenance Station
662	Susanville East	Lassen	Just off US 395	R60.3	Area Superintendent, Highway Maintenance Station
667	Alturas	Modoc	US 395	23.0	Highway Maintenance Station

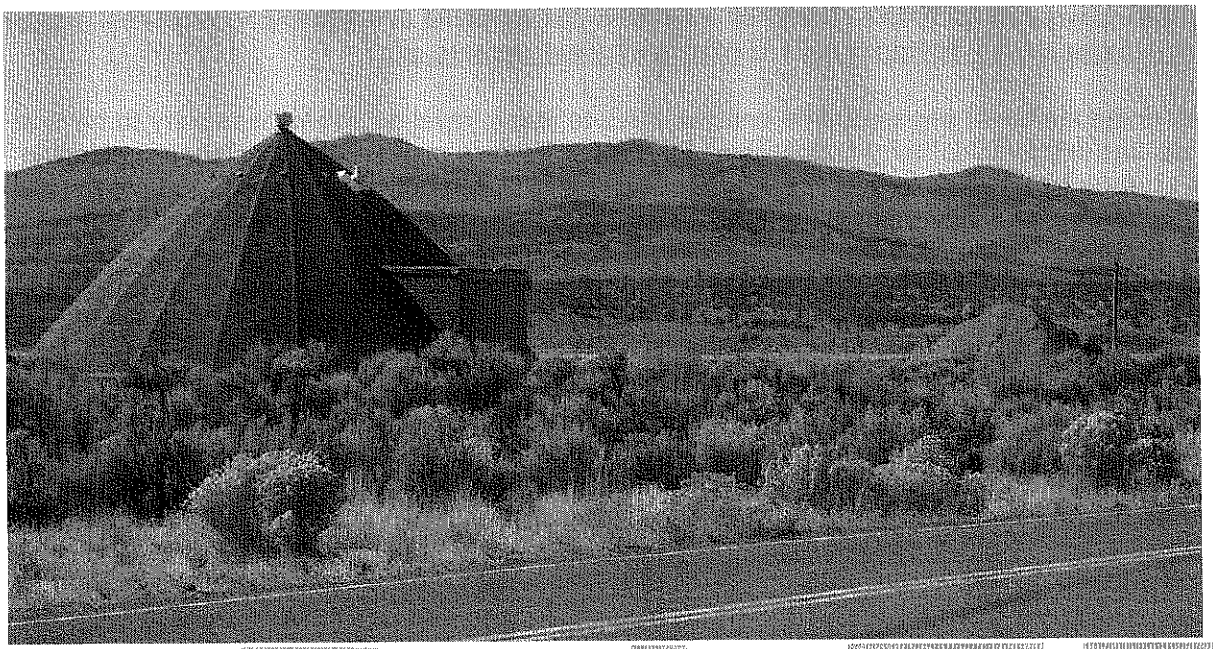


Figure 31. Termo Sandhouse (Near LAS 115.4)

Sand and Salt Storage

Sand houses are storage facilities for abrasives and deicers. Sand houses are located in areas where temperatures are consistently low in the winter. See **Table 33: Sand and Salt Storage**.

Table 33: Sand and Salt Storage

Route	Post Mile
SR 70	LAS 3.6
US 395	LAS 115.2
SR 299	MOD 50.2

Intelligent Transportation Systems (ITS)

Intelligent Transportation Systems (ITS) consists of a broad range of wireless and wire line communications-based information and electronics technologies used to address existing transportation problems. These technologies can be used to provide early warning and real-time information, and often offer the potential to improve safety and efficiency relatively quickly and at a reasonable cost. In addition, ITS elements are used to provide advanced warning about adverse road conditions or incidents, giving travelers the option to adjust their travel plans. Road and traffic information may be obtained via Caltrans' highway conditions website http://www.dot.ca.gov/cgi-bin/roads.cgi Caltrans maps and traffic cameras may be accessed here: http://www.dot.ca.gov/dist2/maps.htm

Some of the ITS technologies include: Closed Circuit Televisions (CCTV), Changeable Message Signs (CMS), Highway Advisory Radios (HAR), and Roadway Weather Information Systems (RWIS). CCTV and RWIS are used as surveillance and traveler information devices, for monitoring

road and weather conditions. Weather conditions can be found at the following websites: http://www.dot.ca.gov/cgi-bin/roads.cgi and http://www.weathershare.org/

Informing the driver ahead of time enables them to make travel decisions necessary to have a safe and efficient trip. Information obtained via the internet may be used for pre-trip planning to change travel plans or routes. ITS elements are often strategically located along the state highways before major traveler "decision points," to transmit roadway conditions ahead, and can be especially useful for areas that are remote or at higher elevations. These devices provide additional details such as information about road closures, or delays due to adverse weather conditions. See **Table 34** for a list of Existing ITS Elements and **Table 35** for a list of Possible Future ITS Elements.

Table 34: Existing Intelligent Transportation Systems (ITS)

County	Route	Post Mile	Type	Location	Status
Lassen	US 395	R1.6	HAR	Long Valley Inspection Station	Existing (Upgrade)
Lassen	US 395	R1.7	CMS	Long Valley Inspection Station	Existing
Lassen	US 395	R1.7	HAR	North of Long Valley Inspection Station	Existing
Lassen	US 395	R21.9	RWIS	Doyle (Hall Road)	Existing
Lassen	US 395	R21.9	CCTV	Doyle (Hall Road)	Existing
Lassen	US 395	51.7	HAR FLASHER	Buntingville Road	Existing
Lassen	US 395	53.1	RWIS	Janesville (Sears Road)	Existing
Lassen	US 395	53.1	CCTV	Janesville (Sears Road)	Existing
Lassen	US 395	R60.0	HAR FLASHER	Diane Drive	Existing (Upgrade)
Lassen	US 395	R60.1	HAR	Susanville	Existing
Lassen	US 395	R60.9	CMS	US395/SR36 S/B Wind Warning	Existing
Lassen	US 395	R61.1	CCTV	SR36-US395 (Susanville)	Existing
Modoc	US 395	R20.9	HAR FLASHER	Glenn Street (south of Alturas)	Existing
Modoc	US 395	23.1	HAR	Alturas (at maintenance station)	Existing
Modoc	US 395	23.7	HAR FLASHER	Pencil Road (north of Alturas)	Existing

Source: California Department of Transportation, District 2 Division of Traffic Management (Month Year)

CCTV = Closed Circuit Television
CMS = Changeable Message Sign
HAR = Highway Advisory Radio
HAR FLASHER = Highway Advisory Radio Sign
RWIS = Roadside Weather Information System

Table 35: Possible Future Intelligent Transportation Systems (ITS)					
County	Route	Post Mile	Type	Location	Status
Washoe (Nevada)	US 395		CMS	9 miles from California/ Nevada state line	Possible
Lassen	US 395	R4.61	CCTV	Hallelujah Junction	Possible
Lassen	US 395	R60.9	RWIS	US 395/SR 36	Possible
Lassen	US 395	115.2	RWIS	Termo	Possible
Lassen	US 395	133.3	CCTV	Sage Hen Summit	Possible
Lassen	US 395	133.3	RWIS	Sage Hen	Possible
Modoc	US 395	R20.9	CMS	South of Alturas	Possible
Modoc	US 395	22.8	CCTV	SR299/US395 (Alturas)	Possible
Modoc	US 395	27.1	CMS	North of Alturas	Possible
Source: California Department of Transportation, District 2 Division of Traffic Management (Month Year)					
CCTV = Closed Circuit Television CMS = Changeable Message Sign HAR = Highway Advisory Radio			HAR FLASHER = Highway Advisory Radio Sign RWIS = Roadside Weather Information System		

Figure 32. Janesville Park and Ride (LAS 52.6)

Vista Points

Vista Points are paved areas beyond the shoulder, which permit travelers to safely exit the highway to stop and view a scenic area. In addition to parking areas, trash receptacles, interpretive displays, and in some cases rest rooms, drinking water, and telephones may be provided. See **Table 36**.

Table 36: Vista Points			
County	Route	Post Mile	Location
Modoc	US 395	R20.4	Modoc National Wildlife Refuge
Modoc	US 395	MOD 51.9	Goose Lake Vista Point

Park and Ride Lots

Park & Ride lots are locations where patrons drive private automobiles or ride bicycles to a transit station or carpool/vanpool waiting area, and park the vehicle. They then ride the transit system, take a carpool, or vanpool to their destinations. Agencies other than Caltrans may operate Park & Ride lots. Official park and ride lots on US 395 are listed in **Table 37**.

Table 37: Park and Ride Lots

County	Route	Post Mile	Name
Lassen	US 395	52.6	Janesville

Passing Lanes and Truck Climbing Lanes

Passing lanes are portions of the roadway provided for weaving, passing, speed change, or for other purposes supplementary to through traffic movement.

Truck climbing lanes are additional lanes added to improve traffic movement around slow moving vehicles on a grade. See **Table 38**.

Table 38: Passing and Truck Climbing Lanes on US 395

Begin	End	Location Description	Type	Direction
LAS 9.0	LAS 10.0	From 4.5 miles north to 5.6 miles north of the SR 70 junction	P	Northbound
LAS 11.7	LAS R10.3	From 2.6 miles south of Red Rock Road to 5.8 miles north of the SR 70 junction	P	Southbound
LAS 26.6	LAS 27.6	From Laver Crossing to .4 miles south of Long Valley Creek	P	Northbound
LAS 29.8	LAS 28.8	From Garnier Road to .8 miles north of Long Valley Creek	P	Southbound
LAS 35.1	LAS 36.3	From .6 miles north of A25 to 1.8 miles north of A25	P	Northbound
LAS 41.4	LAS 40.5	From .7 miles south of Milford Grade to 1.5 miles south of Milford Grade	P	Southbound
LAS 46.0	LAS 46.7	From four miles north of Milford to three miles south of the Honey Lake Rest Area	P	Northbound
LAS 49.8	LAS 48.9	From .2 miles north of the Honey Lake Rest Area to .7 miles south of the Honey Lake Rest Area	P	Southbound
LAS 54.3	LAS 55.4	From .2 miles north of Church Street to .2 miles north of Janesville Road	P	Northbound
LAS 57.2	LAS 57.7	From .4 miles south of Bass Hill Road to Bass Hill Road	P	Northbound
LAS 58.0	LAS 57.4	From .5 miles north of Bass Hill Road to .1 mile south of Bass Hill Road	P	Southbound
MOD 4.6	MOD 4.8	From .4 miles north of CR 189 to .6 miles north of CR 189	T	Northbound
MOD 4.8	MOD 4.6	From .6 miles north of CR 189 to .4 miles north of CR 189	T	Southbound

P= Passing lanes
T= Truck climbing lanes
Turnout locations are included in the appropriate fact sheets.

Roadside Rest Areas

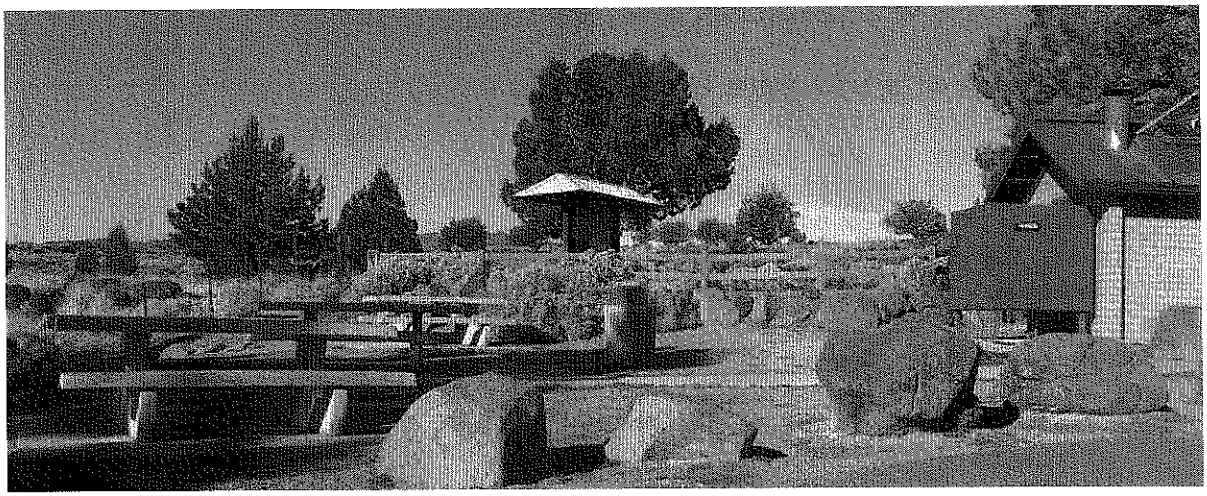


Figure 33. Secret Valley Rest Area (LAS 96.9)

Safety Roadside Rest Areas (SRRA) area roadside areas provided for motorists to stop and rest for short periods. State facilities usually include paved parking areas, drinking water, toilets, tables, benches, telephones, and information panels. Other agencies may also operate roadside rest areas with different ranges of amenities.

Table 39: Roadside Rest Areas

County	Route	PM	Name	Which side of highway?
Lassen	US 395	49.7	Honey Lake Safety Roadside Rest Area	Northbound
Lassen	US 395	96.9	Secret Valley Safety Roadside Rest Area	Southbound

Weigh Stations

California's "Commercial Vehicle Enforcement Facilities" are commonly called weigh stations or truck scales. These facilities are operated by the California Highway Patrol (CHP). **Table 40** lists weigh stations located on US 395.

Table 40: Weigh Stations

Route	County & Post Mile	Location	Name	Facility Type	Status
US 395	LAS 49.9	15 miles south of Susanville	Honey Lake Commercial Vehicle Enforcement Facility	Mini-site	Active
US 395	LAS 60.7	South of Susanville	Johnstonville Commercial Vehicle Enforcement Facility	Mini-site	Active
US 395	LAS 114.8	Termo	Termo Commercial Vehicle Enforcement Facility	Mini-site	Active
US 395	MOD 54.0	Six miles south of the Oregon border	Davis Creek Commercial Vehicle Enforcement Facility	Mini-site	Inactive

California Vehicle Code Section 2813 outlines who must stop at weigh stations and inspection stations:

2813. Every driver of a commercial vehicle shall stop and submit the vehicle to an inspection of the size, weight, equipment, and smoke emissions of the vehicle at any location where members of the California Highway Patrol are conducting tests and inspections of commercial vehicles and when signs are displayed requiring the stop. Every driver who fails or refuses to stop and submit the vehicle to an inspection when signs are displayed requiring that stop is guilty of a misdemeanor.

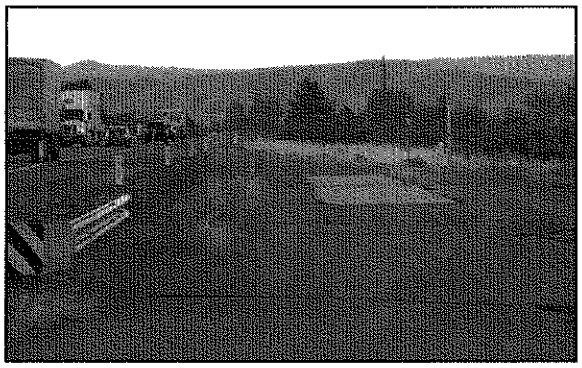


Figure 35. Weigh Station Mini-Site (LAS 49.9)

AIRPORTS

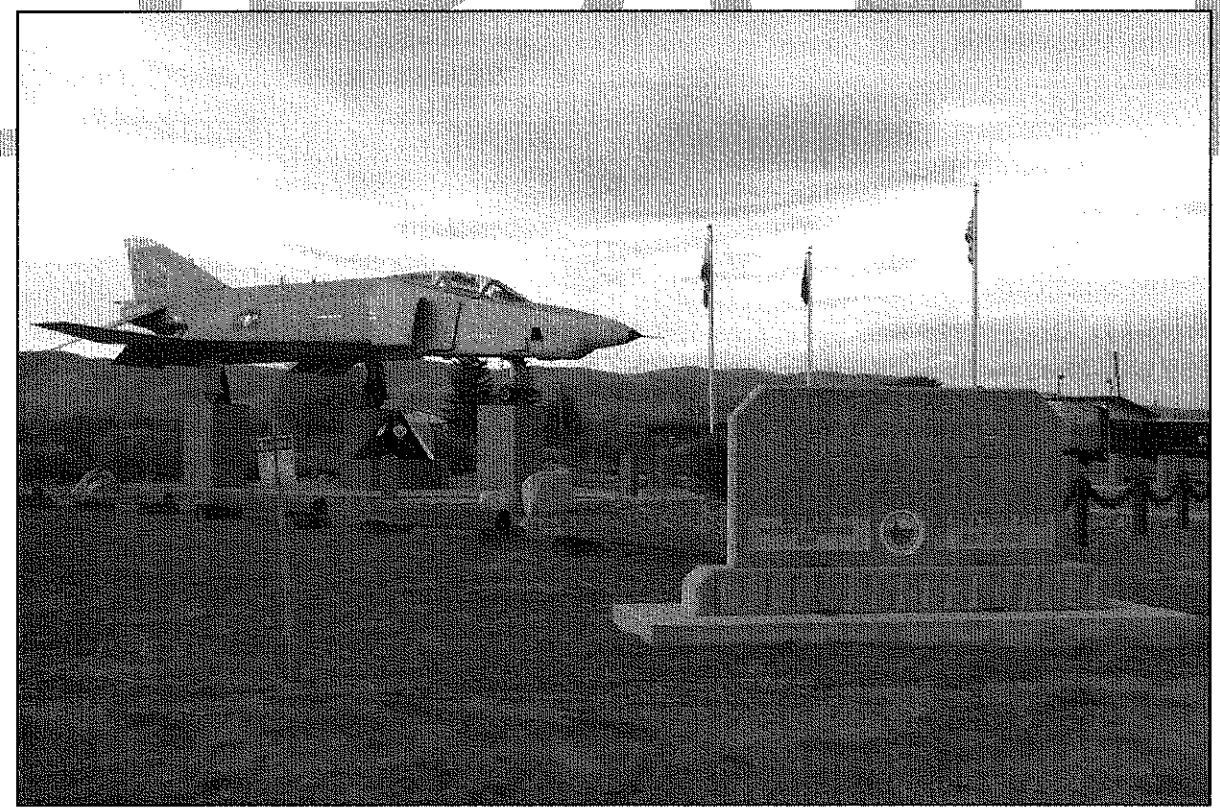


Figure 34. Susanville Airport (LAS R60.3)

Municipal airports typically serve as transfer points for commercial delivery services, such as: United Parcel Service (UPS) and Federal Express (FedEx), as bases for fighting wild land fires, and used for general business and recreational flying.

General Aviation Airports often include both commercial and non-commercial aviation activities, including air ambulance, air charter flights, aircraft rental, sale of aviation petroleum products and aircraft parts, aircraft repair and maintenance.

Table 41 lists airports along or in close proximity to US 395.

Table 41: Airports near US 395

Name	Location	Owner	Type
Herlong	Five miles north of route in Herlong, Lassen County	County of Lassen	Limited Use
Amedee AAF	Fifteen miles east of route in the Sierra Army Depot, Lassen County	U.S. Army Aeronautical Services Agency	Military
Susanville Municipal Airport, (SVE)	Along route near LAS 60.3	City of Susanville	Regional
Ravendale	Along route in Ravendale, LAS 108.5	County of Lassen	Limited Use
California Pines	Ten miles southwest of Alturas	California Pines Community Services District	Limited Use
Alturas Municipal Airport, (AAT)	Just west of Alturas	City of Alturas	Community

APPENDIX H: TRUCK INFORMATION

TRUCK MAP LEGEND
TRUCK LENGTHS & ROUTES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Click here for the Truck Network Map

CALIFORNIA LEGAL ROUTES California Legal trucks (black trucks) can travel on STAA routes (green and blue routes), CA Legal routes (black routes), and Advisory routes (yellow routes). CA Legal trucks have access to the entire State highway system except where prohibited (some red routes).

California Legal Truck Tractor - Semitrailer

Semitrailer length	:	no limit
KPRA*	:	40 feet maximum for two or more axles, 38 feet maximum for single-axle trailers
Overall length	:	65 feet maximum

*(KPRA = kingpin-to-rear-axle)

California Legal Truck Tractor - Semitrailer - Trailer (Doubles)

Option A

Trailer length	:	28 feet 6 inches maximum (each trailer)
Overall length	:	75 feet maximum

Option B

Trailer length	:	one trailer 28 feet 6 inches maximum, other trailer may be longer than 28 feet 6 inches
Overall length	:	65 feet maximum

CA LEGAL ADVISORY ROUTES - CA Legal trucks only; however, ***travel not advised*** if KPRA length is over posted value. KPRA advisories range from 30 to 38 feet.

STAA ROUTES The STAA Network allows the "interstate" STAA trucks which are the green trucks shown below. The STAA Network consists of the National Network (green routes, primarily interstates) and Terminal Access routes (blue, primarily State routes). ("STAA" = federal Surface Transportation Assistance Act of 1982.)

(Click here for the Truck Network Map.)

Interstate "STAA" Truck Tractor - Semitrailer

Semitrailer length	:	48 feet maximum
KPRA*	:	no limit
Overall length	:	no limit

*(KPRA = kingpin-to-rear-axle)

Semitrailer length	:	over 48 feet up to 53 feet maximum
KPRA	:	40 feet maximum for two or more axles, 38 feet maximum for single-axle trailers
Overall length	:	no limit

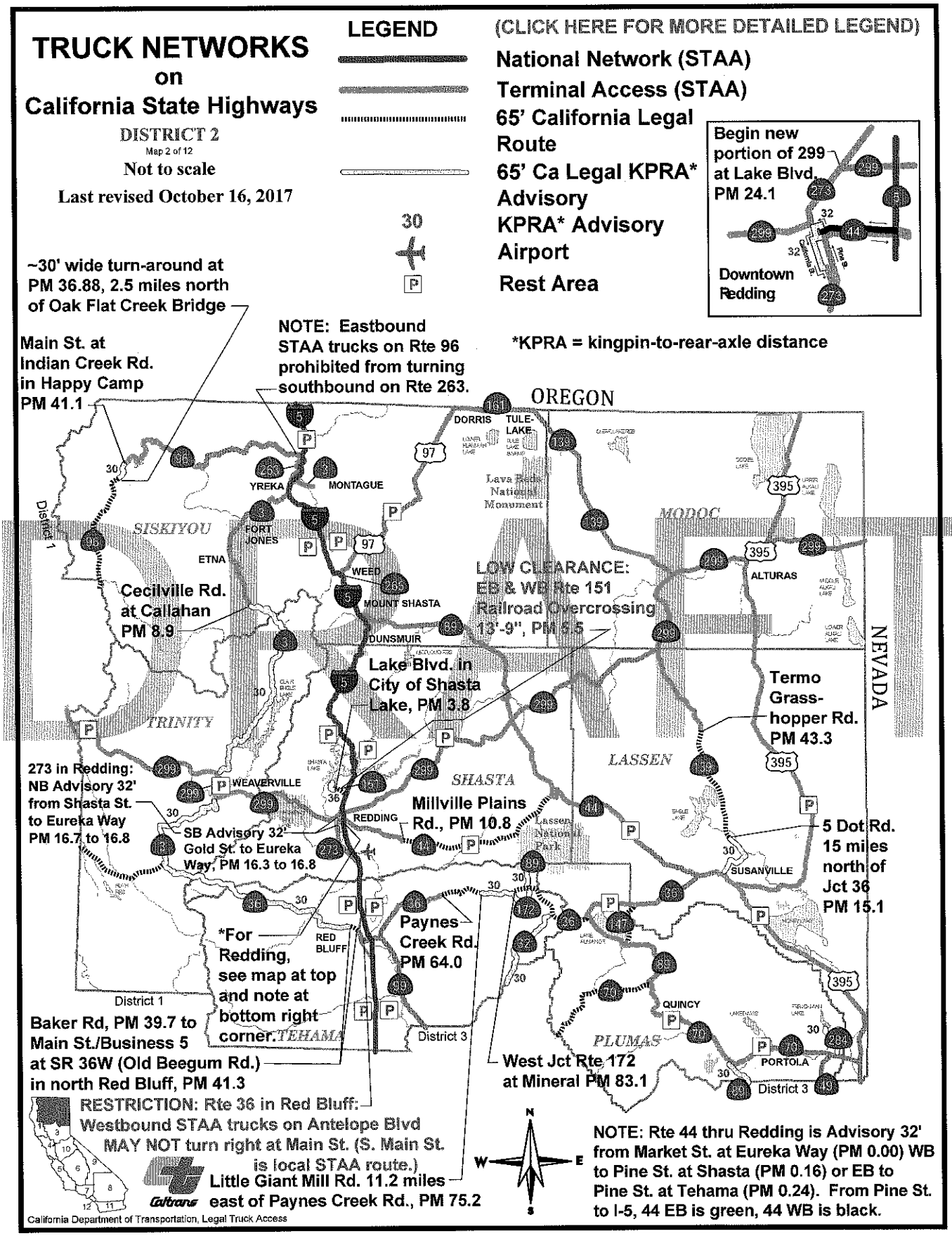
Interstate "STAA" Truck Tractor - Semitrailer - Trailer (Doubles)

Trailer length	:	28 feet 6 inches maximum (each trailer)
Overall length	:	no limit

Terminal Access - Interstate "STAA" trucks may travel on State highways that exhibit this sign.

Service Access - Interstate "STAA" trucks may travel up to one road mile from the off ramp to obtain services (food, fuel, lodging, repairs), provided the route displays this sign.

SPECIAL RESTRICTIONS - Route restricted for vehicle length or weight, cargo type, or number of axles. Click here for the list of Special Route Restrictions.


TRUCK NETWORKS
on
California State Highways
DISTRICT 2
Map 2 of 12
Not to scale
Last revised October 16, 2017
LEGEND
(CLICK HERE FOR MORE DETAILED LEGEND)
National Network (STAA)
Terminal Access (STAA)
65' California Legal Route
65' Ca Legal KPRA* Advisory
KPRA* Advisory
Airport
Rest Area
*KPRA = kingpin-to-rear-axle distance
Begin new portion of 299 at Lake Blvd. PM 24.1
Downtown Redding
~30' wide turn-around at PM 36.88, 2.5 miles north of Oak Flat Creek Bridge
Main St. at Indian Creek Rd. in Happy Camp PM 41.1
NOTE: Eastbound STAA trucks on Rte 96 prohibited from turning southbound on Rte 263.
OREGON
NEVADA
DORRIS
TULE-LAKE
YREKA
MONTAGUE
Lava Beds National Monument
MODOC
SISKIYOU
FORT JONES
ETNA
WEED
MOUNT SHASTA
DUNSMUIR
ALTURAS
Cecilville Rd. at Callahan PM 8.9
LOW CLEARANCE: EB & WB Rte 151 Railroad Overcrossing 13'-9", PM 5.5
Lake Blvd. in City of Shasta Lake, PM 3.8
Termo Grass-hopper Rd. PM 43.3
TRINITY
SHASTA
LASSEN
WEAVERVILLE
REDDING
Millville Plains Rd., PM 10.8
Lassen National Park
SUSANVILLE
5 Dot Rd. 15 miles north of Jct 36 PM 15.1
273 in Redding: NB Advisory 32' from Shasta St. to Eureka Way PM 16.7 to 16.8
SB Advisory 32' Gold St. to Eureka Way, PM 16.3 to 16.8
Paynes Creek Rd. PM 64.0
RED BLUFF
*For Redding, see map at top and note at bottom right corner.
TEHAMA
District 1
District 3
QUINCY
PLUMAS
PORTOLA
Baker Rd, PM 39.7 to Main St./Business 5 at SR 36W (Old Beegum Rd.) in north Red Bluff, PM 41.3
West Jct Rte 172 at Mineral PM 83.1
RESTRICTION: Rte 36 in Red Bluff: Westbound STAA trucks on Antelope Blvd MAY NOT turn right at Main St. (S. Main St. is local STAA route.)
Little Giant Mill Rd. 11.2 miles east of Paynes Creek Rd., PM 75.2
NOTE: Rte 44 thru Redding is Advisory 32' from Market St. at Eureka Way (PM 0.00) WB to Pine St. at Shasta (PM 0.16) or EB to Pine St. at Tehama (PM 0.24). From Pine St. to I-5, 44 EB is green, 44 WB is black.
Caltrans
California Department of Transportation, Legal Truck Access

APPENDIX I: CAPACITY ANALYSIS AND LEVEL OF SERVICE

Methodology:
The standard reference in highway capacity analysis is the **Highway Capacity Manual** prepared by the Transportation Research Board (National Research Council, Washington, D.C.). The Highway Capacity Manual is a collection of the state-of-the-art techniques for estimating the capacity and determining the level of service for transportation facilities. It represents a systematic and consistent basis for evaluating transportation facilities with procedures that are applicable nation-wide.

Capacity Analysis:
The set of procedures and methodologies used for estimating the traffic-carrying ability of various transportation facilities is broadly referred to as capacity analysis. ***A principal objective of capacity analysis is to estimate the number of vehicles that a facility can accommodate during a specified period of time. Capacity analysis is also used to estimate the maximum amount of traffic that a facility can accommodate while maintaining a prescribed level of operation***. Common outputs of capacity analysis are estimates of the quality of operation (level of service) for a given facility.

Capacity:
The capacity of a facility is the maximum hourly rate at which persons or vehicles reasonably can be expected to traverse a point or uniform section of lane or roadway during a given time period under prevailing roadway, traffic and control conditions. It represents the flow rate that can be achieved during peak periods of demand. Capacity is affected by a number of factors such as lane and shoulder widths, density of access points, interchange spacing, grade, and types of vehicles in the traffic stream. Capacity values are determined differently by mode (auto, bus, pedestrian, bicycle) and by facility (freeway, highway, urban street, intersection, etc.).

Level of Service:
Level of Service (LOS) is a qualitative measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six LOS are defined for each type of facility analyzed. Letters designate each level, from "A" to "F", with LOS "A" representing the best operating conditions and LOS "F" the worst.

Methodologies:
The HCM contains analytical methodologies for the following situations: urban streets, signalized intersections, unsignalized intersections, pedestrians, bicycles, two-lane highways, multilane highways, freeway facilities, basic freeway segments, freeway weaving, ramps, interchanges and transit. Capacity and level of service is determined differently for each facility type, so direct comparisons across facility types should not be made.

Two-Lane Highway Methodology – Chapter 15, HCM 2010:
A two-lane highway is an undivided roadway with two lanes, one for use by traffic in each direction. On a two-lane undivided highway, traffic flow is affected by a number of factors, including geometric conditions (curvature, lane widths, shoulder widths, etc.), sight distance and grade. Traffic flow in one direction is also influenced by traffic flow in the other direction. Travel speeds fall and time spent following other vehicles rises as volumes increase and traffic in the opposing direction reduces opportunities to pass.

The performance measures used to determine level of service for two-lane highways are percent time spent following, average travel speed and percent of free-flow speed. Percent time spent following is the average percentage of travel time that vehicles must travel in platoons behind slower vehicles due to the inability to pass. Average travel speed is the average of the travel time of all vehicles over a designated interval. Percent of free-flow speed is the ratio of average travel speed to free flow speed (approximately equal to posted speed) over a designated interval.

For purposes of analysis, two-lane highways are divided into three classes based on the primary type of use and driver expectations:

Class I –
These are two-lane highways on which motorists expect to travel at relatively high speeds. Two-lane highways that are major inter-city routes, primary arterials connecting major traffic generators, or primary links in state or national highway networks generally are assigned to Class I.

Class II –
These are two-lane highways on which maintaining high travel speeds are not necessarily the most important objective of motorists. Two-lane highways that serve as scenic or recreational routes, are not primary arterials, or pass through rugged terrain generally are assigned to Class II.

Class III –
Class III is applicable in situations where a two-lane highway passes through a small town, recreational area or other location with posted speed limits less than 55 mph. In these situations motorists primarily want to proceed at a reasonable speed and generally do not expect to have an opportunity to pass.

The level of service (LOS) for Class I highways is defined in terms of both percent time spent following and average travel speed. For Class II facilities, the LOS is defined only in terms of percent time spent following. The LOS on Class III segments is defined in terms of percent of free-flow speed. The tables below provide the criteria (break-points) for level of service for each facility type.

Table 42: Level of Service Criteria for Two-Lane Highways in Class I

LOS	Percent Time Spent Following	Average Travel Speed (mi/h)
A	< 35	> 55
B	> 35-50	> 50-55
C	> 50-65	> 45 –50
D	> 65-80	> 40-45
E	> 80	< 40
F	Vehicle flow rate exceeds capacity	

Table 43: Level of Service Criteria for Two-Lane Highways in Class II	
LOS	Percent Time Spent Following
A	< 40
B	> 40-55
C	> 55-70
D	> 70-85
E	> 85
F	Vehicle flow rate exceeds capacity

Table 44: Level of Service Criteria for Two-Lane Highways in Class III	
LOS	Percent of Free-Flow Speed
A	> .92
B	> .83-.92
C	> .75-.83
D	> .67-.75
E	< .67
F	Vehicle flow rate exceeds capacity

Source: Highway Capacity Manual 2010.

APPENDIX J: TRAFFIC FORECAST

Basis of forecast

Twenty-two factors were examined to determine their future impact on the route. Some of these included were historic traffic volumes; historic and potential development; historic and future national, state, and regional trends; emerging transportation technologies; and induced demand.

Two properties of each factor was considered: the probability of the factor occurring and what impact the factor would have should it occur. An example of a factor that could increase volumes significantly, but has an unknown chance of occurring, is expansion of operations at the Sierra Army Depot. Other factors with unknown chances of occurring include redevelopment of Herlong, emerging technologies such as autonomous vehicles, migration to Nevada to avoid road charging while continuing to work in California, and whether I-11 will be constructed on the US 395 alignment. Factors such as these were assigned a low weight in determining growth rate, even though, should they occur, there could be an increase in volumes much higher than the forecast in this TCR.

Below is a list of some other factors that were considered in developing the forecast.

Historic Traffic Growth Rates

AADT records extend back to 1968. The increase in AADT along some sections was as high as 135 vehicles per year for the period from 1968 to 2010. During the period from 1990 to 2010, AADT increased by about half the rate. During the last ten years, volumes along some segments decreased, suggesting that using historic volume changes alone could not be the only criteria used in forecasting volumes for US 395.

Historic volumes were, however, still considered in developing this forecast. The evaluation of historic AADT involved exploring which events had an impact on traffic volumes and measuring how volumes increased or decreased. The analysis also involved considering the likelihood of those events occurring in the future.

Lumber Mill Closures

In the 1990s and 2000s, there was a decrease in growth rate along US 395. During those two decades, lumber mills in nearby communities, such as Alturas and Susanville, closed. Future volumes are unlikely to be affected by mill closures because there are no mills remaining in the vicinity of US 395.

Changes in Land Use

Historic and potential future development and changes in land use were also considered. One example of development that had an impact on volumes is the construction and expansion of three prisons (California Correctional Center, High Desert State Prison and Federal Correctional Institution (FCI), Herlong) near US 395 from the 1960s-2000s. The prisons, which are among the top employers in Lassen County, also generate many trips along US 395. A review of county and city general plans and regional transportation plans helped to inform the US 395 volume forecast.

National, State, and Regional Trends

National, state, and regional trends were also considered in developing this forecast. Some of the trends considered include population, vehicle ownership, rural/urban in- and out- migration and changes in type of employment. Emerging and future technologies were also considered.

Cold Springs, Nevada

There are multiple variables whose impacts are difficult to foresee. For example, changes in land use and cross-state-border development. The analysis strongly suggests that new development from 2000-2010 in Cold Springs, Nevada; just east of the California state line; contributed to increases in AADT along US 395. During the decade from 2000 to 2009, 1,757 new homes were constructed in Cold Springs, which is over half of the total housing units in the community. Although the population of Cold Springs is projected to increase, the rate of growth is expected to slow due to resource and land constraints.

Induced Travel

For many years, the future concept for US 395 was to expand the section from SR 70 to SR 36 to a four-lane expressway. Evidence suggests that adding capacity to highways can lead to increased VMT through induced travel, even along rural highways. However, the impacts of capacity expansion might not be detectable within the first 20 years. Therefore, this factor did not influence the forecast as much as some of the other factors, since the TCR horizon is 20 years into the future.

Growth Rate: Conclusion

South of Susanville

Most of the factors with an unknown potential for occurring are along the section of US 395 south of Susanville. Many of those factors could have a substantial impact on traffic volumes, should they occur. Since the methodology applied little weight to the unknown factors, the forecast included in the Route Performance Table is lower than that which could materialize.

North of Susanville

Although there are several factors with an unknown chance of occurring, if they did occur, they would probably have only a small impact on volumes. For example, gas price is difficult to forecast. But extreme changes to the price of gas would probably not have a significant impact on volumes in the short term because many of the trips are made by automobile-dependent residents, who are already making trips sparingly.

APPENDIX K: ALTERNATIVES CONSIDERED

Alternative A No Action	Alternative B Two-Lane Concept with Passing Lanes Package	Alternative C Contiguous Four Lanes	Alternative D (Recommended) Four-Lane Divided Expressway
Advantages • No need to change how business is currently conducted on US 395 • Probably the lowest initial cost	Advantages • Lower cost than Alternatives C and D • Less environmental impact than Alternatives C and D • Improvement to operations compared to Alternative A • Within existing right-of-way	Advantages • Lower cost than Alternative D • Less environmental impact than Alternative D • Improvement to operations compared to Alternatives A and B • Mostly within existing right-of-way • It meets public and LCTC expectation of four lanes	Advantages • Best addresses need for increased safety • Best operational outcome • It meets public and LCTC expectations of four lanes • Substantially lower traffic control costs[1]
Disadvantages • This approach has led to disappointment from LCTC and public • Makes little progress toward future goal • Likely to result in lowest performing future outcome	Disadvantages • Difficulty obtaining capacity funding • Weak argument to satisfy safety needs • It would be against public and LCTC expectations • Requires multiple and complex implementation actions • Components such as median barriers and turn prohibitions could limit access to properties and communities • Remaining two-lane sections will still have operational issues • 20-40% higher traffic-control associated costs than Alternative D[1]	Disadvantages • Difficulty obtaining capacity funding • Weak argument to satisfy safety needs • Need to increase field maintenance forces • Wildlife over- and under- crossings would be needed • 20-40% higher traffic-control associated costs than Alternative D[1]	Disadvantages • Highest cost • Will be challenging to secure level of funding needed • Longest time-frame to implement • More right-of-way needed • Wildlife over- and under- crossings would be needed • Requires innovative implementation strategies • Need to increase field maintenance forces

[1]Cost savings result from reducing or eliminating the need for lane closures and the physical separation between construction activities and live traffic. The contractor has greater flexibility to perform activities (especially earthwork and structure construction), fewer staging restrictions, fewer traffic control items (such as K-rail and flaggers), and fewer work window restrictions (such as limiting work to nights-only). Total time related overhead costs are also lower when fewer work restrictions allow a project to be completed in fewer construction seasons.

APPENDIX L: ACCESS MANAGEMENT

Access management relates to coordinated efforts by the state and local agencies to manage exit from- and entrance to- highways to provide optimum safety, cost effectiveness, efficiency, comfort, and convenience for the traveling public. It involves strategic placement of new access, or managing existing access to improve traffic operations. Points of entry and exit are necessary for business and residential access, but also result in cross traffic and potential conflict between vehicles, bicyclists and pedestrians. A comprehensive access management program normally involves legislative, technical and enforcement components.

Access management should not be confused with access control nor should access management be confused with access openings, which are simply public or private rights to access through the access control line as long as State requirements are met. Both access control and access openings can be incorporated into an access management program.

Well-managed and designed access can encourage business investment, improve aesthetics and reduce adverse social, economic and environmental impacts. The benefits of access management may include:

- Improving safety
- Lowering collisions involving pedestrians and cyclists
- Reducing traffic congestion
- Maintaining efficiency of mainline operations
- Enhancing the environment by reducing fuel consumption and emissions
- Improving the appearance and quality of the built environment for communities

Methods to manage access may include:

- Eliminating access points near major intersections
- Spacing signals uniformly
- Consolidating access points to reduce frequency and increase spacing (create joint or shared access)
- Applying left and right-turn channelization
- Implementing non-traversable medians or directional median openings for left turns and u-turns
- Utilizing continuous two-way left turn lanes
- Developing local streets and roads that parallel the arterial and serve abutting properties

Potential strategies:

- Strategy 1: Work with agencies during General Plan development to establish access management policies in the circulation element
- Strategy 2: Consider access management objectives during the Local Development Review (LDR) process
- Strategy 3: Check for consistency with access management objectives during review and approval of encroachment permits
- Strategy 4: Maintain areas of existing access control

- Strategy 5: Undertake access management studies in cooperation with local and regional partners
- Strategy 6: Identify areas where focused access management strategies or acquisition of access control may have significant operational benefits

Access management has been a key priority along US 395, particularly along the section between Hallelujah Junction and the SR 36 junction, as documented in previous studies and reports for the highway. In 1984, a draft access management study was developed by Lassen County and Caltrans. The study recommended several strategies:

1. Limiting or reducing the number of access openings
2. Setting a minimum distance between openings
3. Converting private openings which serve more than two parcels to public openings
4. Establishing an equitable cost-sharing procedure for developers
5. Settling maintenance responsibility for road connections onto the highway
6. Requiring development of frontage road to prevent need for additional access openings that exceed thresholds in number 2 above
7. One foot grant: requiring adjacent property owners, at the time of a land division proposal, to deed a one-foot strip of right of way in order to deny future access to abutting lots
8. Relinquish right of ingress and egress: adjacent properties could be relinquished of the right to enter and exit directly onto or off of US 395 when a land division is proposed
9. Frontage road buffers: frontage roads could be required as a condition of approval of a land division proposal
10. County plans could identify acceptable locations for roads which would feed into intersections with the through highway

In 1985, the Lassen County Board of Supervisors passed Resolution No. 85/86-41, requesting that District 2 prepare a master controlled access highway agreement showing a plan for location and spacing of future public road connections along US 395 from Hallelujah Junction to the junction with SR 36.

In 1989, an access management status report was developed. The status report identified locations along US 395 between SR 70 and SR 36 that exceeded the optimum of two access openings per mile. The two areas having the greatest density of access openings were near Milford and Herlong Junction. Doyle was identified as an "area of concern."

In 2007, studies were conducted to determine the purpose and need for the Honey Lake Expressway Corridor Master Plan; a plan to expand US 395 between Hallelujah Junction and the SR 36 junction from a two-lane conventional highway to 4-lane divided expressway. The plan would address the need for access control, improved circulation, improved safety, identification of access points and an upgrade to a four-lane divided expressway.

APPENDIX M: US 395 FOUR-LANE DIVIDED EXPRESSWAY IMPACT CHECKLIST

This checklist is to be used during review and development of every transportation and land use project along US 395 between SR 70 (Halleluiah Junction) and SR 36 (east of Susanville). The purpose of the checklist is to foster consideration of the relationship and impact of the proposed project to the future goal of a four-lane divided expressway. The list is intended to help avoid actions that will negatively impact achievement of that goal and encourage actions that will help attain that goal.

US 395 Four-Lane Divided Expressway Impact Checklist	
How will the proposed project positively or negatively affect progress toward attainment of a four-lane divided expressway?	
Issue: Access Point Consolidation	Discussion:
Considered:	Decision:
Issue: Driveway Closures	Discussion:
Considered:	Decision:
Issue: Obtain Access Control	Discussion:
Considered:	Decision:
Issue: Obtain Right-of-Way	Discussion:
Considered:	Decision:
Issue: Frontage Road Const.	Discussion:
Considered:	Decision:
Issue: Utility – New/Relocation	Discussion:
Considered:	Decision:
Issue: Wildlife Crossings	Discussion:
Considered:	Decision:
Issue: Mitigation Sites	Discussion:
Considered:	Decision:

Issue: Proximity to Communities	Discussion:
Considered:	Decision:
Issue: Building Setbacks	Discussion:
Considered:	Decision:
Issue: Access Onto Frontage Road	Discussion:
Considered:	Decision:
Issue: Noise Attenuation	Discussion:
Considered:	Decision:
Issue:	Discussion:
Considered:	Decision:
Issue:	Discussion:
Considered:	Decision:
Issue:	Discussion:
Considered:	Decision:

APPENDIX N: LOCAL PARTNER – SAFETY FOCUSED REHAB

The Local Partner – Safety Focused Rehab is one way to achieve a 4-lane divided expressway. The concept is to leverage SHOPP funds with STIP and other funds during a rural major rehab project (3R) on the existing 2-lane roadway. The intent is to improve construction safety during a typical rural rehab by keeping the contractor away from traffic without increasing SHOPP spending, all the while progressing towards the four-lane divided expressway.

Features:

- Build new lanes separate from the existing lanes in-lieu of repairing the existing lanes
- Close the old lanes when done
- Acquire new right of way as needed
- Innovative funding
  - Determine the cost to rehabilitate existing section. Apply that amount to new lane construction.
  - Use local partner, non-SHOPP funds (STIP and others) for costs above that of a regular 3R rehab
- Implement as each highway segment is scheduled for a 2R/3R rehab (typically 5 to 10 miles or so at a time)

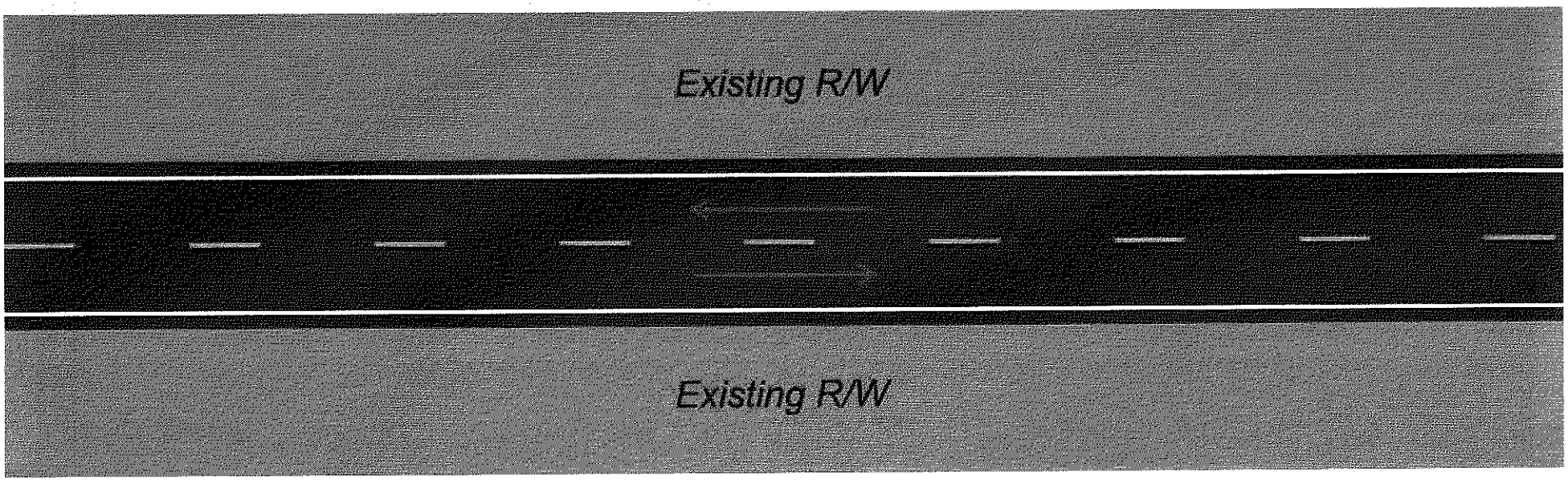
Benefits:

- Increase construction safety for the public and the contractor
- Obtain right of way for four-lane divided expressway
- Advancing the goal of a four-lane divided expressway
- Eventually use non-SHOPP funds to upgrade the old lanes to create a 4-lane divided expressway

Based on department pavement management systems, approximately half of US 395 between SR 70 and Susanville will be eligible for rehabilitation within the next 10-15 years.

LOCAL PARTNER/SAFETY FOCUSED REHABILITATION
Conceptual Sequence

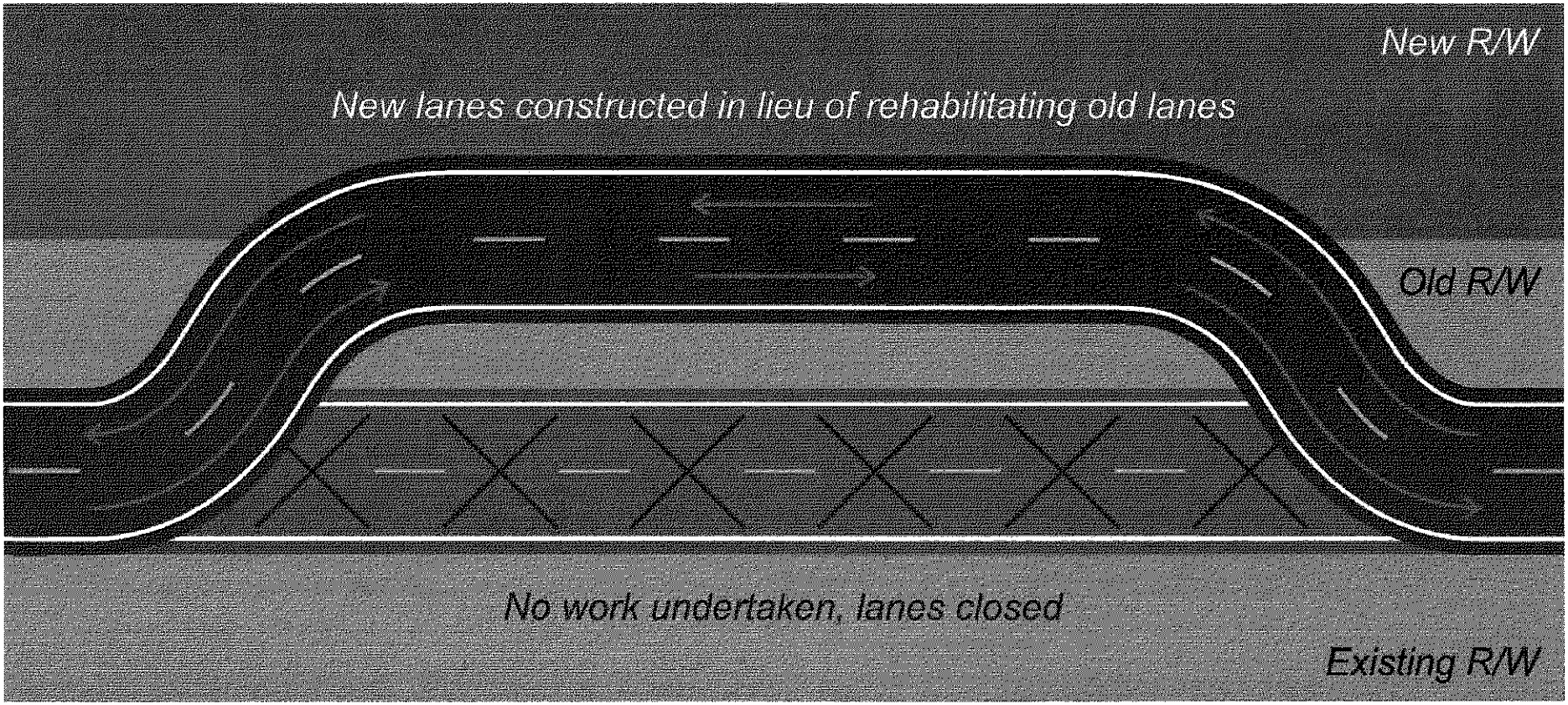
1 Existing Condition



LOCAL PARTNER/SAFETY FOCUSED REHABILITATION

Conceptual Sequence

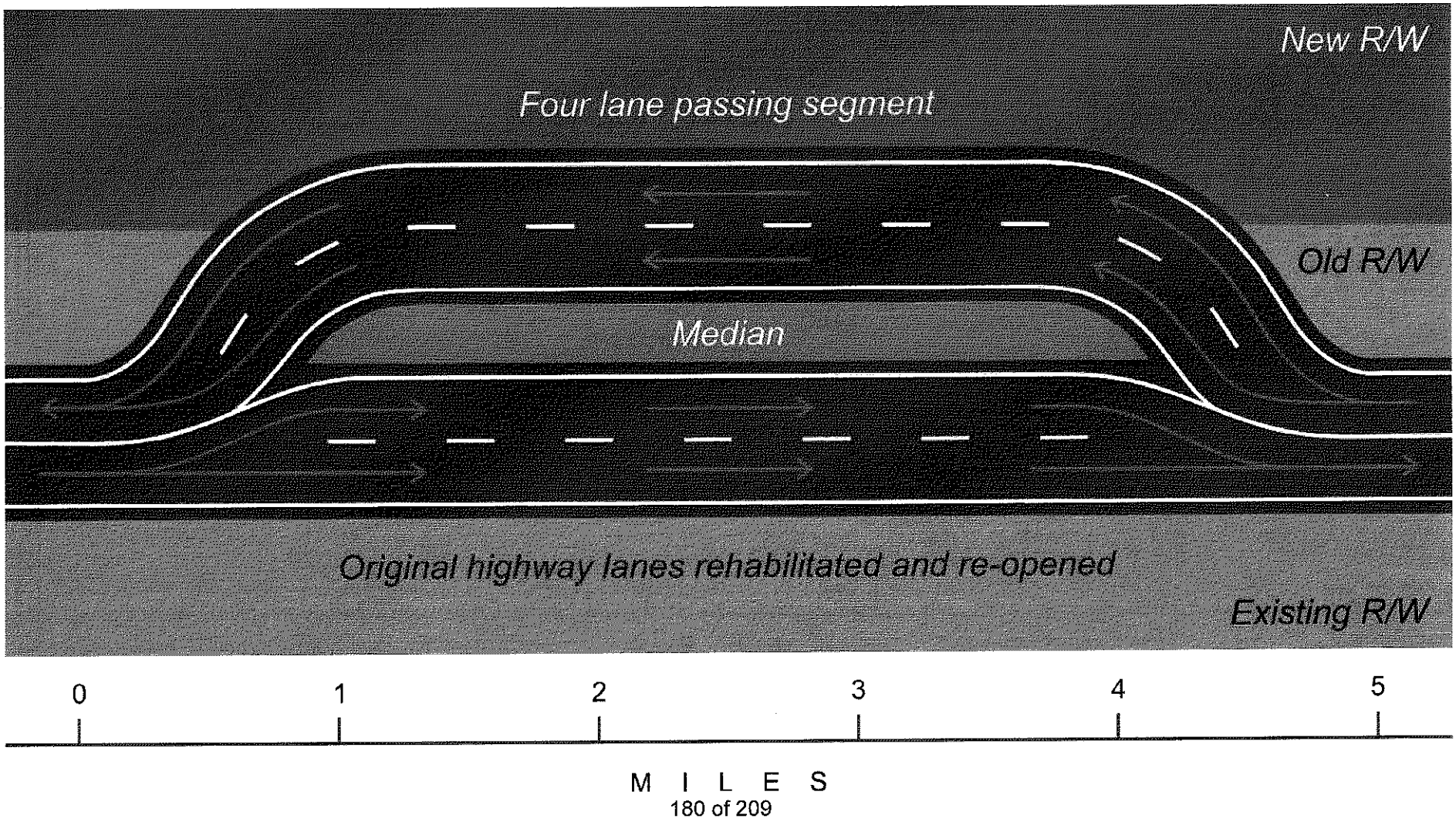
2 Rehabilitation Phase *(Interim Condition 1)*



LOCAL PARTNER/SAFETY FOCUSED REHABILITATION

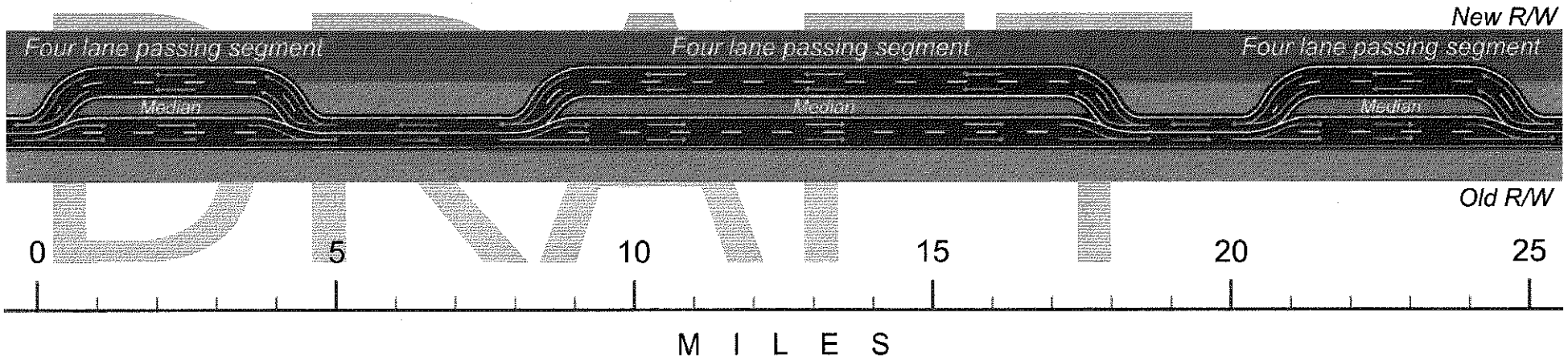
Conceptual Sequence

3 Local Partner Phase *(Interim Condition 2)*



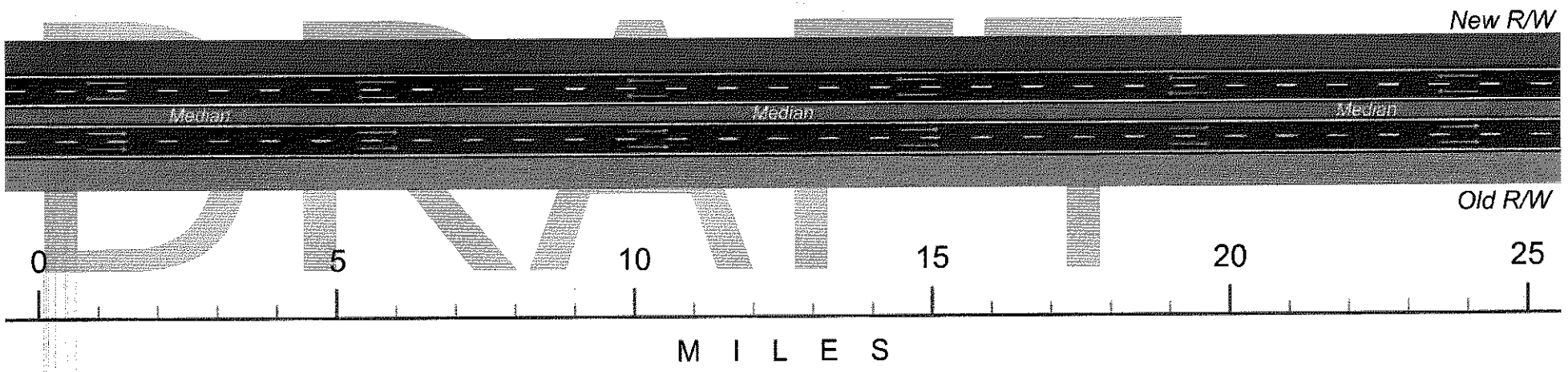
LOCAL PARTNER/SAFETY FOCUSED REHABILITATION
Conceptual Sequence

4 Completion of Multiple Rehabilitations/Local Partner Phases

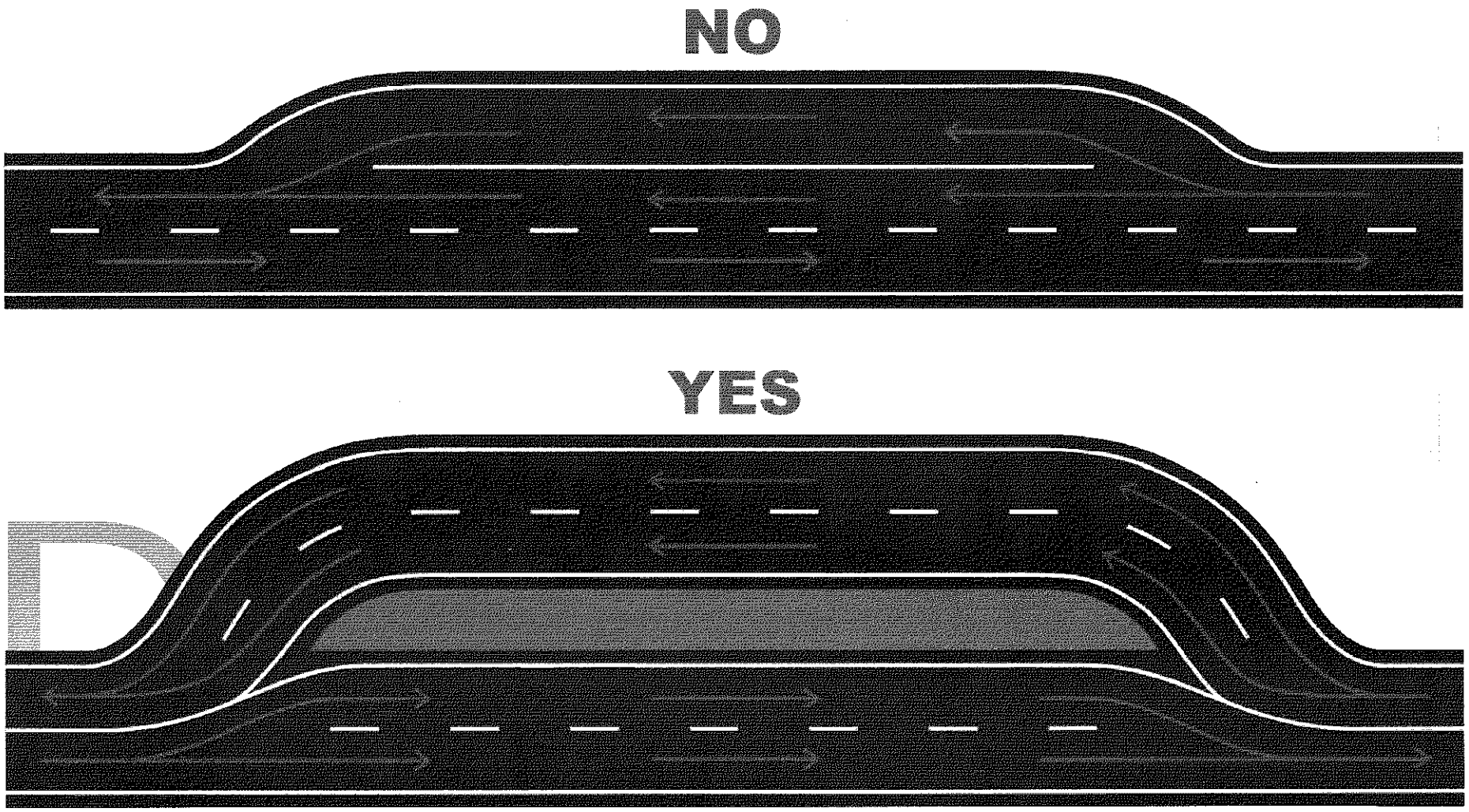


LOCAL PARTNER/SAFETY FOCUSED REHABILITATION
Conceptual Sequence

5 Final Phase - Full 4-Lane Expressway



APPENDIX O: EXPRESSWAY PASSING SEGMENTS



APPENDIX P: SPEED DIFFERENTIAL - LITERATURE REVIEW

Abbreviations:
DSL – Differential Speed Limit
USL – Uniform Speed Limit

In response to public comments provided to System Planning staff regarding the perceived negative operational impact of the differential speed limit (currently 55 mph for trucks and 65 mph for other vehicles) along US 395, eighteen studies comparing DSLs with USLs were reviewed. The studies were dated from 1991-2016, with only four of them focusing on two-lane highways. Most of the research available evaluated DSLs vs. USLs along highways with four or more lanes, which have significant operational differences compared to two-lane highways. The four-lane studies generally showed that there was some positive impact from changing to a USL. Due to the differences between two-lane and four-lane highways, only research pertaining to two-lane highways is presented below.

Speed Limit for Trucks

California Vehicle Code, Division 11, Chapter 7, Article 2, Section 22406: "No person may drive any of the following vehicles on a highway at a speed in excess of 55 miles per hour:" trucks, vehicles towing other vehicles, school buses, farm labor vehicles, vehicles transporting explosives, and trailer buses. (https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=VEH&sectionNum=22406)

The first part of this appendix provides a summary of the studies. The second section provides a brief summary of each study.

SECTION 1: SUMMARY

Rural Two-Lane Highways
Four studies were reviewed that compared DSLs to USLs on two-lane highways. Three of the studies applied modeling to study DSLs. Only one study used field studies and surveys for its research. **Table 45** provides System Planning staff interpretation of some of the main findings in the studies.

Table 45: Studies about Rural Two-Lane Highways					
Performance Category	**Finding**	**Number of Studies supporting finding**	**Support for Universal Speed Limit on US 395?**	**Number of Studies that support the opposite**	**Opposite Finding**
Speed	Less variability in travel speeds with USL	✓	Yes		
	DSL reduced average travel speed compared to USL	✓	Possibly		
Percent Time Spent Following	Slight increase in percent time spent following with DSL than USL	✓	Yes		
Types of Passing	More overall passing with DSL than USL	✓ ✓ ✓	Yes		
	Less car-car passing with DSL than USL	✓ ✓	No		
	More car-truck passing with DSL than USL	✓ ✓ ✓	Yes		
	Less truck-truck passing with DSL	✓	No		
Passing Characteristics	Gap acceptance neither increased nor decreased with DSL vs. USL	✓	Neutral		
	No difference between USL and DSL in "desire to overtake mode"	✓	Neutral		
	No difference between USL and DSL in average time-to-collision	✓	Neutral	✓	Slight increase in head-on time-to-collision with DSL
Public Opinion and Study Outcomes	Motorists have mixed opinions on USL vs. DSL	✓	Neutral		
	Trucking industry favors USL	✓	Yes		
	Study supports USL	✓	Yes		

In spite of the limited research, conclusions can still be drawn from the studies that do exist today. For instance, in the table above, notice that three of the studies found more car-truck passing and

a minimal increase in overall passing with DSL as compared to USL. If the goal is to try to reduce overall and car-truck passing on two-lane highways, then a USL might help achieve that goal.

Most of the rest of the findings are either neutral or somewhat suggest support for a USL. DSLs only appear to be better than USLs in terms of reduced car-car passing and minimal truck-truck passing.

Given the limited research about DSLs on rural two-lane highways, it is difficult to draw strong conclusions about whether a USL is better than a DSL. There appears to be some overall benefit to USL, however, more research will be needed.

Caltrans Division of Research, Innovation and System Information (DRISI) manages a comprehensive program to research, develop, test, and evaluate transportation innovations sought by its customers. These innovations in methods, materials, and technologies enable Caltrans to promote safety, enhance mobility and sustainability, improve the management of public facilities and services, and protect public investment in transportation infrastructure.

Recommendation

Establish research project to evaluate potential benefit of a universal speed limit for US 395.

SECTION 2: BRIEF SUMMARY OF EACH STUDY

Ghods, A., Duong, D., Saccomanno, F., & Hellinga, B. (2011)
The authors state that gap acceptance behavior for passing can be influenced by the presence of large trucks. They apply this idea to modeling passing on rural two-lane highways. Results include:

- DSL increases number of car-truck overtaking maneuvers, therefore compromising safety.
- Gap acceptance risk was not significantly increased or decreased.

Ghods, A. H., Saccomanno, F., Guido, G., (2012)
This study observed the following three overtaking-related factors of a microscopic traffic simulation model of a 6 km segment of two-lane highway: 1) Number of vehicles overtaking, 2) Percent time spent in "desire to overtake mode," and 3) Average Time-to-Collision with the on-coming vehicle prior to retuning to the original lane. Findings include:

- Very few truck-truck overtaking maneuvers.
- Only a minimal increase in passing overall with DSL compared to USL.
- However, there was an increase in the proportion of car-truck passing on two-lane highways with DSL, suggesting a "negative effect on safety resulting from differential speed strategy applied to two-lane rural highways."
- On the other hand, DSL strategies were observed to reduce car-car overtaking, thereby increasing safety. Authors hypothesize that the slower trucks might have a "calming

effect" on traffic stream and result in fewer interactions between cars.

- No difference observed in "desire to overtake mode" and average time-to-collision when comparing USL and DSL strategies.

Montana Department of Transportation. (2016)

Montana compared its existing 70/60 mph DSL rural two-lane highways to neighboring states' 65 mph USL rural two-lane highways. The study noted the limited body of research applying to two-lane highways, and that such facilities have different operational issues than freeways do, such as passing limitations and queuing. Results of the study include:

- Locations with a 65 mph USL speed limit displayed less variability in travel speeds, shorter platoon lengths, less high-risk passing behavior, and fewer crashes.
- Surveys were conducted asking motorists and trucking industry representatives whether they preferred the 70/60 mph DSL or the 65 mph USL. Motorist response was mixed, but the trucking industry favored the USL.
- Findings support transitioning to a uniform 65 mph speed limit on two-lane rural highways in Montana.
- Study recommends selective implementation, favoring transition to USL of 65 mph along highways possessing relatively high volumes, relatively high truck percentages, and limited passing opportunities.

Ghods, A. H., Ph.D., P. Eng., & Saccomanno, F. F., Ph.D., P. Eng. (2016)

This study applied a microscopic simulation model to assess the safety of DSL for two-lane highway operations, with emphasis on the overtaking maneuver. Results include:

- Positive impacts to safety of DSL include:
  - Reduction in average travel speed (ATS) (Note: this is based on the author's acceptance of the argument that a lower ATS results in enhanced safety).
  - Slight increase in head-on time-to-collision (TTC, not to be read as "head on collisions").
  - Significant decrease in car-car overtaking.
- Negative impacts to safety of DSL include:
  - Slight increase in percent time spent following (PTSF).
  - Significant increase in car-truck overtaking.
  - Slight increase in total number of overtakes.

APPENDIX Q: SAMPLE GENERAL PLAN POLICIES

Most decisions involving the future growth of California are, and will continue to be, made at the local level within a framework of officially approved statewide goals. To accomplish this, California state law requires each city and county to adopt a general plan for the physical development of the county or city. The general plan expresses the community's development goals and embodies public policy relative to the distribution of future land uses, both public and private (State of California, General Plan Guidelines, 2017 Update, Governor's Office of Planning and Research).

Lassen County is responsible for preparing the general plan and implementing land use policy along the portion of US 395 proposed for upgrade to four-lane divided expressway (LAS PM 0.0/61.06). A supportive framework of policies and actions in the Lassen County General Plan is essential to achieve this goal. The manner in which the County regulates where and when development can occur and what conditions must be satisfied for it to occur will facilitate or hinder progress toward this goal. Preservation of right-of-way, construction of frontage roads, control of highway access, collection of fees to fund improvements and other necessary actions may all be addressed in the Lassen County General Plan.

The following is a sampling of general plan policies from around California that are relevant for consideration during future updates to the Lassen County General Plan. The samples cover topics including right-of-way, highway access, travel demand management and fees. The list is not intended to prescribe any given policy or topic for the plan, rather it is meant to foster discussion about what actions can or should be done to help achieve the four-lane divided expressway concept. Usage of "shall" rather than "should" in policies will be an important consideration.

"Shall" versus "Should"

"When writing policies, be aware of the difference between 'shall' and 'should.' 'Shall' indicates an unequivocal directive. 'Should' signifies a less rigid directive, to be honored in the absence of compelling or contravening considerations. Use of the word "should" to give the impression of more commitment than actually intended is a common but unacceptable practice. It is better to adopt no policy than to adopt a policy with no backbone." Source: State of California, General Plan Guidelines, 2017 Update, Governor's Office of Planning and Research.

Right of Way/Roads:

Proposed projects shall be required to reserve or dedicate sufficient rights-of-ways for, or shall be designed to maintain opportunities for, the future expansion of interchanges, intersections, roadways, highways and transit needs as determined by the County Public Works Department.

The County shall require dedication of right-of-way or dedication and construction of planned transportation facilities as a condition of land development, and require an analysis of impacts of traffic from all land development projects including impacts from truck traffic.

The County shall plan and implement a complete road network to serve the needs of local traffic. This road network shall include roadways parallel to regional facilities so that the regional roadway

system can function effectively and efficiently. Much of this network should be funded and/or constructed by new development.

The County shall identify locations of needed future road rights-of-way, consistent with adopted functional classifications, through development and adoption of specific plan lines where appropriate. Circumstances where specific plan line development should be considered include the following:

- Where major classified roadways or corridors are expected to require additional through lanes within a 20-year planning horizon;
- Where the future alignment is expected to deviate from the existing alignment, or to be developed asymmetrically about the existing section or center line;
- Where the adjacent properties are substantially undeveloped, so that property owners may benefit from prior knowledge of the location of rights-of-way of planned roadways before constructing improvements or developing property in a way which may ultimately conflict with identified transportation needs; and
- Expressways and associated frontage roads.

Road and Highway Access:

Require whenever practicable, driveway access to buildings from frontage roads, side streets or alleys in order to minimize interference with vehicular movement and pedestrian access (for properties with frontage along major or secondary highways).

The County shall develop specifications for new or modified access to property abutting a public roadway or highway. A process for exceptions to the access standards may be identified, provided that the designed safety and operational characteristics of the existing and planned roadway facility will not be substantially diminished as determined by the agency responsible for the facility.

On arterial roadways and thoroughfares, intersection spacing should be maximized and driveway encroachments minimized.

Expressway Access. Limit driveway intersections to maximize safety and traffic-carrying capacity, and to maintain the high-speed character of expressway routes. Street intersections shall be minimal, with an average spacing of at least one-half mile between intersections, with preferred spacing of more than one mile.

Demand Strategies:

Require large employers to develop and maintain transportation demand management programs to reduce the number of vehicle trips generated by their employees.

Consider the following strategies:

- Market incentives (including vehicle miles traveled charges;
- Voluntary rideshare measures;
- Parking pricing;
- Preferential parking;
- Shuttle services to activity centers and special events;

- Enhanced transit;
- Bicycle paths and storage facilities;
- Telecommute incentives.

Fees:

Implement procedures to achieve fair-share participation of the private sector in financing transportation improvements.

The County shall assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system.

Development projects shall construct or fund improvements necessary to mitigate the effects of traffic from the project. The County may allow a project to fund a fair share of improvements that provide significant benefit to others through traffic impact fees.

The County shall assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system. Exceptions may be made when new development generates significant public benefits (e.g., low income housing, needed health facilities) and when alternative sources of funding can be identified to offset foregone revenues.

APPENDIX R: SAMPLE REGIONAL TRANSPORTATION PLAN POLICIES

The Lassen County Transportation Commission (LCTC) is one of 43 Regional Transportation Planning Agencies (RTPA) in California, created under Section 29535 of the Government Code. Consistent with state law, the LCTC consists of three members of the Susanville City Council and three members of the Lassen County Board of Supervisors. The LCTC also includes a Caltrans District 2 representative as a non-voting ex-officio member. The principal purposes of RTPAs in rural areas are to prepare and adopt planning and programming documents and allocate/ administer various funding programs that involve cities, counties, and transit operators. *Source: Lassen County Transportation Commission, www.lassentransportation.com*

Every RTPA is required by law to conduct long range planning to ensure that the region's vision and goals are clearly identified and to ensure effective decision making in furtherance of the vision and goals. The long range plan, known as the Regional Transportation Plan (RTP) is developed by RTPAs in cooperation with Caltrans and other stakeholders, including system users. The purpose of the RTP is to establish regional goals; identify present and future needs, deficiencies and constraints; analyze potential solutions; estimate available funding; and propose investments. The RTP should encourage and promote the safe and efficient management, operation and development of a regional transportation system that, when linked with appropriate land use planning, will serve the mobility needs of goods and people.
Source: 2017 RTP Guidelines, California Transportation Commission, January 2017.

The current Lassen County RTP was adopted by the LCTC in September of 2012. Policies in the RTP that are relevant and support future upgrade of US 395 to four-lane expressway between PM 0.0 and 61.06 include:

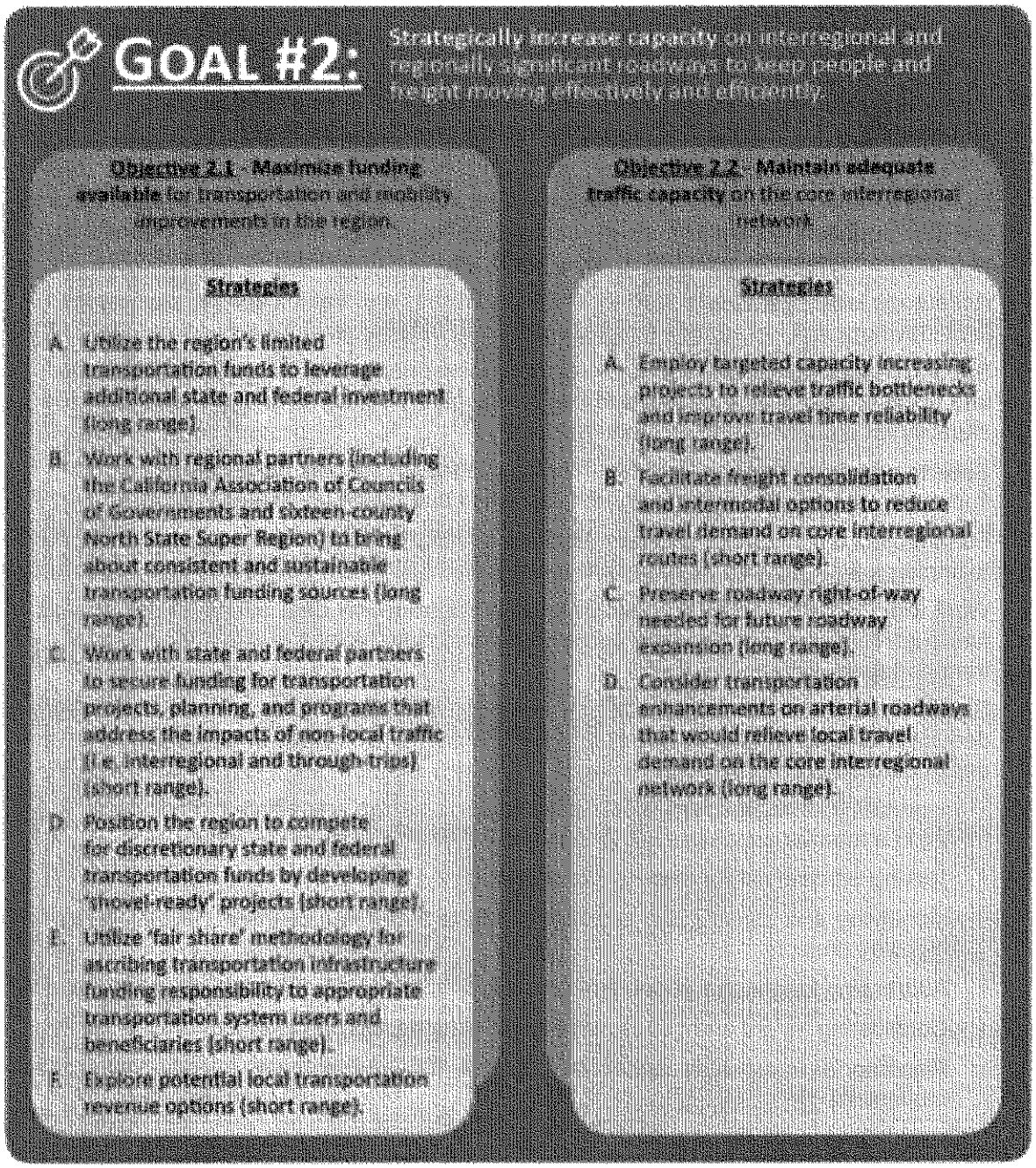
> 1.13 POLICY: The LCTC shall support the incremental addition of lanes on U.S. 395 to a four-lane expressway and work with Caltrans in the consideration and implementation of access management policies to protect traffic efficiency and safety and to facilitate future highway improvements. Such measures include the limitation of new encroachments onto U.S. 395. The LCTC shall support an increased number of passing lanes where a four-lane expressway is not feasible.
>
> 6.1 POLICY: Periodically review traffic operations along State highways and major county roads. Promote signal timing, access management, transit priority treatments, accident scene management measures, and closed circuit TV to help increase traffic flow.

The following is a sampling of additional RTP policies adopted by other RTPAs around California that may be relevant for consideration during future updates to the Lassen County RTP. The list is not intended to prescribe any given policy or topic for the plan, rather it is meant to foster discussion about what actions can or should be done to help achieve the four-lane expressway concept.

- Support federal legislation increasing funds available for all transportation modes by formal resolution and petitioning local representatives in Congress.
- Pursue new sources of funds for maintenance, expansion, and improvement of transportation facilities and services.

- Support development of viable alternative fund sources such as a local transportation sales tax, local option motor vehicle fuel tax, public/private partnerships, peak hour congestion pricing, and bond measures.
- Encourage responsible agencies to consider formation of assessment districts for assisting in the financing of projects and programs included in the Regional Transportation Plan, when feasible.
- Encourage new development and private sector activities to fully mitigate their impacts to the transportation system through the provision of highways, roads, transit, pedestrian, and bicycle facilities as planned by local agencies.
- Encourage local agencies to fund local arterial access and traffic capacity projects with local development-based fees supplemented with other local funds as appropriate.
- Support the economic vitality of the region, funding priority shall be given to major road and highway improvements that address critical safety concerns and provide increased capacity for commuter and commodity travel.
- Seek to preserve regional and State funding programs (such as the STIP) for improvement and expansion of arterial roadways and the State Highway System.
- Fund project development activities (such as environmental studies) on large and/or hard-to implement projects so that they are ready for ad hoc funding opportunities.
- Work with Caltrans and local agencies to obtain right-of-ways dedications for designated future interchanges and along mainline portions of state highways within the regional transportation system.
- Study, coordinate discussions, and explore options for establishing a region-wide program dedicated to funding the growing need for roadway improvements and reconstruction on designated arterial truck routes.
- Transportation planning and projects shall facilitate secure and efficient movement of freight in a manner consistent with the general mobility needs of the region by:
    - Making efficient use of existing transportation system.
    - Identifying and constructing projects to improve freight movement, including rail and highway projects.
    - Addressing freight and goods movement facility improvement needs as a high priority.
    - Considering freight and goods movement in the design and planning of all projects.
    - Planning for intermodal connectivity (airport, rail, and highway) in freight and goods movement

The following goal, objectives and strategies are from the Shasta County Regional Transportation Plan prepared by the Shasta Regional Transportation Agency:


GOAL #2:
Strategically increase capacity on interregional and regionally significant roadways to keep people and freight moving effectively and efficiently.
Objective 2.1 - Maximize funding available for transportation and mobility improvements in the region.
Strategies
A. Utilize the region's limited transportation funds to leverage additional state and federal investment (long range).
B. Work with regional partners (including the California Association of Councils of Governments and sixteen-county North State Super Region) to bring about consistent and sustainable transportation funding sources (long range).
C. Work with state and federal partners to secure funding for transportation projects, planning, and programs that address the impacts of non-local traffic (i.e. interregional and through-trips) (short range).
D. Position the region to compete for discretionary state and federal transportation funds by developing "shovel-ready" projects (short range).
E. Utilize 'fair share' methodology for ascribing transportation infrastructure funding responsibility to appropriate transportation system users and beneficiaries (short range).
F. Explore potential local transportation revenue options (short range).
Objective 2.2 - Maintain adequate traffic capacity on the core interregional network.
Strategies
A. Employ targeted capacity increasing projects to relieve traffic bottlenecks and improve travel time reliability (long range).
B. Facilitate freight consolidation and intermodal options to reduce travel demand on core interregional routes (short range).
C. Preserve roadway right-of-way needed for future roadway expansion (long range).
D. Consider transportation enhancements on arterial roadways that would relieve local travel demand on the core interregional network (long range).

APPENDIX S: FOUR-LANE DIVIDED EXPRESSWAY - HISTORY

Since the 1980s, the concept has been to expand the section of US 395 from the SR 70 junction to the SR 36 junction to a four-lane divided expressway. At the time, forecasts were generated suggesting that four lanes were needed to maintain the then-concept level of service B. Improving safety, reducing delay and increasing capacity were additional reasons to expand US 395 to four lanes.

Below is a bulleted timeline which shows key efforts since the 1970s to expand US 395 from two to four lanes. The first section widened was from the Nevada state line to just north of the Hallelujah Junction. To this day, it is the only four lane section between the Nevada state line and Susanville.

Timeline

- Early 1970s: The portion from the Nevada state line to Hallelujah Junction became a divided four-lane expressway
- 1980s: Coordination among Caltrans and external stakeholders, such as Lassen County, FHWA and SIAD regarding access control and other expansion-related topics.
- 1985: Lassen County passes resolution recognizing need for four lanes along US 395 and supporting a controlled access highway agreement.
- 1990: Caltrans develops a draft Transportation Corridor Fact Sheet, saying that "a four-lane divided expressway is required NOW to meet the concept LOS B."
- 1990: Caltrans develops a U.S. Highway 395 Task Force Access Management Status Report to coordinate protection of access control and right of way. The report also lists tools the county can use through its zoning, subdivision and permit control to manage access where the state does not have access control.
- 1991: Four-Lane Expressway Project Study Report (LAS R4.7/7.8) presented a concept to add two lanes east of the existing corridor to address safety and delay warrants. Capacity and LOS are secondary warrants. The outcome of the report is that two alternatives (Alternative A and Alternative B) were proposed; the primary differences between them include different median widths, different phasing and different profile grades.
- 1992: District submitted proposal to FHWA to conduct planning studies along US 395.
- 1993: Supplemental Project Study Report (LAS R4.7/9.0) was created because Alternative A from the 1991 PSR was eliminated. A third alternative, Alternative C, with a northern project limit of LAS 9.0 was proposed. Alternative C was proposed in order to mesh with a 1993 construction project to add alternating northbound and southbound passing lanes from LAS 9.0 to 11.8. Only the passing lane section (LAS 9.0 to 11.8) was constructed.
- 1999: Lassen County adopts general plan. Within the circulation element are non-binding policies outlining County responsibilities in order to facilitate expansion of US 395 to a four-lane expressway standard.
- Mid- to late- 2000s: Discussions with the Lassen County Transportation Commission and the public regarding development of an expressway study.

- 2007-2010: Honey Lake Expressway Study (draft).

Honey Lake Expressway Master Plan Summary

The Honey Lake Expressway Master Plan was started in 2007 and was developed to a draft level to recommend a process for widening the section between Hallelujah Junction and Susanville to four lanes. The plan uses the four-lane section between the Nevada state line and Hallelujah Junction as an example. Desired features include a wide divided natural median, consolidated access points, paved and unpaved frontage roads, deer fencing and crossings, limited at-grade intersections and interchanges.

Key Actions Identified

- Consolidation of access points to approximately 13 interchanges or at-grade intersections, spaced 2.5-7 miles apart.
- Coordinate with local stakeholders and the public to identify approximate locations.
- Acquire additional right of way along entire corridor.
- Install new, or if present, use existing roads as frontage roads.
- Add animal crossings through balancing cost, constructibility and effectiveness. One particular recommendation included tunnels under the highway which could also accommodate farm equipment.
- Add deer fencing where needed.
- Carefully consider locations for new utility poles.
- Realignment of the highway might be needed in close proximity to communities along the corridor.
- Ensure future mitigation sites are outside of the proposed highway alignment.
- Use innovative project development and delivery techniques such as building new lanes/closing old lanes in lieu of rehabilitating existing lanes and developing passing opportunities as four-lane expressway segments rather than traditional passing lanes.

Figure 36. Four-Lane Divided Expressway At-Grade Intersection (LAS 2.0)

This at-grade intersection at PM 2.0 is typical of the proposed 60-mile master plan concept. Median here is 150 feet with natural vegetation. Local roads are paved within the state right of way, then transition to gravel or dirt outside state right of way. For new expressway locations, the median would be 150 feet (southernly 30 miles) and 70 feet (northerly 30 miles) with approximately 50 miles of frontage roads to control access.

APPENDIX T: GLOSSARY OF TERMS AND ACRONYMS

Aa

Access Control: The condition where the right of owners or occupants of abutting land or other persons to access in connection with a highway is fully or partially controlled by public authority.

Access Management: Involves managing where vehicles enter the highway to improve highway operations and reduce accidents.

Access Point: Location where vehicles can enter or exit a highway.

Agricultural Inspection Stations: These stations conduct agricultural inspections on all private and commercial vehicles near major borders.

Air Basin: An area or territory that contains similar meteorological and geographical conditions. In California, the Air Resources Board (ARB) has established nine air basins.

Air Quality: A general term used to describe various aspects of the air that plants and human populations are exposed to in their daily lives.

All-Way Stop Control: Traffic control at an intersection where all approaches are controlled by stop signs.

Americans with Disabilities (ADA): In 1990, the act was enacted, which prohibits discriminations against persons because of their disabilities.

Ancestral boundaries: The boundaries represent the areas that were once inhabited by Indian Tribes to camp, hunt, fish, and gather vegetation for food consumption and basketry material, or had sacred ceremonial and burial sites.

Annual Average Daily Traffic (AADT): Daily traffic that is averaged over a calendar year or fiscal year.

At-grade Crossings: A junction at which two or more intersections cross at the same grade

Attainment: Air quality status indicates that the area has never been designated non-attainment for that particular standard.

Arterial: A class of street that primarily serves through-traffic and major traffic movements.

Auxiliary Lane: The portion of the roadway for weaving, truck climbing, speed change, or other purposes supplementary to through traffic movement.

Average Daily Traffic (ADT): The average number of vehicles passing a specified point during a 24-hour period. Frequently used in relation to the "peak-month" average daily traffic.

Bb

Bicycle Status: The ability to ride the bike on the freeway or provide an alternate facility for bicycle travel.

Bike Route Class: Classification of a bicycle facility. There are three classes:

> **Class I** - (bicycle facility separate from roadway) provides completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flow minimized.
>
> **Class II** - (designated bicycle facility adjacent to roadway) provides a striped lane for one-way bike travel on a street or highway.
>
> **Class III** - (non-designated but open to bicycles) provides for shared use with pedestrians or motor vehicle traffic.

Bridges: Structures of more than 20 feet in length that span a body of water.

Cc

California Environmental Quality Act (CEQA): 1970 state legislation which requires state agencies to regulate activities with major consideration for environmental protection.

California Transportation Commission: A body appointed by the governor responsible for the STIP, the development of the RTP guidelines, and the statewide transportation policy.

Caltrans or Department: California Department of Transportation.

Capacity: The number of vehicles that a facility can accommodate during a specified period of time. It represents the flow rate that can be achieved during peak periods of demand. Capacity is also used to estimate the maximum amount of traffic that a facility can accommodate while maintaining a prescribed level of operation (Level of Service).

Capacity-Increasing Projects: Projects that allow for more capacity on the roadway such as adding a lane.

Chain Locations: These are the signed locations that drivers are allowed to stop and pit on chains.

Changeable Message Signs (CMS): Electronic signs that can change the message it displays. Often used on highways to warn and redirect traffic. Also referred to as variable or electronic message signs.

Channelization: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movement of both vehicles and pedestrians.

Clean Air Act: A 1990 environmental policy act relating to the reduction of smog and air pollution.

Clear Recovery Zone: An area clear of fixed objects adjacent to the roadway to provide a recovery zone for vehicles that have left the traveled way. A minimum clear recovery area of 20 feet on conventional highways and 30 feet on freeways and high-speed expressways is desirable.

Climbing lane: A lane added on an uphill grade for use by trucks, recreational vehicles, and other heavy vehicles with speeds significantly reduced by grade.

Closed Circuit Television (CCTV): This ITS technology allows a camera to display remote verification of road and weather conditions, traffic conditions, and incidents. This television can have compatibility with other communications technologies, such as cable TV, kiosks, and the internet.

Collector Road: A collector road or distributor road is a low-to-moderate-capacity road which serves to move traffic from local streets to arterial roads.

Commercial Airports: Publicly owned airports that have at least 2,500 passenger boarding's each calendar year and receive scheduled passenger service.

Concept: A strategy for future improvements that will reduce congestion or maintain the existing level of service on a specific route.

Concept LOS: Used to describe the target operational condition for a facility during the twenty-year planning horizon of the Transportation Concept Report. Planning studies for projects to improve highway capacity should begin at the time when a highway segment is projected to reach the concept LOS.

Conformity: Process to assess the compliance of any federally funded or approved transportation plan, program, or project with air quality implementation plans. The conformity process is defined by the Clean Air Act.

Congestion: Defined as reduced speeds of less than 35 miles per hour for longer than 15 minutes.

Context Sensitive Solutions: Caltrans utilizes this process to ensure that transportation projects are in harmony with communities, and that intrinsic qualities such as historic, aesthetic, and scenic resources are enhanced and preserved.

Conventional Highway: A highway without control of access, which may or may not be divided. Grade separations at intersections or access control may be used when justified at spot locations.

Corridor: A set of essentially parallel transportation facilities for moving people and goods between two points.

Corridor Preservation: Identify and discuss the locations targeted for corridor preservation, and address existing and future rail and highway corridor, and seaport and airport facility land reservation needs.

Cultural Resources: Encompass archaeological traditional and built resources including but not necessarily limited to buildings, structures, objects, districts, and sites.

Dd

Daily Vehicle Miles of Travel: An estimate of Annual Vehicle Miles of Travel is the product of AADT x Segment Length x 365 days.

Delay: The time lost while traffic is impeded by some element over which the driver has no control.

Demographics: refers to selected population characteristics.

Density: The number of vehicles per mile (or per lane per mile) on the traveled way at a given instant.

Design Speed: A speed selected to establish specific minimum geometric (horizontal, vertical, site distance) design elements for a particular section of highway.

Directional Split: During the peak period, the directional distribution of traffic.

District: Department of Transportation Districts.

Divided Highway: A highway with separated roadbeds for traffic in opposing directions.

Ee

Easement: A right to use or control the property of another for designated purposes.

Elevation: A location's height above a fixed reference point, often measured from mean sea level.

Encroachment: Occupancy of project right-of-way by non-project structures or objects of any kind or character.

Exit Number: This is a unique numbering system for freeways across California. The numbering system runs from south to north and from west to east.

Ff

Facility Concept (Route Concept): General term used to describe the number of lanes and degree of access control on a State Route or Freeway. The term can be used to describe the existing facility or the future facility that will be required to handle projected traffic volumes within adopted level of service standards.

Present Facility Concept: Defines the current built facility.

Twenty-Year Facility Concept: Defines the desired facility during the next twenty years.

Long-Range (Post Twenty-Year): Defines the facility that may ultimately be needed sometime beyond the twenty-year planning horizon.

Federal Highway Administration (FHWA): An agency of the US Department of Transportation that funds highway-planning programs.

Federal Highway Administration (FHWA): An agency of the US Department of Transportation that funds highway planning programs.

Federal Transit Administration (FTA): An agency of the US Department of Transportation that funds transit planning and deployment programs.

Federally Recognized Tribes: Those Native American Tribes recognized by the US Bureau of Indian Affairs for certain federal government purposes.

Fee Title: This is the highest possible form of ownership in real property. It entitles the owner to use the property in any manner consistent with federal, state, and local laws and ordinances.

Free Flow Speed: The average speed of vehicles on a given facility, measured under low-volume conditions, when drivers tend to drive at their desired speed and are not constrained by delay from traffic control devices.

Freeway: A divided arterial highway with full control of access and with grade separations at intersections. A freeway, as defined by statute, is also a highway in respect to which: (1) the owners of abutting lands have no right or easement of access to or from their abutting lands; or (2) such owners have only limited or restricted right or easement of access.

Functional Classification: Guided by federal legislation, refers to a process by which streets and highways are grouped into classes or systems according to the character of the service that is provided (i.e., Principal Arterials, Minor Arterials and Major Collectors).

Gg

General Aviation: General aviation refers to all flights other than military and scheduled airline flights, both private and commercial.

General Plans: A policy plan of acceptable land uses in each jurisdiction. Each city and county adopts and updates their General Plan to guide the growth and land development of their community, for both the current and long term.

Geometric Design: Geometric design is the arrangement of the visible elements of a road such as alignment, grades, sight distances, widths, slopes, etc.

Goods Movement: The general term referring to the goods or produce transported by ship, plane, train, or truck.

Grade: As used in capacity analysis, grade refers to the average change in elevation on the segment under study, expressed as a percentage.

Hh

Highway: Term applies to roads, streets, and parkways, and also includes right-of-way, bridges, railroad crossings, tunnels, drainage structures, signs, guard rails, and protective structures in connection with highways.

Highway Advisory Radio (HAR): An ITS technology that provides valuable information to travelers through prerecorded messages that contain traffic information, road conditions, chain requirements and road closures, etc. Transmission is generally accomplished through low-powered AM broadcast.

Highway Advisory Radio (HAR) Flasher: An ITS technology that signals the traveling public that information is available for a specific route via a nearby transmitting HAR.

Highway Capacity Manual (HCM): Updated in 2000 by the Transportation Research Board of the National Research Council, the HCM presents various methodologies for analyzing the operation (Level of Service) of transportation systems.

Highway Classification: For purposes of capacity analysis, separation of two-lane highways into Class I, II or III. Class I includes major interregional routes, Class II includes smaller links in the system and Class III includes segments of two-lane highway in smaller developed areas or communities.

Ii

Improved LOS: This represents the LOS that will be achieved if identified capacity improvements are completed.

Incident: Any occurrence on a roadway that impedes the normal flow of traffic.

Incident Management: the activities of an organization to identify, analyze, and correct hazards.

Intelligent Transportation Systems (ITS): Use of advanced sensor, computer, and electronic systems to increase the safety and efficiency of the transportation system.

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

Intermodal: The ability to connect, and make connections between modes of transportation.

Interregional Transportation Strategic Plan (ITSP): The ITSP identifies six key objectives for implementing the Interregional Improvement Program and strategies and actions to focus improvements and investments. This document also addresses development of the interregional road system and intercity rail in California, and defines a strategy that extends beyond the 1998 State Transportation Improvement Program (STIP).

Intersection: The general area where two or more roadways join or cross, which include roadside facilities for traffic movements in that area.

Interstate Highway System: The system of highways that connects the principal metropolitan areas, cities, and industrial centers of the United States. The Interstate System also connects the US to internationally significant routes in Mexico and Canada.

Jj

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Kk

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Ll

Land Use: The human modification of natural environment or wilderness into built environment, such as fields, pastures, and settlements.

Lane Width: The arithmetic mean of the lane widths of a roadway in one direction expressed in feet.

Left-Turn Lane: A storage area designated to only accommodate left turning vehicles.

Level-of-Service (LOS): A rating using qualitative measures that characterize operational conditions within a traffic stream.

Local Street or Local Road: A street or road primarily used for access to residences, businesses, or other abutting property.

Mm

Maintained Miles: The length of a facility that is preserved and kept in the safe and usable condition, to which it has been improved.

Maintenance Service Level (MSL): For maintenance purposes, routes within the state highway system are assigned a Maintenance Service Level classification of either Class 1, 2, or 3.

Median: The portion of a divided highway separating the traveled ways for traffic in opposite directions.
Median may be a solid barrier, an unpaved surface, or designated by markings on the highway.

Metropolitan Planning Organization (MPO): By federal provision, the Governor designates this organization by principal elected officials of general-purpose local governments. MPOs are established to create a forum for cooperative decision making. Each MPO represents an urbanized area with a population of over 50,000 people.

Mixed Flow: Traffic movement having automobiles, trucks, buses, and motorcycles sharing traffic lanes.

Mode Choice: Type of transportation: auto, bicycle, bus, pedestrian, rail, etc.

Multimodal: The availability of transportation options using different modes within a system or route.

Nn

National Environmental Policy Act (NEPA): 1969 legislation requiring all federal agencies to prepare an environmental impact statement evaluating proposed federal actions which may significantly affect the environment.

National Scenic Byway (NSB): To be designated as a NSB, a road must possess at least one of the following six intrinsic qualities: archaeological, cultural, historic, natural, recreational, or scenic. The significance of the feature(s) contributing to the distinctive characteristics of the corridor's intrinsic qualities must be recognized throughout the multi-state region.

Non-attainment: Areas with air quality levels that exceed the standard for specific pollutants.

Non-federally Recognized: Native American Tribes not recognized by the US Bureau of Indian Affairs for certain federal government purposes.

Nonmotorized Transportation: Transportation that includes bicycle and pedestrian travel to permit the transport of people.

Oo

Operational Improvements: Improvements addressing deficiencies related to the flow and movement of traffic without expanding design capacity. Some examples include adding auxiliary and truck climbing lanes, ramp metering, and intelligent transportation systems.

Pp

Passing Lane: A lane added to improve passing opportunities in one direction of travel on a two-lane highway.

Peak Hour: The period during which the maximum amount of travel occurs. It may be specified as the morning (a.m.) or afternoon or evening (p.m.) peak.

Peak Hour Factor: The hourly volume during the maximum-volume hour of the day divided by the peak 15-minute flow rate within the peak hour; a measure of traffic demand fluctuation within the peak hour.

Posted Speed: A road speed limit is the maximum speed as allowed by law for road vehicles.

Post Mile (PM): Using miles and counties, the PM system identifies specific and unique locations in the California highway system.

Post Mile Prefix: The post miles are prefixed with an alpha code whenever the location on the route is not an original post mile. Examples of prefixes. R (first realignment, when a section of the road is relocated), L (overlap post mile) and E (post mile equation).

Prescriptive: Type of easement that comes into existence without formal action because of long-term historical use in a route. A prescriptive right cannot be established over land owned by a governmental entity.

Programming: Process of scheduling high-priority projects for development and implementation.

Project Initiation Documents (PIDs): Documents that identify in detail the cost, scope, and schedule of a project and provide the basic information necessary for better understanding the nature of the project. A PID must be completed for any project to be programmed.

Project Report: Report summarizing the feasibility of needs, alternatives, costs, etc., of a proposed transportation project affecting state transportation facilities. Often project reports consist of a Transmittal Letter and a draft environmental document.

Public Participation: The active and meaningful involvement of the public in the development of transportation plans and programs.

Public Transportation: Transportation service to the public on a regular basis using vehicles that transport more than one person for compensation, usually but not exclusively over a set route or routes from one fixed point to another. Routes and schedules may be determined through a cooperative arrangement.

Qq

Queues: A line of vehicles, bicycles, or persons waiting to be served by the system in which the flow rate of the front of the queue determines the average speed within the queue.

Rr

Ramp: A connecting roadway between a freeway or expressway and another highway, road, or roadside area.

Regional Transportation Plan (RTP): State-mandated documents to be developed biennially by all Regional Transportation Planning Agencies (RTPAs). They consist of policy, action, and financial elements.

Regional Transportation Planning Agency (RTPA): Created by AB 69 to prepare regional transportation plans and designated by the Business, Transportation and Housing (BT&H) secretary to receive and allocate transportation funds. RTPAs can be Councils of Government (COGs), Local Transportation Commissions (LTCs), Metropolitan Planning Organizations (MPOs), or statutorily-created agencies.

Rehabilitation: Activities which preserve the quality and structural integrity of a roadway by supplementing normal maintenance activities.

Relinquishment: A transfer of the state's right, title, and interest in and to a highway, or portion thereof, to a city or county.

Resurfacing: A supplemental surface or replacement placed on an existing pavement to restore its riding qualities or increase its strength.

Right-of-Way: Real estate acquired for transportation purposes, which includes the facility itself (highway, fixed guideway, etc.) as well as associated uses (maintenance structures, drainage systems, roadside landscaping, etc.).

Roadbed: That portion of the roadway extending from curb line to curb line or shoulder line to shoulder line. Divided highways are considered to have two roadbeds.

Roadside: A general term denoting the area adjoining the outer edge of the roadbed. Areas between the roadbeds of a divided highway may also be considered roadside.

Roadway: That portion of the highway included between the outside lines of the sidewalks, or curbs and gutters, or side ditches including also the appertaining structures, and all slopes, ditches, channels, waterways, and other features necessary for proper drainage and protection.

Road Weather Information Systems (RWIS): This ITS system collects pavement temperature, visibility, wind speed and direction, and precipitation data and presents the data in a usable format to transportation system operators, potentially for the traveling public.

Roundabouts: A road junction at which traffic streams circularly around a central island.

Route Concept (Facility Concept): General term used to describe the number of lanes and degree of access control on a State Route or Freeway. The term can be used to describe the existing facility or the future facility that will be required to handle projected traffic volumes within adopted level of service standards.

Rural: An area with widely scattered development and a low density of housing and employment.

Ss

Sales Tax Measures: In the California State Constitution and authorizes cities and counties to impose up to one percent additional local sales taxes for transportation if approved by the voters in the local jurisdiction.

Sandhouses: Storage facilities for abrasives and deicers.

Safety Roadside Rest: A roadside area provided for motorists to stop and rest for short periods. It includes paved parking areas, drinking water, toilets, tables, benches, telephones, information panels, and may include other facilities for motorists.

Segment: A portion of highway identified for analysis that is homogenous in nature.

Segment Concept (Existing): This term is applied to specific segments of a facility and describes the existing number of through travel lanes and any special features that may currently exist in the segment (such as auxiliary travel lanes, carpool lanes, access control, etc.). [see also Facility Concept and Segment Concept (20-year)]

Segment Concept (20-Year): This term is applied to specific segments of a facility and describes the number of though travel lanes and any special features that may be needed twenty years in the future in order to maintain the Concept LOS in the segment. [see also Facility Concept and Segment Concept (Existing)]

Separate Turning Lane: An auxiliary lane for traffic in one direction, which has been physically separated from the intersection area by a traffic island.

Shoulder: The portion of the roadway contiguous with the traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of base and surface courses.

Signalized Intersection: A place where two roadways cross and have a signal controlling traffic movements.

Stakeholder: Individuals and organizations that are actively involved in the project, or whose interests may be positively or negatively affected as a result of project execution or project completion. They may also exert influence over the project and its results. In transportation, stakeholders include FHWA, CTC, RTPAs, transportation departments, transportation commissions, cities and counties, Native American Tribal Governments, economic development and business interests, resource agencies, transportation interest groups, the public and the Legislature.

State Highway Account (SHA): The State Highway Account is used for the deposit of all money from any source for expenditure for highway purposes including major and minor construction, maintenance, right-of-way acquisition, improvements and equipment, services, investigations, surveys, experiments and reports.

State Implementation Plan (SIP): Plan required by the Federal Clean Air Act of 1970 to attain and maintain national ambient air quality standards.

State Routes: State highways within the State, other than Interstate and US routes, which serve intrastate and interstate travel. These highways can be freeways, expressways or conventional highways.

State Highway Operation and Protection Program (SHOPP): A four-year program limited to projects related to state highway safety and rehabilitation.

State Routes: State highways within the state, other than Interstate and US routes, which serve intrastate and interstate travel. These highways can be freeways, expressways or conventional highways.

State Transportation Improvement Program (STIP): Biennial document, adopted by the California Transportation Commission (CTC), which provides the schedule of projects for development over the upcoming five years.

Tt

TBD: To-be-determined.

Terrain: The surface features of an area of land; topography. In capacity analysis, classification falls into one of three categories: level, rolling, or mountainous. The terms "terrain" and "grade" are not interchangeable (see "Grade").

Level: The land surrounding the highway is level or nearly level. The most typical example of level terrain is a valley.

Rolling: Land in the vicinity of the highway is composed of low hills, dips and rolls, or other types of undulations. Rolling terrain is found in many locations, including the foothills surrounding the Central Valley of California.

Mountainous: Terrain with extensive, steep slopes (often in excess of six percent) that may rise sharply on one side of the highway while dropping away rapidly on the other.

Three C Process (3C): "Continuing, cooperative and comprehensive" planning process. Required of metropolitan planning organizations (MPOs) as a condition for receiving federal capital or operation assistance.

Topography: The surface features of the land that a highway passes through (i.e. the topographic features of the surrounding land).

Traffic Conditions: Any characteristics of the traffic stream that may affect capacity or operation, including the percentage composition of the traffic stream by vehicle type and driver characteristics (such as the differences between weekday commutes and recreational drivers).

Traffic Conflicts: Exist wherever two vehicles have the potential of occupying the same space.

Traffic Count Stations: There are three types of traffic count stations on the highway:

Control stations: Counted in one-hour intervals by direction.

Profile counts: Obtained on conventional highways and expressways got one to seven days in order to determine the number of vehicles at points of significant change.

Classification counts: Generally collected at control station sites or at locations of significant truck traffic.

Traffic Lane: The portion of the traveled way for the movement of a single line of vehicles.

Traffic Markings: All lines, words, or symbols (except signs) officially placed within the roadway to regulate, warn, or guide traffic.

Traffic Projections: Estimates of future traffic growth.

Traffic Sign: A device mounted on a fixed or portable support, conveying a message or symbol to regulate, warn, or guide traffic.

Traffic Signal: A power-operated control device by which traffic (including vehicles, pedestrians, and bicycles) is alternately directed to stop and permitted to proceed. A traffic signal assigns the right-of-way to the various traffic movements.

Transit: Generally refers to passenger service provided to the general public along established routes with fixed or variable schedules at published fares. Related terms include: public transit, mass transit, public transportation, urban transit and paratransit.

Transportation Concept Report (TCR): Planning document that identifies current operating conditions, future deficiencies, route concept, concept level of service (LOS) and conceptual improvements for a route or route.

Transportation Demand Management (TDM): "Demand-based" techniques for reducing traffic congestion, such as ridesharing programs and flexible work schedules enabling employees to commute to and from work outside of the peak hours.

Transportation Improvement Program (TIP): Federally required annual schedule of projects for transportation development for the upcoming five years. A project must be in the appropriate regional-Federal TIP to receive Federal or CTC funding.

Transportation Management Center (TMC): A focal point that can monitor traffic and road conditions, as well as train and transit schedules, and airports and shipping advisories. From here, information about accidents, road closures and emergency notification is relayed to travelers.

Transportation Permits: The Department of Transportation has the discretionary authority to issue special permits for the movement of vehicles/loads exceeding statutory limitations on the size, weight and loading of vehicles contained in Division 15 of the California Vehicle Code. Requests for such special permits require the completion of an application for a Transportation Permit from the office of Traffic Operations-Transportation Permits. Route Classes for length are labeled yellow, green, blue, brown and red. Route Classes for weight are labeled purple, orange and green. See http://www.dot.ca.gov/hq/traffops/permits/ for more information.

Transportation System Management (TSM): TSM is (1) a process oriented approach to solving transportation issues considering both short and long-term implications, and (2) a services and operations process in which low-cost, environmentally-responsive, and efficiency-maximizing improvements are implemented on existing facilities.

Travel Demand Model: A software tool used to predict future demand for transportation demand and services.

Travel Way: The portion of the roadway for the movement of vehicles, exclusive of shoulders.

Tribal Lands: Lands within a reservation, lands held in trust by BIA, or lands otherwise under the direct ownership of a tribe. Most tribal lands are in trust status and within a reservation, but these lands can also be outside of a reservation.

Truck Climbing Lane: Additional lanes added to improve traffic movement around slow moving vehicles on a grade.

Truck Escape Ramp: A long, gravel filled lane adjacent to the highway that enables vehicles that are having braking problems to safely stop.

Truck Scales: Weigh stations (also called "weigh stations") are where commercial trucks stop to get weighed and inspected.

Two-Way Stop Control: Traffic control at an intersection where the minor approaches are controlled by stop signs but the major street is not.

Typical Section: Depiction of the basic (or typical) design elements/features for an existing or planned facility. Typical sections can be prepared for a variety of facilities, including: highway sections, lane transition areas, medians, interchanges, pavement structural sections, bike paths and drainage systems.

Uu

Unimproved LOS: This represents the unimproved LOS if not capacity projects were undertaken.

Urban: An area typified by high densities of development or concentrations of population, drawing people from several areas of the region.

U.S. Department of Transportation: The principal direct Federal funding agency for transportation facilities and programs. Includes the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Federal Railroad Administration (FRA), and others.

U.S. Route: A network of highways of statewide and national importance. These highways can be freeways, expressways or conventional highways.

Vv

Vehicle Miles Traveled (VMT): Used in trend analysis and forecasts. (1) On highways, a measurement of the total miles traveled in all vehicles in the area for a specific time period. It is calculated by the number of vehicles multiplied by the miles traveled in a given area or on a given highway during the time period. (2) In transit, the number of vehicle miles operated on a given router or line or network during a specific time period.

Vista Point: A paved area beyond the shoulder, which permits travelers to safely exit the highway to stop and view a scenic area. In addition to parking areas, trash receptacles, interpretive displays, and in some cases rest rooms, drinking water and telephones may be provided.

Volume: The number of vehicles passing a given point during a specified period of time.

Ww

Weaving: The crossing of traffic streams, moving in the same general direction, accomplished by merging and diverging.

Weigh Stations: Weigh stations (also called "truck scales") are where commercial trucks stop to get weighed and inspected.

Xx

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Yy

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Zz

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