Transportation Concept Report

State Route 152

District 06

July 2016

Disclaimer: The information and data contained in this document are for planning purposes only and should not be relied upon for final design of any project. Any information in this Transportation Concept Report (TCR) is subject to modification as conditions change and new information is obtained. Although planning information is dynamic and continually changing, the District 6 System Planning Division makes every effort to ensure the accuracy and timeliness of the information contained in the TCR. The information in the TCR does not constitute a standard, specification, or regulation, nor is it intended to address design policies and procedures.

California Department of Transportation

Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

Approvals:

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Cover photo: Residential property adjacent to State Route (SR) 152 in Madera County

TABLE OF CONTENTS

About the Transportation Concept Report 1
Stakeholder Participation 1
Planning Context 2
STATE PLANNING 2
CALTRANS SMART MOBILITY FRAMEWORK 2
EXECUTIVE SUMMARY 3
I. INTRODUCTION 3
II. ROUTE DESCRIPTION AND PURPOSE 4
Modal Alternatives 5
Passenger Rail Services 5
Transit Services 5
Bicycle Facilities 5
Pedestrian Access / Facilities 6
PARK and RIDE 6
Aviation / Airports 6
Intelligent Transportation Systems (ITS) 6
Environmental Considerations 6
III. Concept Rationale 7
Route Concept LOS: 7
Concept Facility: 8
IV. SR 152 Transportation Concept Report Summary Chart 8
V. Review of State Route 152 Performance: Current and Future 8
APPENDIX A: SEGMENT MAP 9
APPENDIX B: SUMMARY CHART 13
APPENDIX C: Projects on SR 152 16
APPENDIX D: Intelligent Transportation System Projects on SR 152 17
APPENDIX E: Non-Motorized Facilities 18
APPENDIX F: STATE ROUTE 152 REFERENCES 20
Appendix G: Acronyms and Glossary of terms 21
APPENDIX H: BICYCLE INFORMATION 28
APPENDIX I: TRANSIT MAP 29
APPENDIX J: RESOURCES 30

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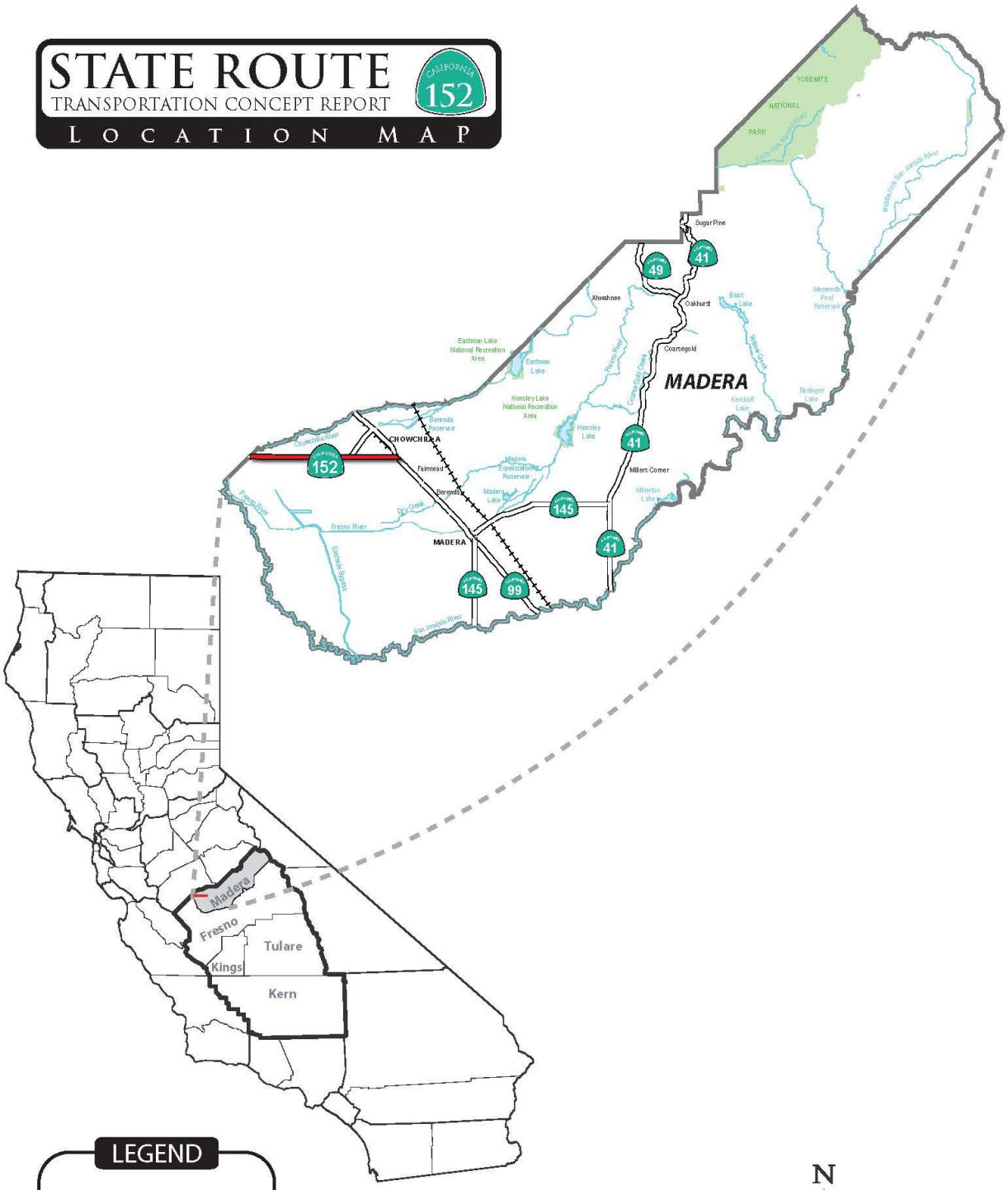
STATE ROUTE 152
TRANSPORTATION CONCEPT REPORT
LOCATION MAP



LEGEND

Counties within District 6 which SR 152 traverses

Caltrans District 6 Boundary

Caltrans

N

Not To Scale

i

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ABOUT THE TRANSPORTATION CONCEPT REPORT

System Planning is the long-range transportation planning process for the California Department of Transportation (Caltrans). The System Planning process fulfills Caltrans' statutory responsibility as owner/operator of the State Highway System (SHS) (Gov. Code §65086) by evaluating conditions and proposing enhancements to the SHS. Through System Planning, Caltrans focuses on developing an integrated multimodal transportation system that meets Caltrans' goals of safety, mobility, delivery, stewardship, and service.

The System Planning process is primarily composed of four parts: the District System Management Plan (DSMP), the Transportation Concept Report (TCR), the Corridor System Management Plan (CSMP), and the DSMP Project List. The district-wide **DSMP** is strategic policy and planning document that focuses on maintaining, operating, managing, and developing the transportation system. The **TCR** is a planning document that identifies the existing and future route conditions as well as future needs for each route on the SHS. The **CSMP** is a complex, multi-jurisdictional planning document that identifies future needs within corridors experiencing or expected to experience high levels of congestion. The CSMP serves as a TCR for segments covered by the CSMP. The **DSMP Project List** is a list of planned and partially programmed transportation projects used to recommend projects for funding. These System Planning products are also intended as resources for stakeholders, the public, and partner, regional, and local agencies.

TCR Purpose

California's State Highway System (SHS) needs long range planning documents to guide the logical development of transportation systems as required by CA Gov. Code §65086 and as necessitated by the public, stakeholders, and system users. The purpose of the TCR is to evaluate current and projected conditions along the route and communicate the vision for the development of each route in each Caltrans District during a 20-25 year planning horizon. The TCR is developed with the goals of increasing safety, improving mobility, providing excellent stewardship, and meeting community and environmental needs along the corridor through integrated management of the transportation network, including the highway, transit, pedestrian, bicycle, freight, operational improvements and travel demand management components of the corridor.

STAKEHOLDER PARTICIPATION

Stakeholders were consulted with during the research phase of this TCR for their input and the accuracy of the data. Contact was done mainly via e-mail or telephone. Once a draft was completed, it was circulated for comments with internal stakeholders. These stakeholders include: the divisions of Planning, Traffic, Maintenance, Environmental, Design, Right of Way, and the Native American Liaison. As comments were collected, the TCR was further edited and revised. As the TCR became more finely tuned, it was then sent out via e-mail or regular mail for input from external stakeholders. These stakeholders include, within the corridor: Metropolitan Planning Organizations (MPOs), Regional Transportation Planning Agencies (RTPAs), city and county planning and public works agencies, transit agencies, Sierra Club Chapters, California Trucking Association, San Joaquin Valley Air Pollution Control District, Chambers of Commerce, Native American Tribes, Farm Bureaus, and other transportation agencies. Upon signature of both the District 6 Planning Deputy Director and the District 6 Director, thus making the document official and final, copies were e-mailed, sent by regular mail, and posted to the District 6 Intranet site at: www.dot.ca.gov/dist6/planning/tcrs/.

PLANNING CONTEXT

This section of the TCR introduces select State planning documents and outlines the principles of the Smart Mobility Framework (SMF) used throughout the TCR.

STATE PLANNING

The California Transportation Plan (CTP) provides a long-range policy framework to meet California's future mobility needs and reduce greenhouse gas emissions. The CTP defines goals, performance-based policies, and strategies to achieve the collective vision for an integrated multimodal transportation system. The plan envisions a sustainable system that improves mobility and enhances quality of life. Key to this vision is considering "the 3 E's of Sustainability": a prosperous economy, quality environment and social equity in all transportation decisions. The CTP works to both support and guide regional transportation planning efforts to meet AB 32 and SB 375.

The California Interregional Blueprint (CIB) is a State-level document that articulates the State's vision for an integrated multimodal transportation system which complements regional transportation and land use plans. It links statewide transportation goals with regional transportation and land use goals to produce a unified transportation strategy. It supports the development of Sustainable Communities Strategies at the regional level, and has been incorporated into the CTP.

CALTRANS SMART MOBILITY FRAMEWORK

Caltrans 2020 *Smart Mobility: A Call to Action for the New Decade* presents a new approach to the integration of transportation and land use. The Smart Mobility Framework (SMF), seeks to develop multi-modal and sustainable transportation strategies for California. SMF was prepared in partnership with the US Environmental Protection Agency, the Governor's Office of Planning and Research, and the California Department of Housing and Community Development. Caltrans develops SMF concepts in partnership with MPOs, counties, cities and local stakeholders.

SMF aims to address:

- The State's mandate to reduce greenhouse gas (GHG) emissions and find solutions to climate change.
- The need to reduce per capita vehicle miles traveled. Reduced per capita auto use will lower emissions of GHG and conventional pollutants, reduce petroleum consumption and associated household transportation costs, and minimize negative impacts on air quality, water quality, and noise environments.
- The demand for a reliable and safe transportation system that gets people and goods to their destinations. SMF endorses the application of strategies that result in a shift away from higher-polluting modes to the use of transit, carpooling, walking, and biking to meet travel needs.
- The commitment to create a transportation system that advances social equity and environmental justice. SMF integrates social equity concerns into transportation decisions and investments. SMF recognizes that transportation planning extends beyond the transportation system and sees land use as an important determinant in developing transportation solutions. The principles of SMF look to a multi-modal vision actively deemphasizing the use of vehicle-only Level of Service for transportation decision-making.

Possible alternatives to implement the SMF on this State highway include:

- Multi-agency corridor management team responsible for corridor system oversight.
- Comprehensive multi-modal traffic monitoring and detection, traffic operations, and travel information.

- Addition of High Occupancy Vehicles (HOV) lanes along portions of the freeway where bottle-necks exist and along a regional bus/carpool lane network, including direct freeway-to-freeway connections.
- Expanded transit options.
- Closure of gaps on key bicycle routes and improved freeway ramp intersections on bike routes.
- New infill interchange.

EXECUTIVE SUMMARY

State Route 152 became popular as a route east during the California Gold Rush. The Butterfield Overland Mail ran along this route from 1858 to 1861. A portion of SR 152 from Bell Station, which was located between Casa de Fruta and Pacheco Pass was a toll road from sometime in the 1840s until 1878. In that year, Merced County and Santa Clara County purchased the road. Historic references say the route was named Legislative Route Number 32 before being designated SR 152. The roadway between US 101 and SR 99 was designated SR 152 in 1915. In 1933 that portion of SR 152 between SR 1 and US 101 was renumbered. The remainder was defined SR 152 when it became part of the California State Freeway and Expressway System in 1959. The Highway Commission adopted the extension of segment 3 of SR 152 from SR 99 to the future SR 65 in 1959 for planning purposes.

The base year for this report is 2010, unless otherwise noted, and the horizon year is 2035.

I. INTRODUCTION

This Transportation Concept Report (TCR) is a long-range system planning document that establishes a planning concept for the District 6 State highway corridor through the year 2035. The TCR provides the route, traffic data, and operating characteristics for the current 2012, future years 2020 and 2035.

Considering reasonable financial and physical constraints, the TCR defines the appropriate Route Concept Level of Service (LOS) and facility type(s) for each route. It also broadly identifies the nature and extent of improvements needed to attain the Route Concept LOS. For the purpose of this document, capacity enhancing improvements such as Intelligent Transportation Systems, multi-modal alternatives and lane additions, are the focus for LOS attainment.

Caltrans endeavors to maintain a target LOS at the transition between LOS C and D on State highway facilities, or whichever LOS is feasible to attain. The Concept LOS is a “target” LOS determined by the importance of the route and environmental factors. A deficiency or a need for improvement is triggered when the actual LOS falls below the Concept LOS.

This TCR also identifies existing mass transit and the deployment of Intelligent Transportation Systems (ITS) as integral to route corridor development.

The Ultimate Transportation Corridor (UTC), as identified in this TCR, ensures that adequate right-of-way (ROW) is preserved for ultimate facility projects beyond 2035. The UTC does not consider funding as a constraint. The project manager for this TCR should be consulted for the interim right-of-way (prior to ultimate construction) at a specific location along the corridor.

Please note: The number of lanes needed to meet the UTC for this route is only a guideline. Additional right-of-way may be necessary in urban and suburban areas to accommodate improved access to serve local circulation needs. The need to widen the roadway beyond the UTC may be necessary to maintain safety and the target LOS. The local jurisdictions should endeavor to maintain the target LOS, which in an urban setting could exceed the UTC number of lanes. Where the State legislature has designated the route as part of the Freeway and Expressway System, interchange and right-of-way should be part of the General Plan so as not to adversely impact future changes in land use.

This document identifies the initial and conceptual planning phase that leads to subsequent programming and the project development process. Consequently, the specific nature of proposed improvements, such as roadway width, number of lanes, and access control may change in later project development stages.

This TCR for SR 152 was prepared and completed by the Caltrans District 6 System Planning unit in cooperation with local and regional agencies, in consultation with Tribal Governments and Communities, environmental justice communities, and other Caltrans functional units. As such, it will serve as a guide in cooperative planning and implementation of transportation and land use decisions.

Final determinations are normally made during the project report and design phases. Therefore, this TCR is a "living document," subject to amendments as conditions change and projects are completed. This TCR will be updated as needed.

II. ROUTE DESCRIPTION AND PURPOSE

Begins: At SR 1 near Watsonville in Santa Cruz County.
Ends: At the intersection of the unconstructed SR 65 near Sharon, California in Madera County.

Length: SR 152 extends from the Merced County line to SR 99 for 15.6 miles in District 6. Adopted in 1959, the last 15.1 miles of SR 152 between SR 99 and the proposed SR 65 alignment has not been constructed.

This Transportation Concept Report covers 30.7 miles of SR 152 within District 6, from the Merced/Madera County line (also SR 59) to the proposed SR 152/65 junction. At the beginning of the TCR is a map showing the location of SR 152 within District 6 and the State of California (Location Map, Page "i"). A second map shows the three (3) segments of the route in Madera County (Segment Map, Appendix A, Page 9). In District 6, SR 152 is located solely within Madera County.

Land Use: The route passes through very flat, productive farm land. It serves as an east/west connection between the northern coastal communities and the Central Valley. It is a route for people who live in the valley and commute to work and recreation in the Los Banos, Gilroy and Monterey areas.

Industry along SR 152

Terrain: The route passes through the Central Valley's flat agricultural lands.

Facility: The route is a four-lane divided expressway.

Interchanges and other State highway connections:
The route has three (3) interchanges:

- 1) at the Merced/Madera county line with SR 59;
- 2) SR 233; and
- 3) SR 99 the end of Segment 2.

Orchard on SR 152

SR 99/SR 152 Interchange

Modal Alternatives

Passenger Rail Services: There are no conveniently located passenger rail locations near the route.

The California High Speed Rail Authority (HSRA) has a proposed plan to build a high-speed rail line that would service the major metropolitan areas of California. It will connect Los Angeles to San Francisco, Sacramento, and San Diego via the Central Valley. The system will be capable of reaching speeds of 220 miles per hour.

Extensive portions of the system will lie within, or adjacent to, existing rail or highway right-of-way (rather than on a new alignment) to reduce potential environmental impacts and minimize land acquisition. Since nothing is officially finalized yet, impacts to the state or local road right-of-ways are not fully known. Within District 6, there are proposed stops in Fresno, Hanford/Tulare/Visalia area, and Bakersfield.

The HST Authority has forwarded for public review the San Jose to Merced, Project Environmental Impact Report Supplemental Alternative Analysis, dated July 14, 2011. The study delineates three (3) parallel alignments with SR 152. One (1) alignment is north of SR 152 and two (2) alignments south of SR 152.

The study indicates that an offset of approximately 400 feet from the highway right-of-way will be provided for separation or perhaps accommodate future improvements to SR 152 and could affect the right-of-way.

Transit Services: The Madera County Connection (MCC) provides an inter-city fixed route three (3) times a day between the City of Chowchilla and the City of Madera.

Bicycle Facilities: SR 152 is classified as a conventional state highway open to local and regional bicycle travel. It is classified as a Class Three bike route in the 2011 Madera County Transportation Commission's (MCTC) Regional Transportation Plan (RTP). The route has eight foot outside shoulders with the exception of various bridge locations where the shoulders may be reduced.

Please refer to the "Non-Motorized Facilities" section under Appendix C, Page 18, for more information on bicycle access.

Pedestrian Access / Facilities: Pedestrian and possible Americans with Disabilities Act (ADA) concerns are found primarily in urban areas. The route passes through very flat productive farm land and is a four-lane expressway highway with access control and there should be no ADA improvements necessary.

Please refer to the "Non-Motorized Facilities" section under Appendix C, Page 18, for more information on Pedestrian facilities.

PARK and RIDE: There are no Park and Ride facilities provided along SR 152 in District 6.

Aviation / Airports: There are no airports along the route. However, there are two airports that serve Madera County. The City of Chowchilla has a general aviation airport located approximately two (2) miles north of SR 152 at the northwest quadrant of Avenue 24-1/2 and Chowchilla Boulevard. The Madera Municipal Airport is located approximately nine (9) miles south of SR 152. The airport is located approximately 1 mile west of SR 99 on the north side of Avenue 16 in the City of Madera.

Intelligent Transportation Systems (ITS)

Proposed is a closed circuit television to be located in the vicinity of the SR 233/152 interchange. Along this route, there is one existing and two proposed changeable message signs and one remote processing unit. Ten traffic count station locations (TCS) are proposed. These count stations will provide information on traffic volumes and truck traffic. Deployment of appropriate ITS technology will enhance safety and operational and of the route by informing motorists of traffic congestion, inclement weather such as fog, dust, highway construction and/or lane closures. The Caltrans Central Valley Transportation Management Center (TMC) monitors specific traffic locations from its headquarters at the District Office in Fresno.

Specific information on ITS is located under Appendix B, Page 17.

Environmental Considerations

Specific sensitive biological species include, but are not limited to, the following flora and fauna:

FLORA – Wetland vegetation, San Joaquin Valley Orcutt Grass, Delta Button Celery, Colusa Grass, Slough Thistle, Valley Spearscale, Bearded Allocarya, Hispid Bird's Beak, and Palmate-bracted Bird's Beak

FAUNA – San Joaquin Kit Fox, Swainson's Hawk, Fairy Shrimp, and the Giant Garter Snake

Canals and streams

Potential environmental issues include vernal pools where the above flora and fauna may exist.

A Scenic Resource Evaluation and/or a Visual Impact Assessment of the area would need to be done by the Landscape Architecture Branch upon the initiation of a roadway project.

Native American Coordination would be necessary due to the high potential of cultural resource findings and any local architectural history including any Section 4(f) resources defined as "park and recreational lands, wildlife and waterfowl refuges and historic sites."

Hazardous waste issues could require additional work, including searches of databases for underground storage tanks, testing for aerial-deposited lead, asbestos and/or heavy metals, and pesticides.

Air Quality, Noise, and Water Assessments would be required.

Community Impact Assessment, Environmental Justice, and Farmland Evaluations would also be required.

E. Tribal Governments and Communities

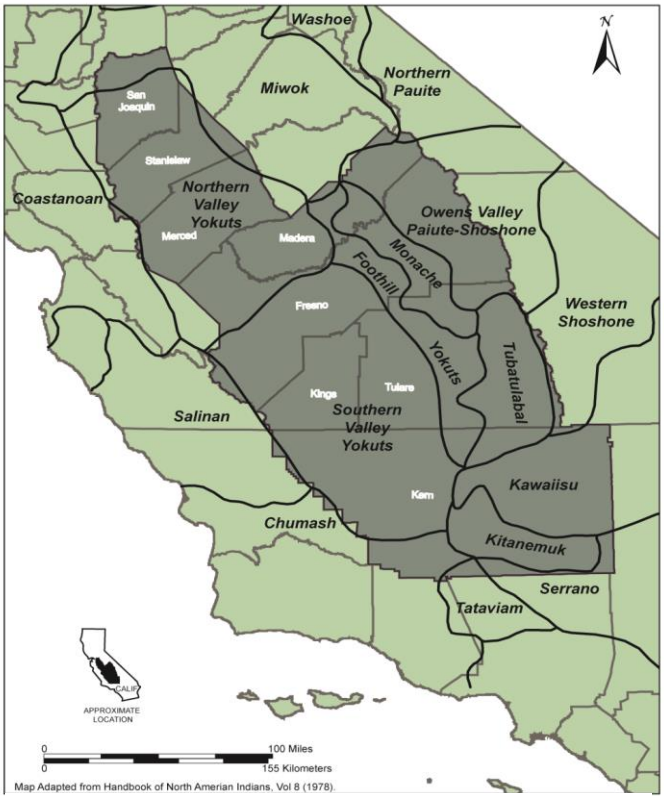

***Figure* 1:**
Map of Ethnographic Territories in Eight County Study Area

Many California roads and highways originated along Tribal hunting and trading routes. The study, "*California Central Valley Tribal Transportation Environmental Justice Collaborative Project*," identified a number of Tribes that consider portions of the counties of Fresno, Kern, Kings, Madera, and Tulare as their ancestral lands. According to Figure 1, *"Map of Ethnographic Territories in Eight County Study Area*", SR 152 passes through the traditional indigenous territories of the Northern Valley Yokuts and the Ohlones. Please note that many of the ethnographic territories overlap. See the following link for the Final Report: www.catribalej.com

This study was funded by a Caltrans Environmental Justice grant and was prepared for the Kern County Council of Governments (Kern COG) and the Tubatulabals of Kern Valley Tribe on behalf of the eight San Joaquin Valley MPOs; the San Joaquin Council of Governments (SJCOG), Stanislaus Council of Governments (StanCOG), Merced County Association of Governments (MCAG), Madera County Transportation Commission (MCTC), Fresno Council of Governments (Fresno COG), Kings County Association of Governments (KCAG), Kern Council of Governments (KCOG), and Tulare County Association of Governments (TCAG) in coordination with the tribal governments and communities of the said region.

Caltrans will consult and coordinate with Tribal Governments and Communities in developing the TCR. The Tribal Governments and Communities include the Northern Valley Yokuts, Southern Valley Yokuts, Mono, Miwok, Ohlone, and Salinan.

III. CONCEPT RATIONALE

Route Concept LOS:

LOS C is assigned to both segments. The route is rural. There is not much variation throughout the route in regards to the existing level of service.

Concept Facility:

The 2035 Concept Facility (highway configuration for the year 2035) for SR 152 does not vary throughout the route. The Concept Facility is for a divided four-lane expressway. The following shows the Concept Facility for the route segments:

Four-lane expressway

4-lane divided expressway (Segments 1 and 2): The roadway is divided with two lanes, asphalt paved in each direction. (*See Segment Map, Appendix A, Page 9*)

The Ultimate Transportation Corridor (UTC-beyond 2035):

The UTC for SR 152 is a four-lane expressway.

IV. SR 152 TRANSPORTATION CONCEPT REPORT SUMMARY CHART

The Summary Chart in Appendix B beginning on Page 13 divides SR 152 into three distinct segments because one of the segments has not been constructed. The Summary Chart provides technical information and describes improvements, both current and forecast traffic, for the State highway. It also has a linear geographic diagram that illustrates the major State and local highway facilities, along with key natural features and County boundaries, current highway geometrics, i.e., conventional highway, expressway, or freeway. A "Chart Explanation" bar defines what is shown on the chart with the exception of self-explanatory technical information. The Summary Chart also delineates the functional classification, various highway designations, and General Plan information.

Level of Service (LOS) is determined by the peak hour and average annual daily traffic (AADT). AADT and peak hour are determined by growth factors, historical data, and the use of the Metropolitan Planning Organization traffic models.

V. REVIEW OF STATE ROUTE 152 PERFORMANCE: CURRENT AND FUTURE

A comparison of the current and future operating traffic LOS to the designated Route Concept LOS is a way of measuring the existing and future performance levels on a State highway. For purposes of this review, a segment of SR 152 is deficient when it operates below the designated Route Concept LOS of "D". Please refer to Section IV for current and future route operations.

As of the year 2010, SR 152 is operating at a range of LOS "B".

By the year 2035, SR 152 is projected to operate at LOS "D", *without* improvements in District 6.

APPENDIX A
SEGMENT MAP

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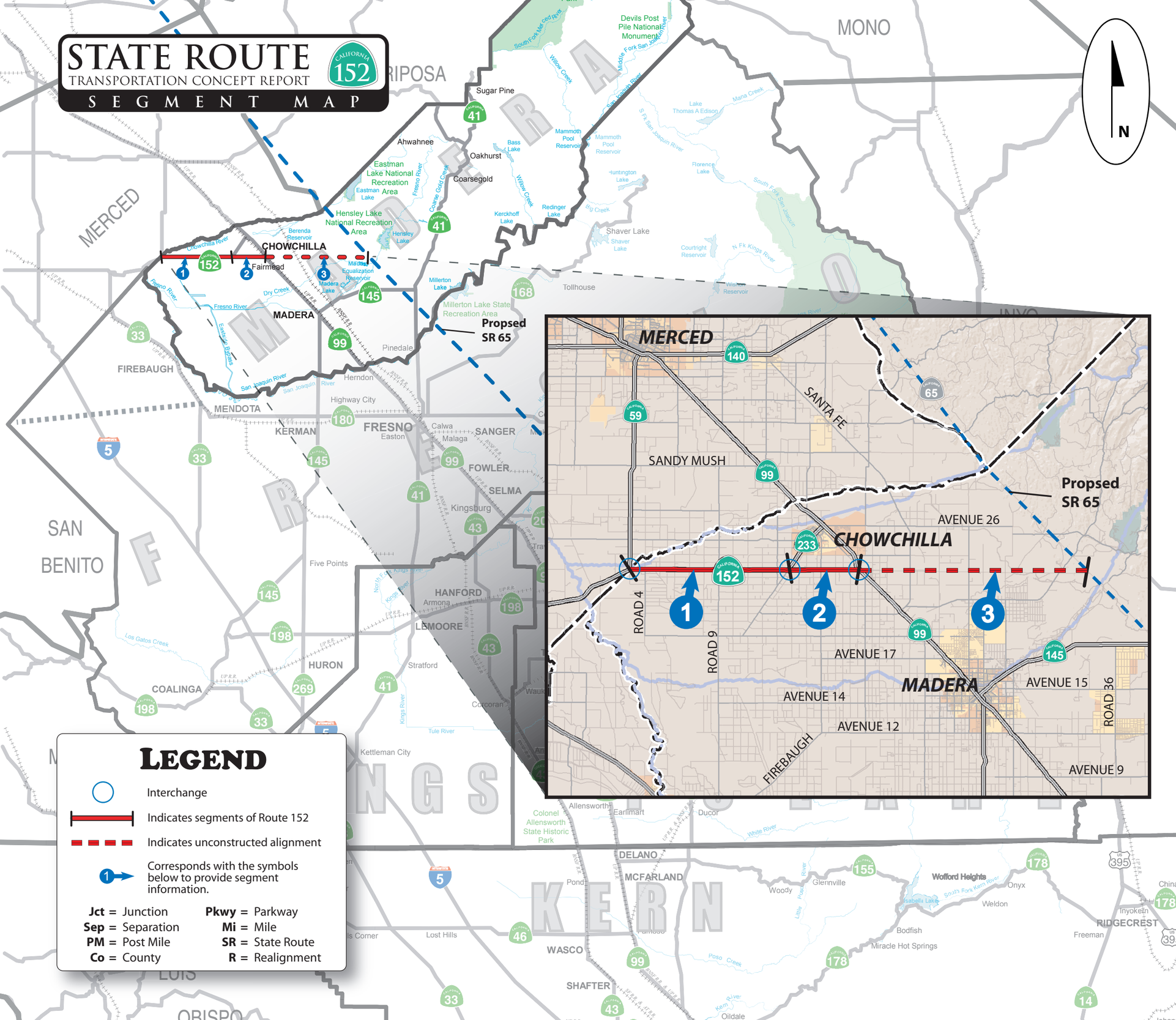
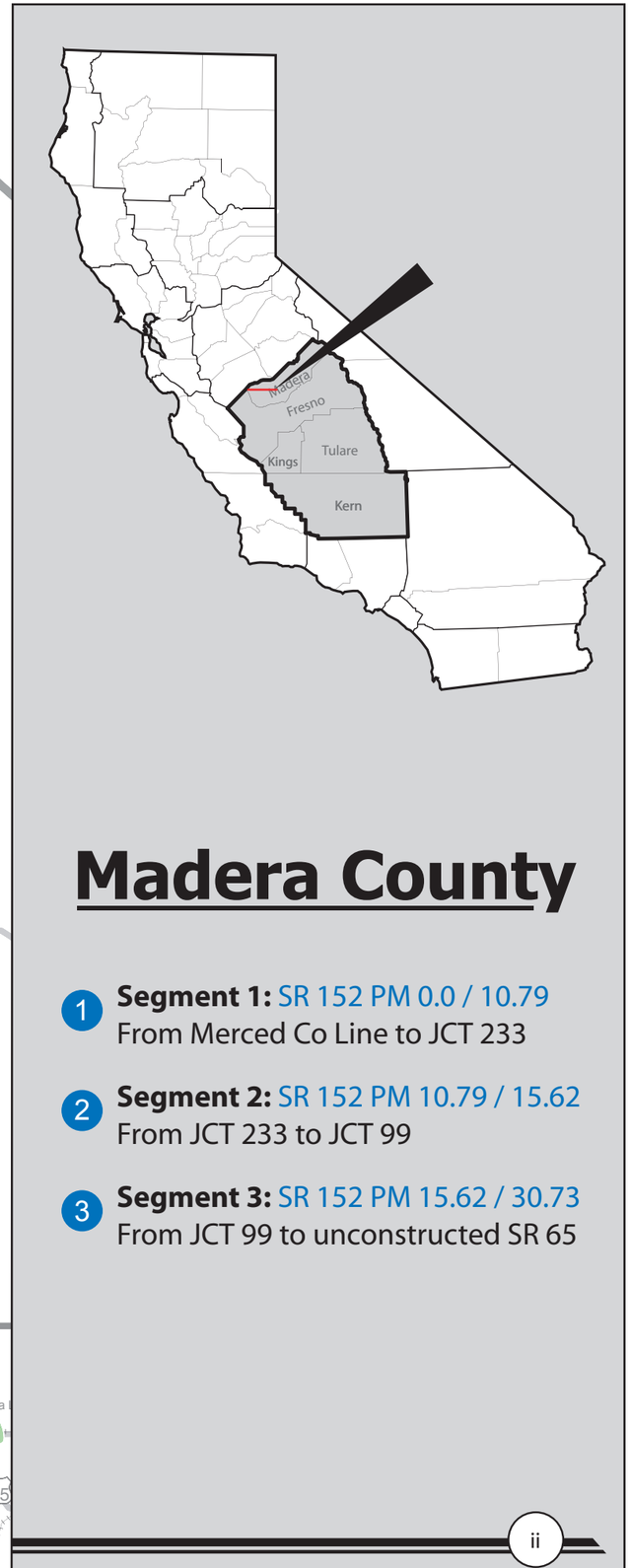
STATE ROUTE 152
TRANSPORTATION CONCEPT REPORT
SEGMENT MAP





Madera County

1. **Segment 1:** SR 152 PM 0.0 / 10.79
   From Merced Co Line to JCT 233
2. **Segment 2:** SR 152 PM 10.79 / 15.62
   From JCT 233 to JCT 99
3. **Segment 3:** SR 152 PM 15.62 / 30.73
   From JCT 99 to unconstructed SR 65

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APPENDIX B
SUMMARY CHART

Transportation Concept Report

State Route 152

SUMMARY CHART 1A

LEGEND

Existing Lanes

Planned or Programmed by 2035

Add Through Lanes

Conventional

Expressway

Number of Lanes

2

4

* Length of segments not to scale

Dir = Direction

Merced/Madera Co Line — Jct Route 233 — Jct Route 99 — Route 65

XXXXXXXXXXXXXXXXXXXXXXXXXXXX UNCONSTRUCTED

PM 0.0 — PM 10.8 — PM 15.6 — PM 30.7

Dir W-E

Segment: Is self-explanatory except for several data sets:

Rural/Urban: Indicates whether the segment is in a rural area or city limits.

Terrain: Shows the general highway grade: minimal grade = level; moderate grade = rolling; and severe grade = mountainous.

ROW: Portrays Right-of-Way (ROW) and geometric data in feet.

Shoulder Range: Is a range of treated surface (8' standard), both inside and outside shoulders.

Ultimate Transportation Corridor (UTC): Is the typical ROW needed for the ultimate facility,i.e., 8 lane freeway(8F) 218 feet is the standard typical UTC ROW - will be updated upon corridor plan lining by specific sections of highway.

Facility: Shows the Existing Facility, the desired facility type (2035 Concept) by 2035- RTPA's and Caltrans, and the Ultimate Facility to preserve ROW and plan line beyond 2035. 2C(I) indicates that the highway has been improved in select locations with operational or safety improvements.

LOS: The current (2010) LOS (level of service), along with the expected calculated LOS in 2020 and 2035. The 2035 Concept is the target LOS desired, i.e., LOS C, for attainment by 2035 Caltrans.

Deficiency: Occurs when the target LOS is degraded, i.e., LOS D worse than LOS C, with the year of occurrence shown. It also shows whether a capacity improving project is in the STIP, and what the LOS would be with the 2035 Concept improvement.

Directional Split: Denotes the split in the peak hour traffic flow on a directional basis (NB/SB or WB/EB) either in the morning (AM) or evening (PM).

% Trucks: shows the percentage of trucks for AADT and Peak Hour.

AADT: signifies Annual Average Daily Traffic.

Peak Hour: Indicates a representation of the maximum hour of traffic flow during the day.

N/A - Not deficent, no project recommended/not applicable.

N/A* - Deficent, no project recommended.

(I)+ 2-lane conventional highway improvements, turn lanes, signals, passing lanes, etc.

***** Concept Facility meets Concept LOS.

****** Deficient-Concept Facility does not meet Concept LOS.

SEGMENT	1	2	3
County / Route	MADERA / 152	MADERA / 152	MADERA / 152
Description Begin	MERCED/ MADERA CO LINE	JCT ROUTE 233	JCT ROUTE 99
Description End	JCT ROUTE 233	JCT ROUTE 99	ROUTE 65
Postmile Limits Begin/End (PM)	0.0 / 10.8	10.8 / 15.6	15.6 / 30.7
Length (MI)	10.8	4.8	15.1
Rural / Urban	Rural	Rural	Rural
Terrain	Flat	Flat	Flat
ROW: Range Existing (FT)	142 / 192	142 / 142	UNCONSTRUCTED
Median Range (FT)	2 / 70	22 / 22	
Shoulder Range (FT) - Treated	8 / 8	8 / 8	
Lane Width (FT)	12	12	
Ultimate ROW (FT)	+	+	
Facility: Existing	4E	4E	
2035 Concept	4E	4E	
UTC	4E	4E	
LOS: 2010	B	B	
LOS: 2020	B	B	
LOS: 2035	D	D	
LOS: Concept 2035	C	C	
Deficiency/Year Deficient	N/A	N/A	
Project in STIP/RTP (Y/N)	No	No	
LOS w/ Concept Improvement	N/A*	N/A*	
Directional Split (Peak Hour)	61/39	62/38	
AADT: 2010	15,400	17,000	
AADT: 2020	23,700	26,100	
AADT: 2035	45,200	40,500	
Peak Hour: 2010	1,600	1,750	
Peak Hour: 2020	2,460	2,690	
Peak Hour: 2035	4,690	5,130	
% Trucks: AADT	24%	24%	
% Trucks: Peak Hour	18%	18%	

Transportation Concept Report

State Route 152

SUMMARY CHART 1B

LEGEND

Existing Lanes — Conventional

Planned or Programmed by 2030 — Expressway

Add Through Lanes

2

4

* Length of segments not to scale

Dir = Direction

Merced/Madera Co Line — Jct Route 233 — Jct Route 99 — Route 65

XXXXXXXXXXXXXXXXXXXXXXXXXXXX UNCONSTRUCTED

PM R0.0 — PM 10.8 — PM 15.6 — PM 30.7

Dir W-E

Segment: Is self-explanatory except for several data sets:

Functional Classification: A process by which streets and highways are grouped into or classification systems.

Freeway/Expressway System: The Statewide system of highways declared to be essential to the future development of California.

Regionally Significant: Serves regional transportation needs including at a minimum all principal arterial highways and all fixed guideway transit facilities.

STRAHNET: A highway that provides defense access, continuity, and emergency capabilities for movements of personnel and equipment in both peace and war.

Lifeline: A route on the State highway system that is deemed so critical to emergency response/life-saving activities of a region or the state that it must remain open.

IRRS: (Interregional Road System): A series of State highway routes, outside the urbanized areas, that provide access to the State's economic centers, major recreational areas, and urban and rural regions.

STAA (Surface Transportation Assistance Act): This act required states to allow larger trucks on the National Network. "Terminal Access" routes are State highways that can accommodate STAA trucks. Other designations i,e., California Legal offer more limited access.

Scenic: A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers.

ICES (Intermodal Corridor of Economic Significance): Significant National Highway System Corridors that link intermodal facilites most directly, conveniently and efficiently to intrastate, interstate, and international markets.

NHS (National Highway System): Included is all interstate routes, a large percentage of urban and rural principal arterials, the defense strategic highway network, and strategic highway connectors.

SEGMENT	1	2	3
County / Route	MADERA / 152	MADERA / 152	MADERA / 152
Description Begin	MERCED/ MADERA CO LINE	JCT ROUTE 233	JCT ROUTE 99
Description End	JCT ROUTE 233	JCT ROUTE 99	ROUTE 65
Postmile Limits Begin/End (PM)	0.0 / 10.8	10.8 / 15.6	15.6 / 30.7
Length (MI)	10.8	4.8	15.1
Functional Classification	Principal Arterial	Principal Arterial	UNCONSTRUCTED
National Highway System (NHS) (Y/N)	Yes	Yes	
Freeway/Expressway System (Y/N)	Yes	Yes	
Regionally Significant (Y/N)	Yes	Yes	
STRAHNET (Y/N)	No	No	
Lifeline (Y/N)	No	No	
IRRS (Yes: HE=High Emphasis, F=Focus, G=Gateway or No)	F	F	
TRUCK NETWORK, STAA: (NN=National Network, TA=Terminal Access, CL= California Legal, R= Special Restrictions, or A=Advisory)	TA	TA	
Scenic (Yes: Officially Designated, Eligible or No)	No	No	
ICES (Intermodal Corridor of Economic Significance) (Y/N)	No	No	
General Plan/RTP LOS Standard	Madera Co LOS D for RTP Regionally Significant System	Madera Co LOS D for RTP Regionally Significant System	
General Plan/RTP Standard Highway Classification	Expressway	Expressway	
Passing Lanes (Y/N)	No	No	
Bike Use Allowed (Y/N)	Yes	Yes	

APPENDIX C
Projects on SR 152

SR 152 Projects						
Post Mile	**Description**	**Location**	**Type**	**Completion Date**	**Status**	**Est. Cost ($1,000)**
VAR	Widen and replace bridges	Near Chowchilla, at various locations	SHOPP	NA	RTP	$ 4,605
R0.0/R0.05	Widen from 4E to 6E	From the Madera County line to Jct SR 59	STIP	NA	RTP	NA
L0.0/L15.3	Panel replacement	From the Merced County line to west of Rd 17 1/2	SHOPP	2013	Inactive PID	$ 8,914
L0.0/L15.63	CAPM	From the Merced County line to SR 99	SHOPP	NA	RTP	$ 1,878
L0.0/L15.63	Rehabilitate roadway	From the Merced County line to SR 99	SHOPP	NA	RTP	$ 4,293
R0.05/1.07	Widen from 4E to 6E	From Jct SR 59 to Rd 4	STIP	NA	RTP	NA
1.07/4.08	Widen from 4E to 6E	From Rd 4 to Rd 7	STIP	NA	RTP	NA
4.08/6.09	Widen from 4E to 6E	From Rd 7 to Rd 9	STIP	NA	RTP	NA
4.45	Upgrade bridge rail	West of the Alamo Drain	SHOPP	2016	RTP	$ 70
7.3/15.62	Widen shoulders and replace bridges	From Ash Slough Br to SR 99	SHOPP	NA	RTP	$ 4,605

APPENDIX D
Intelligent Transportation System Projects on SR 152

INTELLIGENT TRANSPORTATION SYSTEM PROJECTS				
Post Mile	***Location***	***Type***	***Completed***	***Direction***
0.05	*East of Jct SR 59*	*Traffic Count Station*	*Existing*	*EB/WB*
1.07	*East of Rd 4/Lincoln Rd*	*Traffic Count Station*	*Existing*	*EB/WB*
1.5	*East of SR 59*	*Changeable Message Sign*	*Proposed*	*NA*
7.3	*At Ash Slough Br*	*Remote Processing Unit*	*Existing*	*EB*
9.97	*West of Rd 13*	*Changeable Message Sign*	*Existing*	*EB*
10.586	*EB off-ramp to SR 233*	*Traffic Count Station*	*Existing*	*EB*
10.6	*East of SR 233*	*Changeable Message Sign*	*Proposed*	*EB*
10.715	*EB on-ramp from SR 233*	*Traffic Count Station*	*Existing*	*EB*
10.742	*WB on-ramp from SB SR 233*	*Traffic Count Station*	*Existing*	*WB*
10.766	*WB on-ramp from NB SR 233*	*Traffic Count Station*	*Existing*	*WB*
10.799	*East of Jct SR 233 NW*	*Traffic Count Station*	*Existing*	*EB/WB*
10.799	*West of Jct SR 233 NW*	*Traffic Count Station*	*Existing*	*EB/WB*
10.89	*At SR 233*	*Closed Circuit TV*	*Proposed*	*NA*
11	*WB off-ramp to SR 233*	*Traffic Count Station*	*Existing*	*WB*
12.36	*West of Rd 15*	*Traffic Count Station*	*Existing*	*EB/WB*
15.634	*West of Jct SR 99*	*Traffic Count Station*	*Existing*	*EB/WB*

APPENDIX E
Non-Motorized Facilities

Bicycle Facilities: Bicycle facilities within the state are classified into four categories:

- **Class 1 Bikeways (Bike Paths):** Bike Paths are separate *off-highway* facilities for the exclusive use of bicyclists and with cross flow by motor vehicles minimized.
- **Class 2 Bikeways (Bike Lanes):** Bike Lanes are for preferential use by bicyclists and can be established within the paved area of state highways. Such facilities are approved by, and subsequently maintained by, local jurisdictions and/or Caltrans. Bike lanes are separated from traffic lanes on California highways by the use of a painted 6" stripe on the pavement and are designated as bike lanes by the use of white R81 (Bike Lane), R-81A (Begin) and R81-B (End) "regulatory" signs. (MUTCD Chapter 9 - California Supplement - 2004).
- **Class 3 Bikeways (Bike Routes):** Bike Routes are shared facilities which serve either to (a) provide continuity to other bike facilities (usually a Class 1 or Class 2 bikeway); or (b) to designate a preferred route through a high demand corridor. Such facilities are approved by, and subsequently maintained by, local jurisdictions and/or Caltrans. Bike Routes are not separated from traffic lanes but are designated as bike routes through the use of green D11-1 (Bike Route), M4-11 (Begin) and M4-12 (End) "guide" signs. (MUTCD - Chapter 9 - 2003).
- **Shared Roadway (No Bikeway Designation):** Most bicycle travel on conventional state highways and local streets occurs on facilities without any bikeway designations, signs or striping. Virtually all highways in use by bicyclists for inter-city and recreational travel fall under this "share-the-road" scenario.

(1) **Deputy Directive 64-R1 (DD-64-R1)** - **(Policy)** "The Department provides for the needs of travelers of all ages and abilities in all programming, planning, design, construction, operations and maintenance activities and products on the State highway system. The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycles, pedestrians and transit modes as integral elements of the transportation system."

(2) **PDPM - Chapter 31** (Non-motorized Transportation Facilities) Section 1 - General - Introduction
".... State and federal laws require Caltrans to promote and facilitate increased use of non-motorized transportation. The purpose of this chapter is to outline pertinent statutory requirements, planning policies, and implementing procedures regarding non-motorized transportation facilities."

(3) **Streets and Highway Code - Section 888** - "The Department shall not construct a state highway as a freeway that will result in the severance or destruction of an existing major route for non-motorized transportation traffic and light motorcycles, unless it provides a reasonable, safe, and convenient alternate route, or such a route already exists."

(4) **California Vehicle Code - Section 21960 (Bikes & Pedestrians on Freeways)** (a) "The Department of Transportation and local authorities [i.e. acting together - not separately],

[may] by order, ordinance, or resolution, with respect to freeways, expressways ... prohibit or restrict the use of the freeways, expressways, or any portion thereof by pedestrians, bicycles or other non-motorized traffic..."

Pedestrian Facilities: There are no pedestrian facilities within the state right of way.

(1) **Deputy Directive 64-R1 (DD-64-R1)** - **(Policy)** "The Department provides for the needs of travelers of all ages and abilities in all programming, planning, design, construction, operations and maintenance activities and products on the State highway system. The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycles, pedestrians and transit modes as integral elements of the transportation system."

(2) **PDPM - Chapter 31** (Non-motorized Transportation Facilities) Section 1 - General - Introduction - ".... State and federal laws require Caltrans to promote and facilitate increased use of non-motorized transportation. The purpose of this chapter is to outline pertinent statutory requirements, planning policies, and implementing procedures regarding non-motorized transportation facilities."

APPENDIX F
STATE ROUTE 152 REFERENCES

Local Jurisdictions:

Madera County Transportation Commission (MCTC)
County of Madera Road Department
2001 Howard Road, Suite 201
Madera, CA 93637
(559) 675-0721
2037 West Cleveland Avenue, M.S. "D"
Madera, CA 93637
(559) 675-7811

Air Quality District:

San Joaquin Valley Air Pollution Control District
1990 East Gettysburg Avenue
Contact the Air District for more information.
Fresno, CA 93726
(559) 230-6000

Air Basin:

San Joaquin Valley

Transit Services:

For inquiries on transit services, please contact the MPO or local agency (listed above) for more information.

Traffic Accident Data:

Caltrans District 6
Office of Traffic Investigations
(559) 488-4123

Appendix G
Acronyms and Glossary of terms

Acronyms

2C – Two-lane conventional highway
2C(I) – Two-lane conventional highway with improvements
2E – Two-lane expressway
4C – Four-lane conventional highway
4C(I) – Four-lane conventional highway with improvements
4E – Four-lane expressway
4F – Four-lane freeway
6C – Six-lane conventional highway (rare)
6E – Six-lane expressway
6F – Six-lane freeway
8E – Eight-lane expressway (rare)
8F – Eight-lane freeway
10F – Ten-lane freeway
AADT - Annual Average Daily Traffic
ADA – Americans with Disabilities Act of 1990
ADT - Average Daily Traffic
BRT - Bus rapid transit
CALTRANS – California Department of Transportation
CAPM - Capital Preventative Maintenance
CCTV - Closed Circu it Television Cameras
CEQA - California Environmental Quality Act
CMA - Congestion Management Agencies
CMAQ - Congestion Mitigation and Air Quality
CMIA - Corridor Mobility Improvement Account
CMS - Changeable Message Sign
COG - Council of Governments
CSMP - Corridor System Management Plan
CSS – Context Sensitive Solutions
CT - Caltrans
CTC - California Transportation Commission
ELLN – Extralegal Load Network
FHWA – Federal highway Administration
FSR – Feasibility Study Report
FSTIP - Federal Statewide Transportation Improvement Program
FTIP – Federal Transportation Improvement Program
GHG - Green House Gas
GIS – Geographic Information System
HAR - Highway Advisory Radio
HCP - Habitat Conservation Plan
HOT - High occupancy toll lane
HOV - High occupancy vehicle
IIP - Interregional Improvement Plan
IGR - Intergovernmental Review
IRRS - Interregional Road System

ITIP - Interregional Transportation Improvement Program
ITMS - Intermodal Transportation Management System
ITS – Intelligent Transportation System
ITSP - Interregional Transportation Strategic Plan
KPRA – Kingpin-to-rear-axle distance for trucks
LOS – Level of Service
MOU - Memorandum of Understanding
MPO - Metropolitan Planning Organizations
MTC - Metropolitan Transportation Commission
MTCE - Maintenance (State program)
NA - Not available
NHS - National Highway System
NOA – Naturally Occurring Asbestos
NCCP - Natural Community Conservation Plan
NEPA - National Environmental Policy Act
OC - Overcrossing
OH – Overhead
PeMS – A freeway performance measure for California
PID - Project Initiation Document
PM - Post mile
PSR - Project Study Report
PSSR - Project Scope Summary Report
RCR - Route Concept Report
RHNA - Regional Housing Needs Allocation
RIP - Regional Improvement Program
ROW or **R/W** - Right-of-Way
RPU - Remote Processing Unit – was known as RWIS (Remote Weather Information Station)
RTIP – Regional Transportation Improvement Program
RTP - Regional Transportation Plan
RTPA - Regional Transportation Planning Agencies
SAFETEA - Safe, Accountable, Flexible and Efficient Transportation Equity Act of 2005
SCS - Sustainable Community Strategies
SHOPP - State Highway Operation Protection Program
SHS – State Highway System
SJVAPCD - San Joaquin Valley Air Pollution Control District
SMF – Smart Mobility Framework
STIP – State Transportation Improvement Program
TASAs - Traffic Accident Surveillance and Analysis System
TCM - Transportation Control Measure
TCR - Transportation Concept Report
TCS - Traffic Count Station
TDM – Transportation Demand Management
TEA-21 - Transportation Equity Act for the 21st Century
TMC - Transportation Management Center
TMS – Transportation Management System
TSN - Transportation System Network
UC - Undercrossing
UTC - Ultimate Transportation Concept
VDS - Vehicle Detection System

VHT - Vehicle Hours Traveled
VMT – Vehicle Miles Traveled

Definitions

AADT – Annual Average Daily Traffic is the total volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th. Traffic counting is generally performed by electronic counting instruments moved from location throughout the state in a program of continuous traffic count sampling. The resulting counts are adjusted to an estimate of annual average daily traffic by compensating for seasonal influence, weekly variation and other variables which may be present. Annual ADT is necessary for presenting a statewide picture of traffic flow, evaluating traffic trends, computing accident rates, planning and designing highways and other purposes.

Assembly Bill (AB) 32 – The Global Warming Solutions Act of 2006, or Assembly Bill (AB) 32, is a California State law that fights climate change by establishing a comprehensive program to reduce greenhouse gas (GHG) emissions from all sources throughout the state. Requires California to reduce its GHG emissions to 1990 levels by 2020 – a reduction of approximately 15 percent below emissions expected under a "business as usual" scenario.

Base year – The year that the most current data is available to the Districts.

Bikeway Class I (Bike Path) – Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross flow by motorists minimized.

Bikeway Class II (Bike Lane) – Provides a striped lane for one-way bike travel on a street or highway.

Bikeway Class III (Bike Route) – Provides for shared use with pedestrian or motor vehicle traffic.

Bottlenecks – A bottleneck is a location where traffic demand exceeds the effective carrying capacity of the roadway. In most cases, the cause of a bottleneck relates to a sudden reduction in capacity, such as a lane drop, merging and weaving, driver distractions, a surge in demand, or a combination of factors.

California Legal Advisory Route – Allow for California legal trucks only (see California Legal Network below); however, *travel is not advised* if KPRA length is over posted value. KPRA advisories range from 30 to 38 feet. These routes are generally found in steep, mountainous areas.

California Legal Network – Allow for overall length of 65 feet. KPRA to be 40 feet maximum for two or more axles and 38 feet maximum for single axle trailers. For doubles there are two options. Option "A" allows for a trailer length of 28 feet 6 inches maximum (each trailer), for an overall length of 75 feet maximum. Option "B" allows for one trailer length of 28 feet 6 inches maximum, the other trailer may be longer than 28 feet 6 inches. Overall length 65 feet maximum.

Capacity – The maximum sustainable hourly flow rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway during a given time period under prevailing roadway, environmental, traffic, and control conditions.

Capital Facility Concept – The 20-25 year vision of future development on the route to the capital facility. The capital facility can include capacity increasing, State Highway, bicycle facility, pedestrian facility, transit facility (Intercity Passenger Rail, Mass Transit Guideway etc.), grade separation, and new managed lanes.

Concept LOS – The minimum acceptable LOS over the next 20-25 years

Conceptual Project – A conceptual improvement or action is a project that is needed to maintain mobility or serve multimodal users, but is not currently included in a fiscally constrained plan and is not currently programmed. It could be included in a General Plan or in the unconstrained section of a long-term plan.

Conventional Highway – A highway without control 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 broad geographical band that follows a general directional flow connecting major sources of trips that may contain a number of streets, highways, bicycle, pedestrian, and transit route alignments. Off system facilities are included as informational purposes and not analyzed in the TCR.

Expressway – An arterial highway with at least partial control of access, which may or may not be divided or have grade separations at intersections.

Extralegal Load – An "extralegal load" is a single unit or an assembled item which, due to its design, cannot be reasonably reduced or dismantled in size or weight so that it can be legally transported as a load without a permit as required by California Vehicle Code Section 35780. This section does not apply to loads on passenger cars.

Facility Concept – Describe the Facility and strategies that may be needed within 20-25 years. This can include capacity increasing, State Highway, bicycle facility, pedestrian facility, transit facility, Non-capacity increasing operational improvements, new managed lanes, conversion of existing managed lanes to another managed lane type or characteristic, TMS field elements, Transportation Demand Management and Incident Management.

Facility Type – The facility type describes the State Highway facility type. The facility could be freeway, expressway, conventional, or one-way city street.

Freeway - A divided arterial highway with full control of access and with grade separations at intersections.

Freight Generator – Any facility, business, manufacturing plant, distribution center, industrial development, or other location (convergence of commodity and transportation system) that produces significant commodity flow, measured in tonnage, weight, carload, or truck volume.

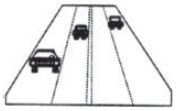
Headway – The time between two successive vehicles as they pass a point on the roadway, measured from the same common feature of both vehicles.

Horizon Year – The year that the future (20-25 years) data is based on.

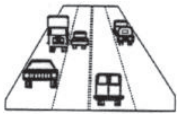
Intermodal Freight Facility – Intermodal transport requires more than one mode of transportation. An intermodal freight facility is a location where different transportation modes and networks connect and freight is transferred (or "transloaded") from one mode, such as rail, to another, such as truck.

ITS – Intelligent Transportation System improves transportation safety and mobility and enhances productivity through the integration of advanced communications technologies into the transportation infrastructure and in vehicles. Intelligent transportation systems encompass a broad range of wireless and wire line communications-based information and electronics technologies to collect information, process it, and take appropriate actions.

LOS – Level of Service is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists. A LOS definition generally describes these conditions in terms of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. Six levels of LOS can generally be categorized as follows:



LOS A describes free flowing conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the
geometric features of the highway.



LOS B is also indicative of free-flow conditions. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.

LOS C represents a range in which the influence of traffic density on operations becomes marked. The ability to maneuver with the traffic stream is now clearly affected by the presence of other vehicles.

LOS D demonstrates a range in which the ability to maneuver is severely restricted because of the traffic congestion. Travel speed begins to be reduced as traffic volume increases.

LOS E reflects operations at or near capacity and is quite unstable. Because the limits of the level of service are approached, service disruptions cannot be damped or readily dissipated.

LOS F stop and go, low speed conditions with little or poor maneuverability. Speed and traffic flow may drop to zero and considerable delays occur. For intersections, LOS F describes operations with delay in excess of 60 seconds per vehicle. This level, considered by most drivers unacceptable often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection.

Multi-modal – The availability of transportation options using different modes within a system or corridor, such as automobile, subway, bus, rail, or air.

System Operations and Management Concept – Describe the system operations and management elements that may be needed within 20-25 years. This can include Non-capacity increasing operational improvements (Aux. lanes, channelization's, turnouts, etc.), conversion of existing managed lanes to another managed lane type or

characteristic (e.g. HOV land to HOT lane), TMS Field Elements, Transportation Demand Management, and Incident Management.

Peak Hour – The hour of the day in which the maximum volume occurs across a point on the highway.

Peak Hour Volume – The hourly volume during the highest hour traffic volume of the day traversing a point on a highway segment. It is generally between 6 percent and 10 percent of the ADT. The lower values are generally found on roadways with low volumes.

Peak Period – Is a part of the day during which traffic congestion on the road is at its highest. Normally, this happens twice a day, once in the morning and once in the evening; the time periods when the most people commute. Peak Period is defined for individual routes, not a District or statewide standard.

PeMS – A freeway performance measure system for California. Data are collected in real-time from nearly 40,000 individual detectors spanning the freeway system across all major metropolitan areas of California. It is also an Archived Data User Service (ADUS) that provides over ten years of data for historical analysis. It integrates a wide variety of information from Caltrans and other local agency systems.

Planned Project – A planned improvement or action is a project in a fiscally constrained section of a long-term plan, such as an approved Regional or Metropolitan Transportation Plan (RTP or MTP), Capital Improvement Plan, or measure.

Post-25 Year Concept – This dataset may be defined and re-titled at the District's discretion. In general, the Post-25 Year concept could provide the maximum reasonable and foreseeable roadway needed beyond a 20-25 year horizon. The post-25 year concept can be used to identify potential widening, realignments, future facilities, and rights-of-way required to complete the development of each corridor.

Post Mile – A post mile is an identified point on the State Highway System. The milepost values increase from the beginning of a route within a count to the next county line. The milepost values start over again at each county line. Milepost values usually increase from south to north or west to east depending upon the general direction the route follows within the state. The milepost at a given location will remain the same year after year. When a section of road is relocated, new milepost (usually noted by an alphabetical prefix such as "R" or "M") are established for it. If relocation results in a change in length, "milepost equations" are introduced at the end of each relocated portion so that mileposts on the reminder of the route within the county will remain unchanged.

Programmed Project – A programmed improvement or action is a project in a near-term programming document identifying funding amounts by year, such as the State Transportation Improvement Program or the State Highway Operations and Protection Program.

Railroad Class I – The Surface Transportation Board (STB) defines a Class I railroad in the U.S. as a carrier having annual operating revenues of $250 million or more. This class includes the nation's major railroads. In California, Class I railroads include Union Pacific Railroad (UP) and Burlington Northern Santa Fe Railway (BNSF).

Railroad Class II – STB defines a Class II railroad in the U.S. as having annual carrier operating revenues of less than $250 million but more than $20 million. Class II railroads are considered mid-sized freight-hauling railroad in terms of operating revenues. They are considered "regional railroads" by the Association of American Railroads.

Railroad Class III – Railroads with annual carrier operating revenues of $20 million or less. The typical Class III is a short line railroad, which feeds traffic to or delivers traffic from a Class I or Class II railroad.

Roundabout – A roundabout is a British word for a road junction in which vehicles move in one direction around a central island with priority given to the vehicles already in the circulating flow of the roundabout. The roundabout is a circular intersection that creates a circular traffic flow pattern using yield controls on each approach and signage to inform the driver about slowing down and recognizing who has the right-of-way. Vehicles enter the roundabout and navigate counter-clockwise with the option to make an immediate right-turn, go straight, or continue around the roundabout.

Route Designation – A route's designation is adopted through legislation and identifies what system the route is associated with on the State Highway System. A designation denotes what design standards should apply during project development and design. Typical designations include but not limited to National Highway System (NHS), Interregional Route System (IRRS), Scenic Highway System, and Scenic Highway System.

Rural – Fewer than 5,000 in population designates a rural area. Limits are based upon population density as determined by the U.S. Census Bureau.

Segment – A portion of a facility between two points.

Senate Bill (SB) 375 – SB 375 is California state legislation that became law effective January 1, 2009. It prompts California regions to work together to reduce greenhouse has (GHG) emissions from cars and light trucks. This new would achieve this objective by requiring integration of planning processes for transportation, land-use and housing. The plans emerging from this process will lead to more efficient communities that provide residents with alternatives to using single occupant vehicles. SB 375 requires the California Air Resources Board (ARB) to develop regional reduction targets for automobiles and light trucks GHG emissions. The regions, in turn, are tasked with creating "sustainable communities strategy," (SCS) which combine transportation and land-use elements in order to achieve the emissions reduction target, if feasible. SB 375 also offers local governments regulatory and other incentives to encourage more compact new development and transportation alternatives.

TDM – Transportation Demand Management programs designed to reduce or shift demand for transportation through various means, such as the use of public transportation, carpooling, telework, and alternative work hours. Transportation Demand Management strategies can be used to manage congestion during peak periods and mitigate environmental impacts.

TMS – Transportation Management System is the business processes and associated tools, field elements and communications systems that help maximize the productivity of the transportation system. TMS includes, but is not limited to, advanced operational hardware, software, communications systems and infrastructure, for integrated Advanced Transportation Management Systems and Information Systems, and for Electronic Toll Collection System.

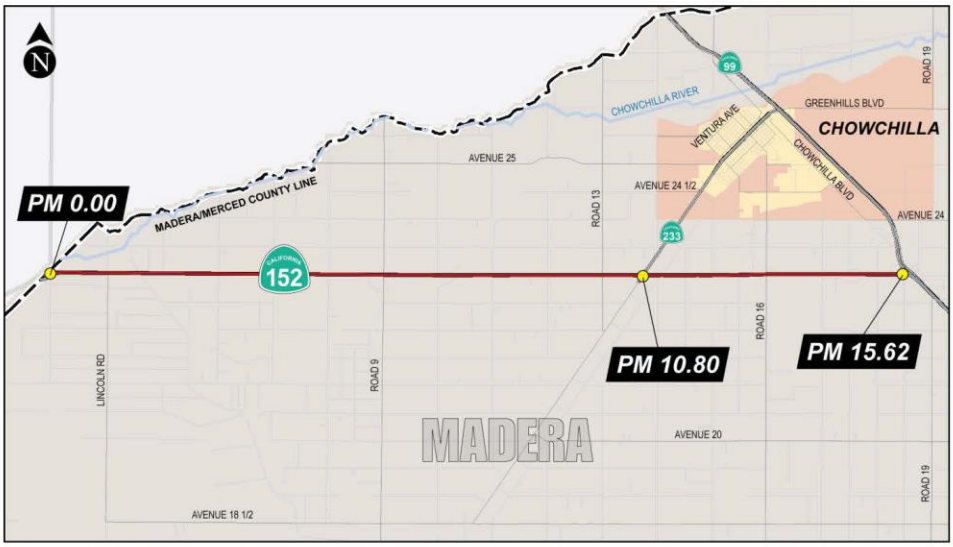
Urban – 5,000 to 49,999 in population designates an urban area. Limits are based upon population density as determined by the U.S. Census Bureau.

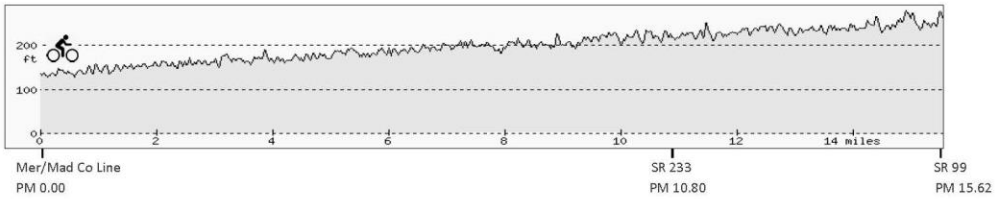
Urbanized – Over 50,000 in population designates an urbanized area. Limits are based upon population density as determined by the U.S. Census Bureau.

VMT – Is the total number of miles traveled by motor vehicles on a road or highway segments.

APPENDIX H
BICYCLE INFORMATION

STATE ROUTE 152 Madera County Bicycle Map

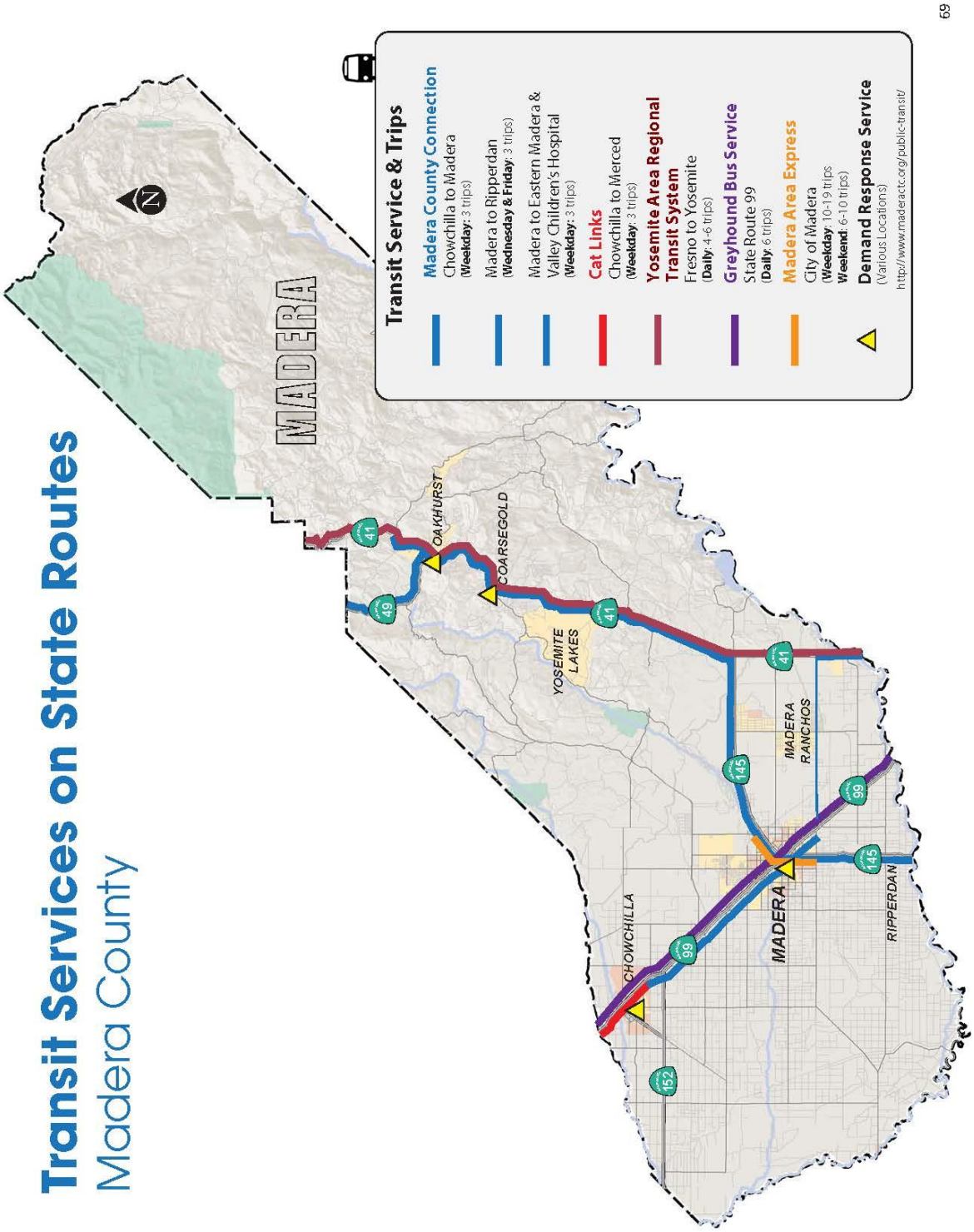




Location *(Postmile)*	Facility (Lanes)	Rural/ Urban	Shoulder (Treated)	Terrain	Speed Limit Posted	Facility Description
Merced/Madera County Line to State Route 233 *(PM 0.00 – 10.80)*	4 Lane Expressway	Rural	8 feet	Level	65	8 foot shoulders, surrounding agricultural land with few structures, farm machinery crossing, restaurant , gas station and food market at Lincoln Ave *PM 1.1.*
State Route 233 to State Route 99 *(PM 10.80 – 15.62)*	4 Lane Expressway	Rural	8 feet	Level	65	8 foot shoulders, surrounding agricultural land with few structures, farm machinery crossing.

44

APPENDIX I
TRANSIT MAP



APPENDIX J
RESOURCES

1. California Highways, Route 152, The California Highways Organization, www.cahighways.org
2. 2011 Regional Transportation Plan; Madera County Transportation Commission
3. California State Highway Log 2002; Caltrans
4. Traffic Data Branch, 2009 AADT; Caltrans
5. District Six Status of Projects; Caltrans
6. Transportation Management Center (TMC) Element Search Engine; Caltrans
7. Route Concept Report (RCR) Route 152, Madera County, October, 1989; Caltrans
8. "California Central Valley Tribal Transportation Environmental Justice Collaborative Project"