# Transportation Concept Report

**SR 146**

**District 5**

***September 2015***

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 TCR is subject to modification as conditions change and new information is obtained. Although planning information is dynamic and continually changing, the District 5 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 and shall not be used as a substitute for project specific analysis, including but not limited to, traffic impact studies, that pertain to any private or public development proposal.

**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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*District 5 Deputy Director*
*Planning and Local Assistance*

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# CHAPTER 1: EXECUTIVE SUMMARY

Caltrans mission is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. Transportation Concept Reports (TCRs) play an active role in achieving this mission to serve the traveling public. TCRs is primarily a technical document that: (1) identifies trends and deficiencies within a transportation corridor, and (2) provides a basis for considering future actions to preserve the integrity of the corridor over the long-term. This information is valuable to Caltrans and its local and regional partners as they consider needs and priorities for future investments.

## Route Description

SR 146 in Monterey and San Benito Counties is a 2-lane conventional highway and is 11.147 miles in length. SR 146 begins at Soledad city limit and travels easterly through the flat and rolling terrain to the west boundary of Pinnacles National Park where there is a break in the route. It resumes at the east boundary of Pinnacles National Park where it continues easterly to the junction of SR 25 in San Benito County.

*Figure 1.1: Location of SR 146*

### Segment 1 Corridor Performance Key Findings:

- Base Year (2013) Conditions: Congestion is low throughout the corridor in both directions.
- Horizon Year (2040) Conditions: Congestion is low throughout the corridor in both directions.

### Segment 2 Corridor Performance Key Findings:

- System Operations: Annual Average Daily Traffic (AADT) volume in 2013 and 2040 is 300.
- Base Year (2013) Conditions: Congestion levels are low throughout the segment.
- Horizon Year (2040) Conditions: Congestion levels are low throughout the segment.

**Table 1.1: Route Concept**

| Segments | Route Concept |
|---|---|
| Segment 1<br>MON (PM 1.5) to SBt (PM 10.2) | Conventional highway |
| Segment 2<br>SBt (PM 12.7) to (PM15.2) | Conventional highway |

### Projects and Strategies to Achieve Route Concept

**Maintenance and Preservation**

- Caltrans will support the counties of Monterey and San Benito in the efforts of relinquishing the remaining SR 146. Existing law Assembly Bill No. 344 authorizes the commission to relinquish the remaining SR 146 to interested counties. Assembly Bill No. 344 can be found under Appendix A.
- Maintain and preserve conventional highway.

**Multimodal Improvements**

- Support local designated Class III bike route along SR 146.
- Caltrans will encourage and support the MPOs and RTPAs efforts to improve transit service and parking solutions along SR 146.

### Stakeholder Participation

Stakeholder participation was part of the TCR development process. SR 146 resides within the counties of Monterey and San Benito in District 5, and it was important that the MPOs and RTPAs within these jurisdictions were given the opportunity to provide input into the effort. This was done through outreach to agency staff and technical advisory committees. Meetings and presentations served as mechanisms to solicit discussion and feedback on the effort.

**Table 1.2: Key SR 146 Stakeholders**

| Stakeholder | Role |
|---|---|
| Transportation Agency for Monterey County (TAMC) | Regional Transportation Planning Agency |
| City of Soledad | Local municipality |

**Task 1: TCR Kickoff – March**

The kickoff covers basic information about TCRs, including purpose, methodology, and schedule. It also provides key SR 146 stakeholders an opportunity to share initial input on the route to help guide the TCR development process. Key stakeholders are welcome to share the information presented in the kickoff with interested parties, such as AMBAG and TAMC subcommittees, through established communication channels.

**Task 2: Preliminary Draft – March to April**

Task 2 involves sharing the first draft of the TCR. This step provides the key stakeholders an opportunity to review the existing conditions and a general overview of the corridor. The draft includes preliminary modeling forecasts depicting 2040 conditions and sharing Caltrans' draft concept of the corridor with stakeholders.

**Task 3: Final Draft – April to June**

Includes completing revisions as necessary and holding a final presentation for applicable technical committees.

# CHAPTER 2: CORRIDOR OVERVIEW

## ROUTE DESCRIPTION

According to the California Street and Highways Code, Chapter 2, Article 3, Section 446 states, '' Route 146 is from: Route 101 near Soledad to Pinnacles National Monument. Pinnacles National Monument to Route 25 in Bear Valley. The relinquished former portion of Route 146 within the City of Soledad is not a state highway and is not eligible for adoption under Section 81. For the relinquished former portion of Route 146, the City of Soledad shall maintain within its jurisdiction signs directing motorists to the continuation of Route 146 until the entire route has been relinquished and shall ensure the continuity of traffic flow on the relinquished portion of Route 146, including any traffic signal progression." Pinnacles National Park was created from the former Pinnacles National Monument by legislation passed by Congress in 2012 and signed into law by President Barack Obama on January 10, 2013. SR 146 in Monterey and San Benito Counties is a 2-lane conventional highway and is 11.147 miles in length.

## ROUTE SEGMENTATION

SR 146 is divided into two segments. Segments are based on District boundaries, county boundaries, change in functional classification, significant changes in terrain, and changes in the function or use of the route.

**Table 2.1: Route Segmentation**

| Segment # | Location Description | County_Route_Beg. PM | County_Route_End PM |
|---|---|---|---|
| 1 | Soledad city Limit/Monterey county to West Boundary of Pinnacles National Park/San Benito county Line | MON_146_1.485 | SBt_146_10.19 |
| 2 | East Boundary of Pinnacles National Park/San Benito county to State Route 25 | SBt_146_12.71 | SBt_146_15.152 |

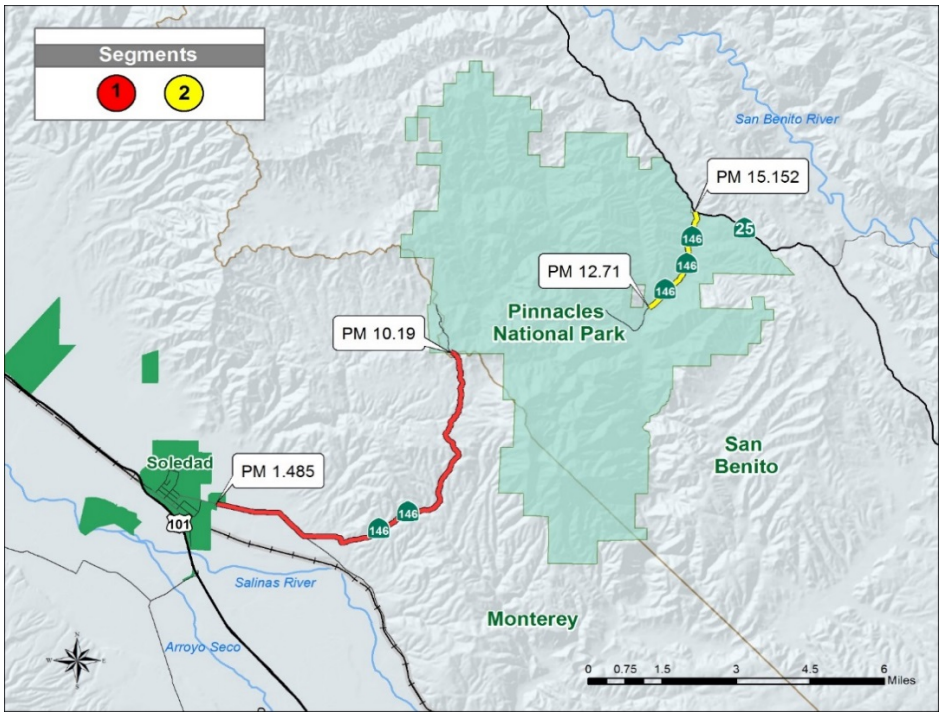


***Figure 2.1: State Route 146 Segmentation***

### Route Purpose:

The primary purpose of SR 146 is to serve local and recreational traffic. SR 146 serves Pinnacles National Park and it is located near US 101 and SR 25.

### Major Route Features:

SR 146 serves as an entryway to the Pinnacles National Park, located in the Gabilan Mountain Range. The route is divided into two sections and does not provide a continuous vehicular route through the park. The western part of SR 146 passes from US 101 near Soledad along Metz Road and Shirttail Canyon Road to the west area of Pinnacles. The eastern portion runs into the east area of Pinnacles from SR 25 along Pinnacles Road.

### Route Designations and Characteristics:

**Table 2.2: Route Designations and Characteristics**

| Segment | 1 | 2 |
|---|---|---|
| **Freeway & Expressway** | No | No |
| **Access Control** | Conventional | Conventional |
| **National Highway System** | No | No |
| **Strategic Highway Network** | No | No |
| **Scenic Highway** | No | Eligible |
| **Interregional Road System** | Yes | Yes |
| **Federal Functional Classification** | Major Collector | N/A |
| **Goods Movement Route** | No | No |
| **Truck Designation** | None | None |
| **Primary & Secondary System** | Primary | Primary |
| **Rural/Urban/Urbanized** | Rural | Rural |
| **Metropolitan Planning Organization** | AMBAG | AMBAG |
| **Regional Transportation Planning Agency** | TAMC | SBtCOG |
| **Congestion Management Agency** | TAMC | N/A |
| **Local Agency** | Monterey/San Benito county and city of Soledad | San Benito county |
| **Tribes** | None | None |
| **Air District** | Monterey Bay Unified Pollution Control Air District | None |
| **Terrain** | Mostly Rolling with some Flat areas | Mostly Rolling with some Flat areas |

## LAND USE

There is a direct nexus between land use and transportation; changes to one will inevitably impact the other. A better understanding of future development growth and transportation trends will help determine how to best plan for a transportation system that can accommodate future growth. The transportation system includes a network of local routes as well as state routes that serve different functions. Local routes are intended to serve transportation needs within a community. The land use characteristics of the communities within SR 146 corridor are farmland, permanent grazing areas and some low density residential housing. Residents who live near SR 146 travel to work outside of town, via US 101 in the west or SR 25 in the east.

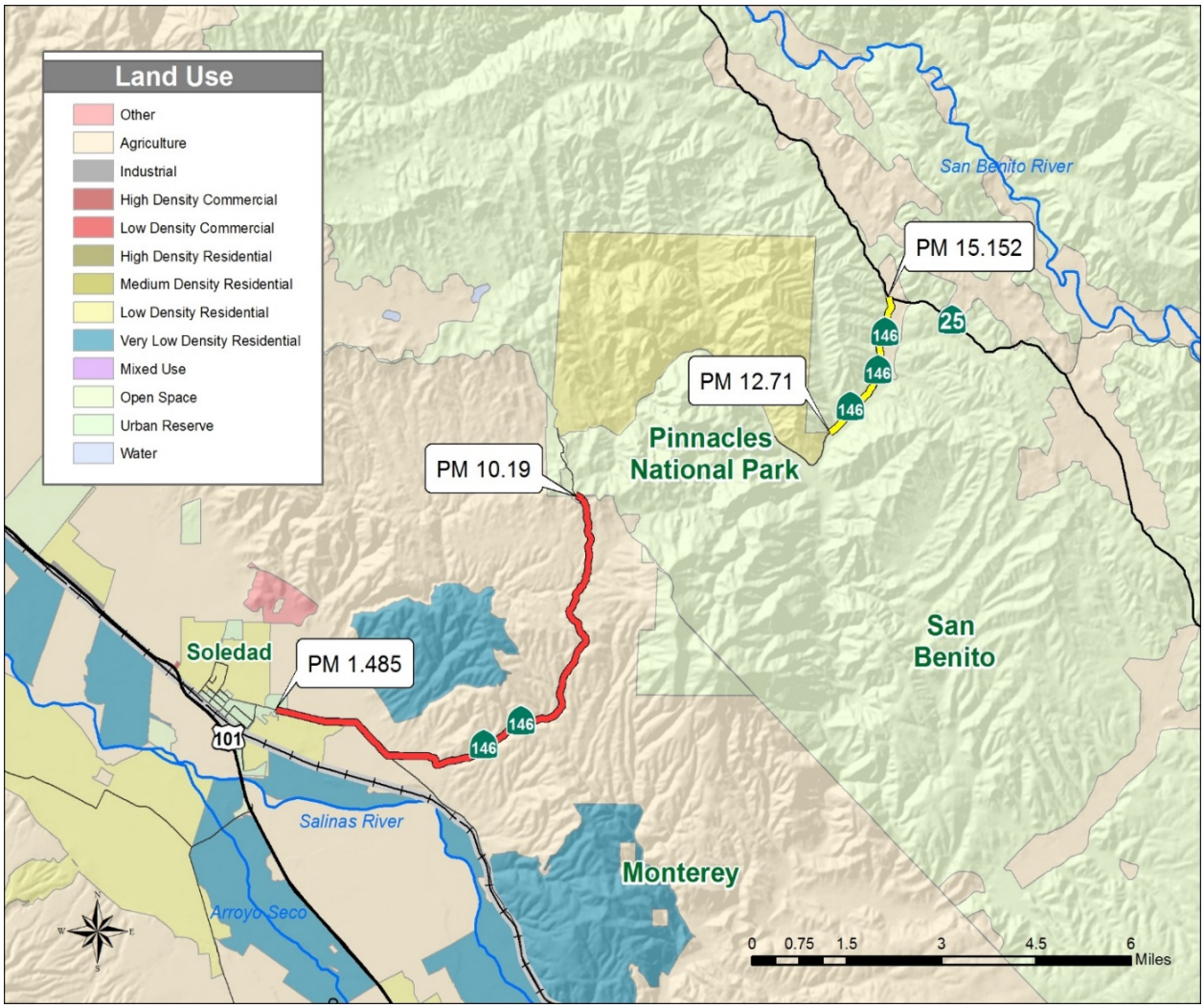


*Figure 2.2: Land Use*

## SYSTEM CHARACTERISTICS

**Table 2.3: Existing Facility Characteristics**

| Segment | 1 | 2 |
|---|---|---|
| **Facility Type** | Conventional | Conventional |
| **General Purpose Lanes** | 1-2 | 2 |
| **Lane Miles** | 17.41 | 4.884 |
| **Centerline Miles** | 8.595 | 2.442 |

## BICYCLE FACILITY

In California, a person riding a bicycle has all the rights and is subject to all provisions applicable to the driver of a vehicle and as such may operate on any street, road, or highway where they are not specifically prohibited. Bicycles are open to all of SR 146, there are no parallel bike facilities to the route nor shoulder widths. Currently bicyclists utilize the existing travel lane. Monterey County has proposed Class III bike route for a portion of Segment 1 and San Benito County has proposed Class III bike routes for Segment 2.

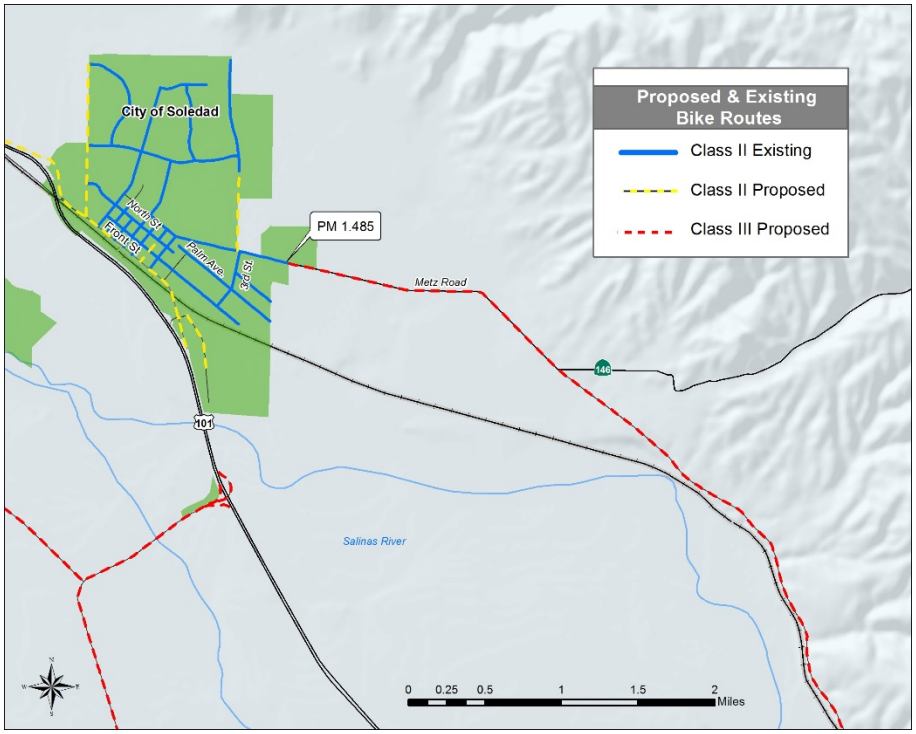


***Figure 2.3: Monterey County Proposed and Existing Bike Facilities***

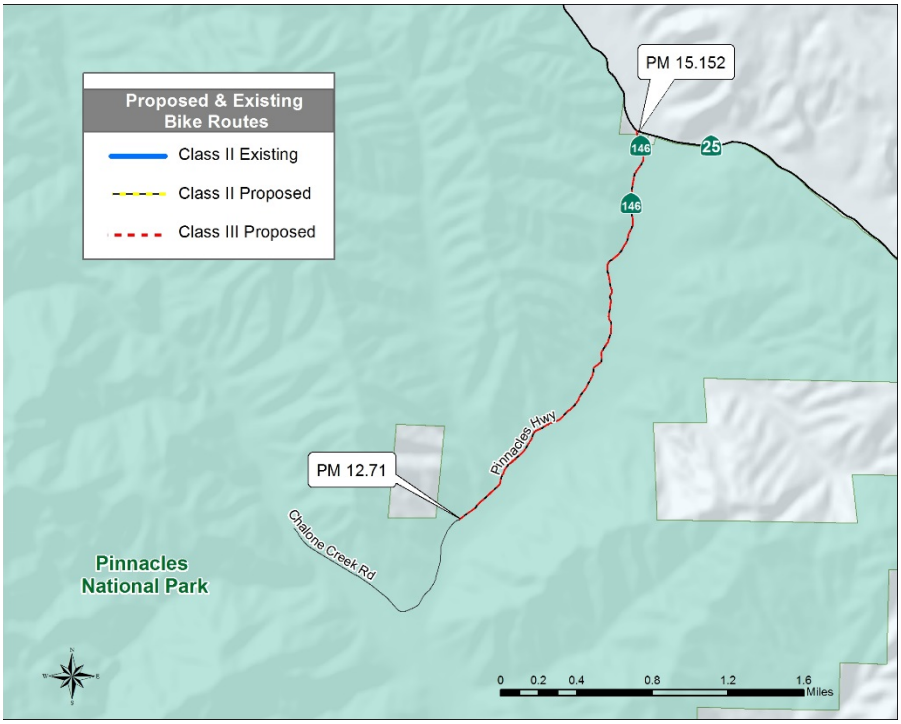


***Figure 2.4: San Benito County Proposed Bike Facilities***

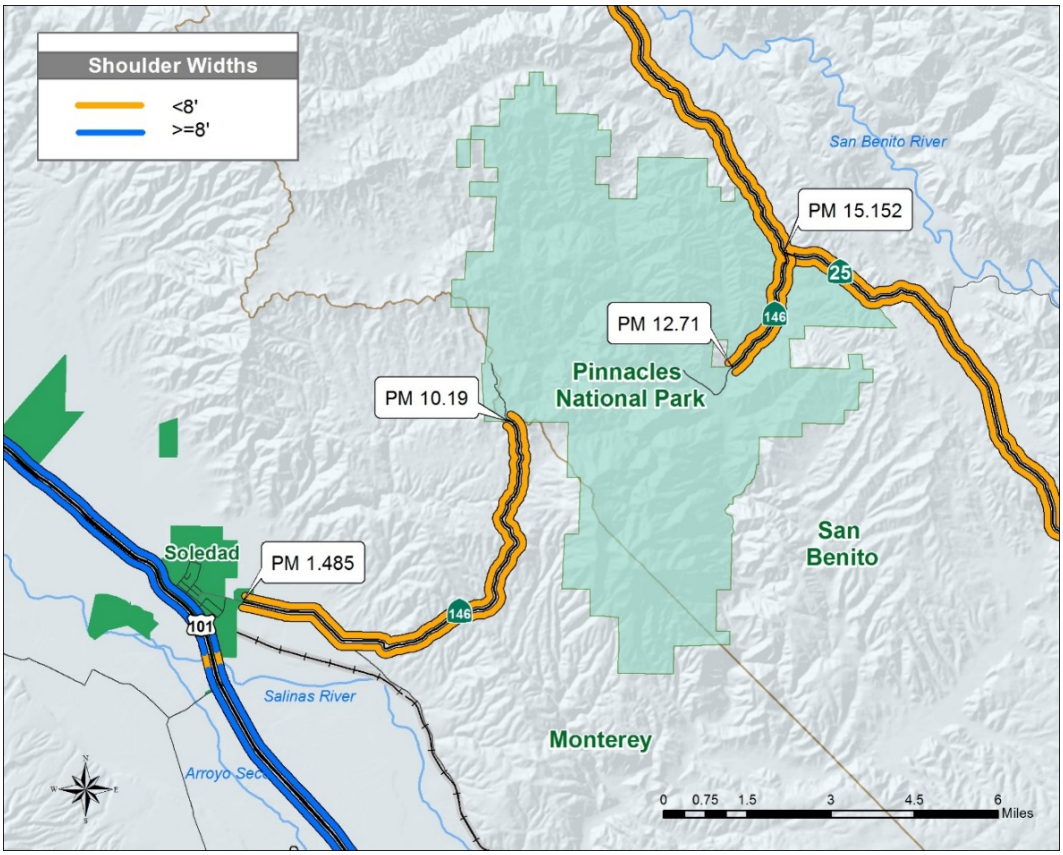


***Figure 2.5: Shoulder Widths***

## PEDESTRIAN FACILITY

Pedestrian needs are more local than bicyclist needs because walking trips tend to be shorter. Pedestrian needs includes block length, roadway crossing distance, as well as the presence of well-designed facilities including sidewalks, curb ramps, and crosswalks. The areas that have pedestrian access are provided commonly in form of local streets and roads with sidewalks. SR 146 is rural in nature and has no sidewalks nor shoulders available for pedestrian access.

## TRANSIT FACILITY

Currently, there are no public transit routes that run along SR 146. The communities of Soledad and Hollister have had ongoing discussion on creating a shuttle service that will provide visitor's access to Pinnacle National Park. Pinnacles National Park was created from the former Pinnacles National Monument by legislation passed by Congress in 2012 and signed into law by President Barack Obama on January 10, 2013. It is anticipated that it will attract more visitors in the future. Parking at Pinnacles is limited and visitors throughout the busy seasons have been turned away due to the limited parking available. Providing a shuttle service will help accommodate an increase visitor access to the park.

## FREIGHT

The communities within Monterey and San Benito Counties are major producers of agricultural products including related agricultural processing and warehousing. Soledad's original agricultural base prospered on cattle, wheat and barley until the 1890's when as influx of Swiss and Swedish immigrants established dairy operations in the area. SR 146 is predominantly surrounded by vineyards which are dependent for access to U.S. 101 a major freight corridor.

# CHAPTER 3: CORRIDOR PERFORMANCE

Performance of the SR 146 corridor is analyzed in two segments. The following are evaluated for each segment:

- **System Operation** is evaluated through regional traffic models and Caltrans historical data. For all segments, the base year AADT is based on Caltrans historical data. Horizon year AADT projections were based on regional traffic model data.

- **Peak Hour** analysis evaluated congestion during the PM Peak period as congestion is typically higher than during the PM Peak period. With commute traffic, when one direction is heavy in the morning commute, the opposite direction is typically heavy during the afternoon commute.

Note that the AMBAG regional travel demand model developed for the MTP-SCS sets 2035 as the horizon year. For this analysis, District 5 Advanced Planning extrapolated using the AMBAG model to develop forecasts for horizon year 2040; this was completed according to standard modeling practices. The 2040 horizon year is used for the current round of District 5 TCRs to align with the 2040 California Transportation Plan. Additional information about technical methodology and performance measures are provided in Appendix A.

## SEGMENT 1: MONTEREY COUNTY

### Metz Road to Mon/SBt County Line (PM 1.485-10.19)

### System Characteristics

Segment 1 extends from Metz Road at 3rd Street in Monterey County towards the east to San Benito County line. Segment 1 starts off flat in a mostly rural setting dotted by farmlands. From PM 4.5 to PM 10.080, Segment 1 travels through mountainous terrain. There are very few parallel roads to Segment 1, and many of them are privately owned. Segment 1 allows access to the western entrance of the Pinnacles National Park. Trucks make up 13.7% to 15.0% from PM 1.16 to PM 3.48. Trucks make up 2.4% to 3.7% from PM 3.48 to PM 10.080.

### System Operations

2013 AADT volumes range from 300 to 3,100 *(Table 3.1)* Historical AADT data indicates little to no increase in volumes between 1992 and 2013 (*Figure 3.1*). Volumes are expected to stay the same by 2040. The most congested location in 2013 is located between PM 1.160 and PM 3.480 with an AADT of 3,100 (*Figure 3.3*).

### PM Peak Hour Data

In the base year, congestion is low in both directions. In the 2040 horizon year, congestion remains low.

### Bottlenecks

In both the base year and horizon year, no bottlenecks occur.

**Table 3.1: Segment 1-Daily System Operations**

| | |
|---|---|
| AADT Base Year 2013 | 300 to 3,100 |
| AADT Horizon Year 2040 | 300 to 3,100 |
| AADT: Growth Rate (Vehicles/Year) | 0 to 2 |
| VMT Base Year 2013 | 9,000 |
| VMT Horizon Year 2040 | 9,300 |

**2013 base year is established by Caltrans historical data and 2040 horizon year projections are based on the AMBAG ver1.4 regional traffic model.*

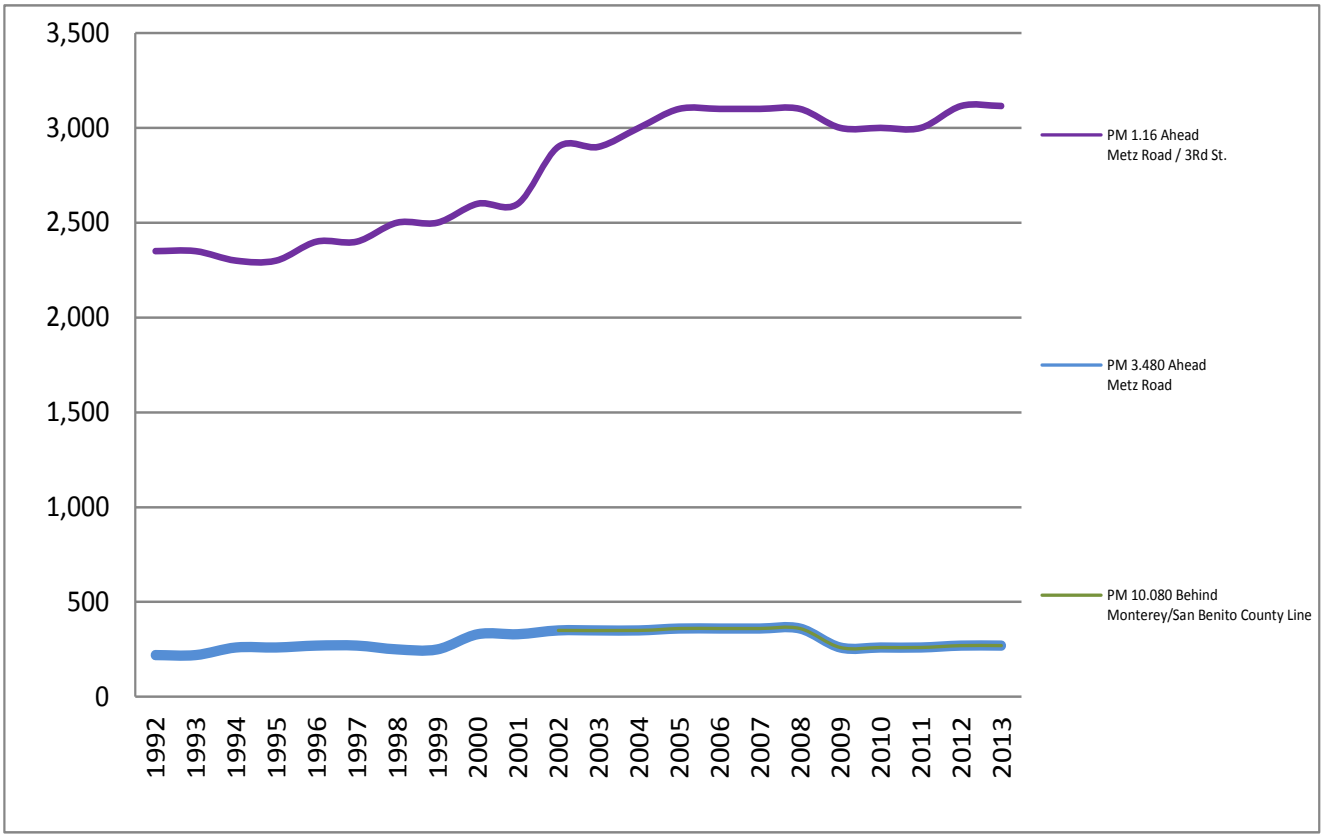


**Figure 3.1: Segment 1-Historical AADT by Year**

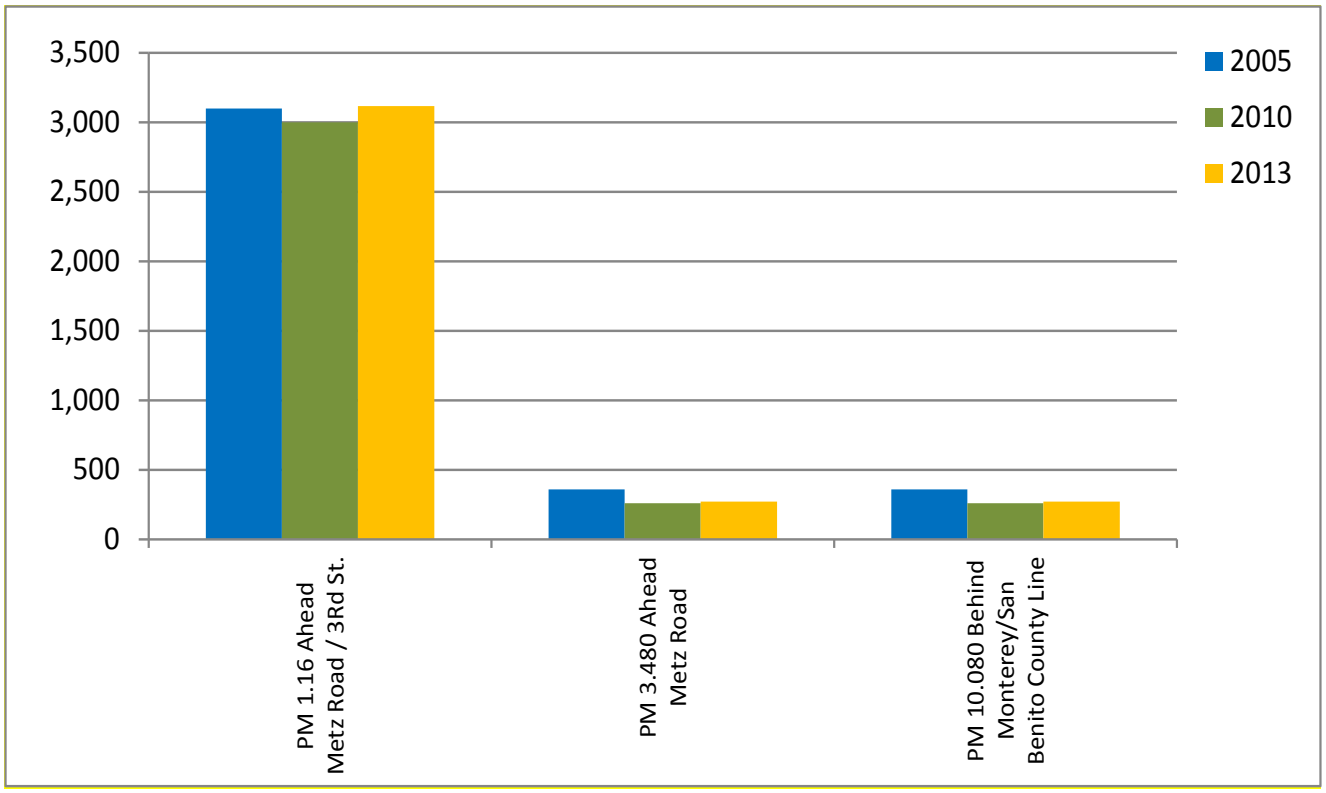


**Figure 3.2: Segment 1-Historical AADT by Location**

**Table 3.2: Segment 1-Peak Hour Traffic Data**

| | Eastbound | Westbound |
|---|---|---|
| Segment Length (Miles) | 8.92 | |
| PM Peak Hour Directional Split Base Year 2013 | 59.6% to 61.6% | 38.4% to 40.4% |
| PM Peak Hour Directional Split Horizon Year 2040 | 57.1% to 61.4% | 38.6% to 42.9% |
| PM Peak Hour Volume Base Year 2013 | 30 to 620 | |
| | 00 to 400 | 00 to 00 |
| PM Peak Hour Volume Horizon Year 2040 | 33 to 616 | |
| | 19 to 378 | 14 to 237 |
| PM Peak Hour Growth Rate (vehicles/year) | -0.16 to 0.10 | |
| PM Peak Hour VMT Base Year 2013 | 1,004 | 632 |
| PM Peak Hour VMT Horizon Year 2040 | 1,001 | 643 |
| PM Peak Hour VHT Base Year 2013 | 29 | 18 |
| PM Peak Hour VHT Horizon Year 2040 | 29 | 18 |
| PM Peak Hour V/C Base Year 2013 | 0.015 to 0.279 | 0.010 to 0.174 |
| PM Peak Hour V/C Horizon Year 2040 | 0.015 to 0.276 | 0.011 to 0.173 |
| PM Speed (mph) Base Year 2013 | 35.0 mph | 35.0 mph |
| PM Speed (mph) Horizon Year 2040 | 35.0 mph | 35.0 mph |

**Segment 1 Corridor Performance Key Findings:**

- Base Year (2013) Conditions: Congestion is low throughout the corridor in both directions.
- Horizon Year (2040) Conditions: Congestion is low throughout the corridor in both directions.

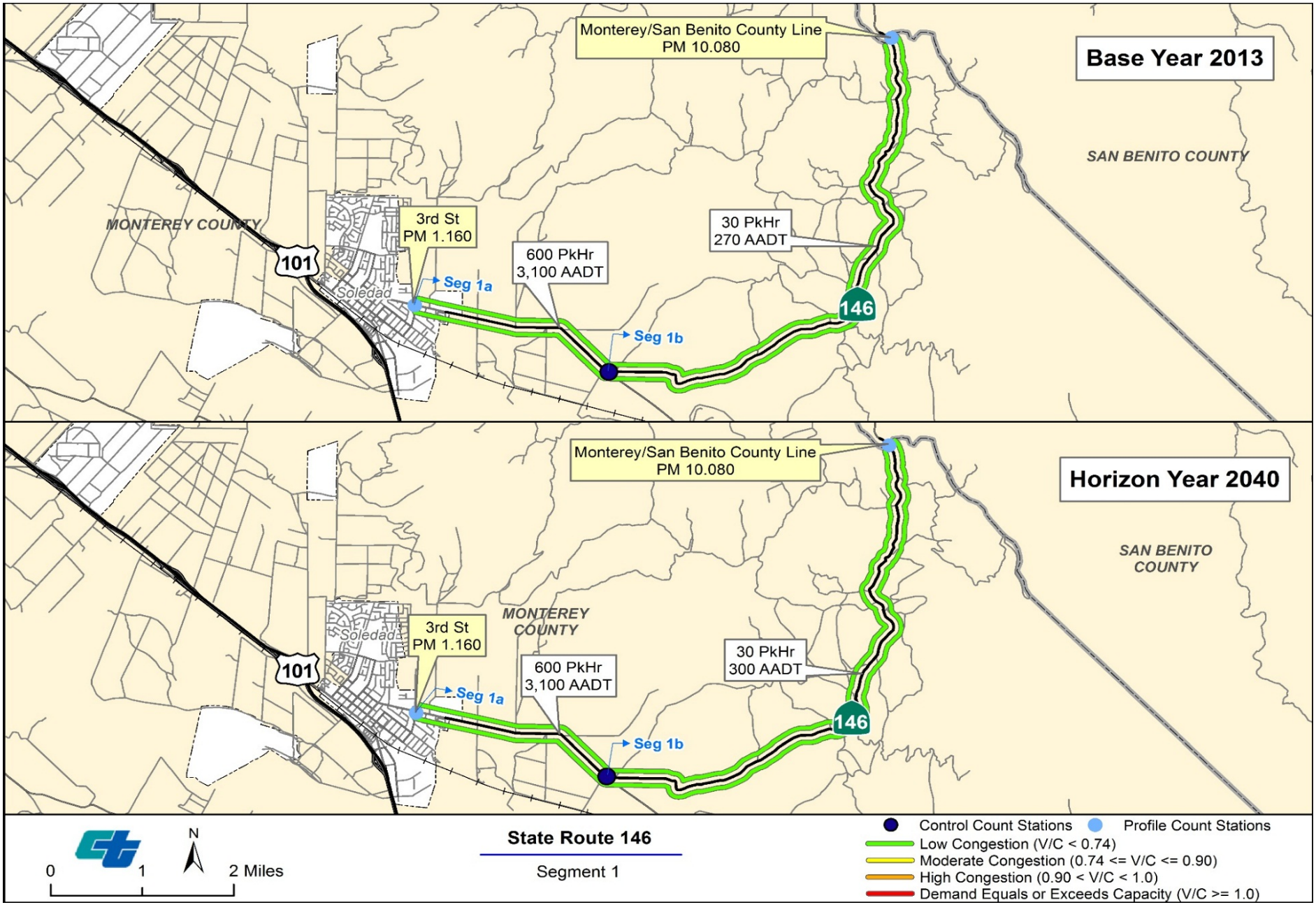


**Figure 3.3: Segment 1-Base Year/ Horizon Year Congestion**

## SEGMENT 2: SAN BENITO COUNTY

### East Boundary Pinnacles National Monument to SR 25 (SBt PM 12.71/15.152)

### System Characteristics

Segment 2 extends from the eastern entrance of the Pinnacles National Park to SR 25, traversing mountainous, rural area. Segment 2 serves tourists visiting Pinnacles National Park. Congestion levels remain low along Segment 2 in the base year and horizon year.

### System Operations

2013 AADT volume is 300. (Table 3.3). Historical AADT data indicates strong growth in the past four years (*Figure 3.4*), but we are expecting volumes to level off and stay the same by 2040 *(Table 3.3).*

### PM Peak Hour Data

In the base year and horizon year, congestion is low in both directions.

### Bottlenecks

There are no bottlenecks in the base year nor horizon year.

**Table 3.3: Segment 3-Daily System Operations**

| | |
|---|---|
| AADT Base Year 2013 | 300 |
| AADT Horizon Year 2040 | 300 |
| AADT: Growth Rate (Vehicles/Year) | 0 |
| VMT Base Year 2013 | 800 |
| VMT Horizon Year 2040 | 800 |

**2013 base year is established by Caltrans historical data and 2040 horizon year projections are based on the AMBAG regional traffic model.*

### Segment 2 Corridor Performance Key Findings:

- System Operations: AADT volume in 2013 and 2040 is 300 *(Figure 3.6).*
- Base Year (2013) Conditions: Congestion levels are low throughout the segment.
- Horizon Year (2040) Conditions: Congestion levels are low throughout the segment.

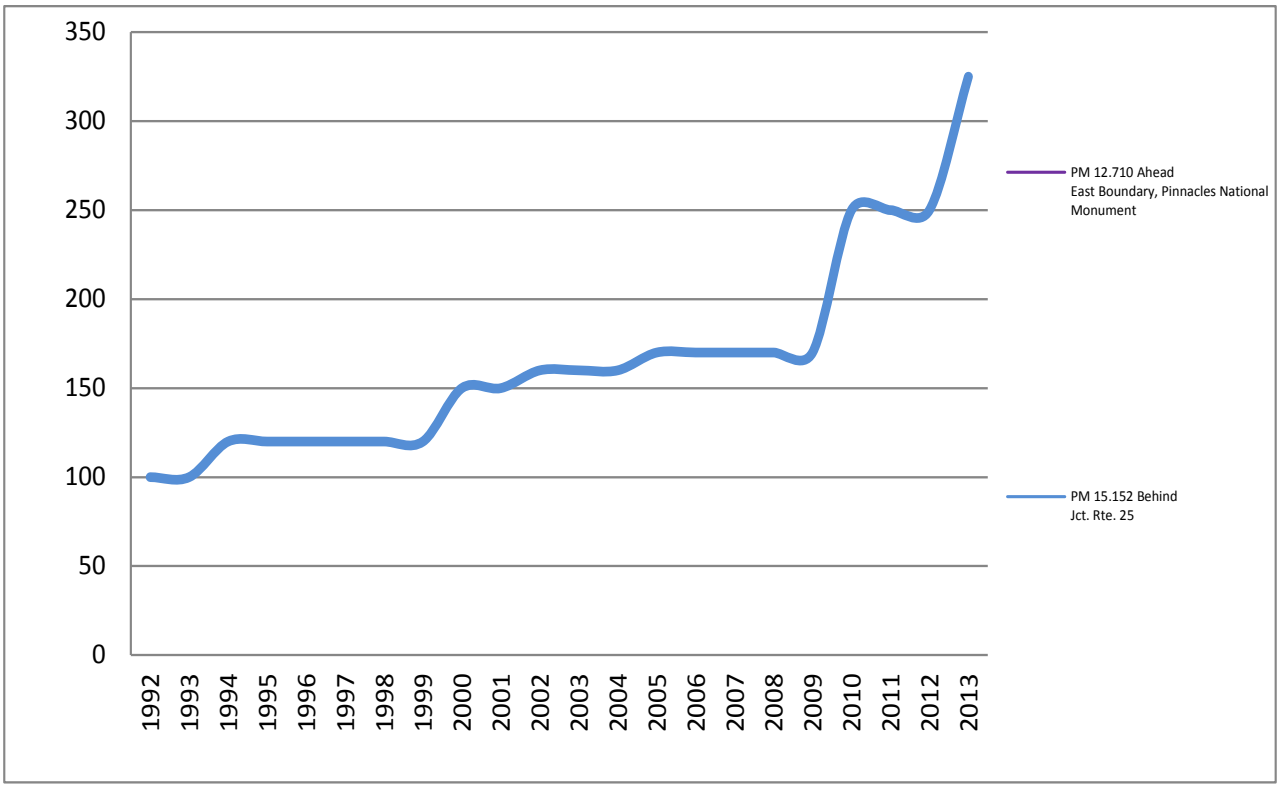


**Figure 3.4: Segment 2-Historical AADT by Year**

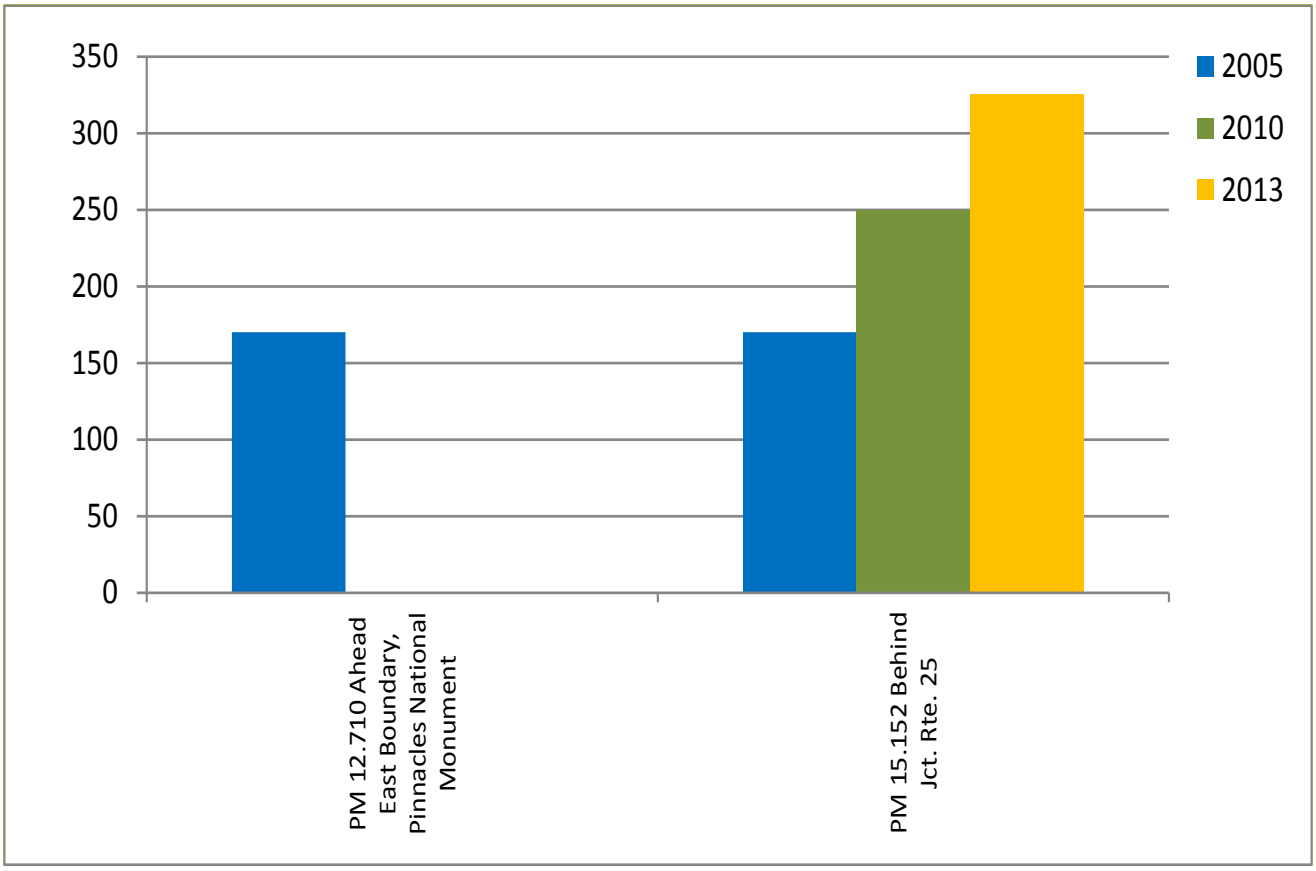


**Figure 3.5: Segment 2-Historical AADT by Location**

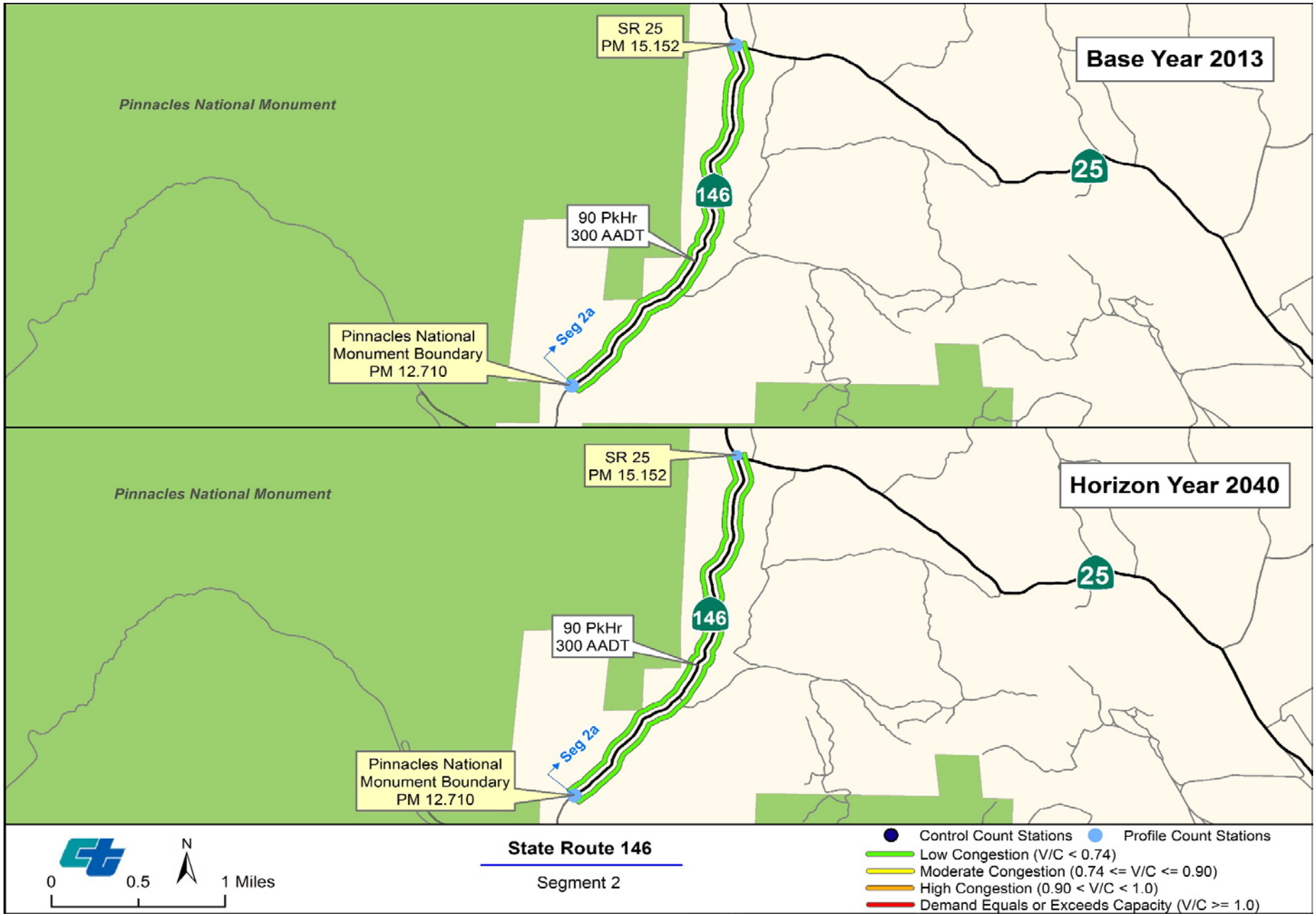


**Figure 3.6: Segment 2 - Base and Horizon Year Congestion**

**Table 3.4: Segment 2-Traffic Data**

| | Eastbound | Westbound |
|---|---|---|
| Segment Length (Miles) | 2.442 | |
| PM Peak Hour Directional Split Base Year 2013 | 37.2% | 62.8% |
| PM Peak Hour Directional Split Horizon Year 2040 | 37.7% | 62.3% |
| PM Peak Hour Volume Base Year 2013 | 90 | |
| | 33 | 57 |
| PM Peak Hour Volume Horizon Year 2040 | 89 | |
| | 33 | 55 |
| PM Peak Hour Growth Rate (vehicles/year) | -0.05 | |
| PM Peak Hour VMT Base Year 2013 | 82 | 138 |
| PM Peak Hour VMT Horizon Year 2040 | 82 | 135 |
| PM Peak Hour VHT Base Year 2013 | 2 | 4 |
| PM Peak Hour VHT Horizon Year 2040 | 2 | 4 |
| PM Peak Hour V/C Base Year 2013 | 0.028 | 0.048 |
| PM Peak Hour V/C Horizon Year 2040 | 0.028 | 0.047 |
| PM Speed (mph) Base Year 2013 | 35.0 mph | 35.0 mph |
| PM Speed (mph) Horizon Year 2040 | 35.0 mph | 35.0 mph |

# CHAPTER 4: CORRIDOR CONCEPT

## CONCEPT RATIONALE

The primary purpose of the SR 146 TCR is to develop strategies to manage the corridor and sustain existing transportation investments. Within the 20-25 year planning horizon, table 4.1 identifies the route concept and management strategies that should be pursued to manage SR 146.

## CORRIDOR PERFORMANCE KEY FINDINGS

Segment 1 Corridor Performance Key Findings:

- Base Year (2013) Conditions: Congestion is low throughout the corridor in both directions.
- Horizon Year (2040) Conditions: Congestion is low throughout the corridor in both directions.

Segment 2 Corridor Performance Key Findings:

- System Operations: AADT volume in 2013 and 2040 is 300 (Figure 3.6).
- Base Year (2013) Conditions: Congestion levels are low throughout the segment.
- Horizon Year (2040) Conditions: Congestion levels are low throughout the segment.

**Table 4.1: Route Concept**

| Segments | Route Concept |
|---|---|
| Segment 1<br>MON (PM 1.5) to SBt (PM 10.2) | Conventional highway |
| Segment 2<br>SBt (PM 12.7) to (PM15.2) | Conventional highway |

### Projects and Strategies to Achieve Route Concept

**Maintenance and Preservation**

- Caltrans will support the counties of Monterey and San Benito in the efforts of relinquishing the remaining SR 146. Existing law Assembly Bill No. 344 authorizes the commission to relinquish the remaining SR 146 to interested counties. Assembly Bill No. 344 can be found under Appendix A.
- Maintain and preserve conventional highway.

**Multimodal Improvements**

- Support local designated Class III bike route along SR 146.
- Caltrans will encourage and support the MPOs and RTPAs efforts to improve transit service and parking solutions along SR 146.

# RESOURCES

## LIST OF PREPARERS:

The following people contributed directly and significantly to the production of this document and the project in general and were instrumental in managing the project through to the preparation of this document.

*Rider, Brandy – Senior Transportation Planner*
Fifteen years of experience in preparing TCRs, CSMPs, and environmental documents for CEQA/NEPA. Responsible for supervision and review of this document.

*Espino, Claudia – PE Senior Transportation Engineer*
Seventeen years of experience in Project Development in addition to nine years in Advanced Planning and Technical Support. Responsibilities include overseeing the technical input of this TCR.

*Berkman, Jeff - Transportation Modeler*
Ten years of experience in transportation demand modeling. Responsible for analyzing existing and future traffic conditions in Chapter 5.

*Monroy-Ochoa, Orchid – Associate Transportation Planner*
Four years of experience in preparing concept reports and TCRs. Responsible for preparation and management of TCR.

## SOURCES:

Transportation Agency for Monterey County (Adopted 2011, December) Bicycle and Pedestrian Master Plan. Retrieved from:
http://www.tamcmonterey.org/programs/bikeped/pdf/TAMC_BPMP_December_2011.pdf

## APPENDICES:

The following appendices can be accessed at: http://www.dot.ca.gov/dist05/planning/system_planning.htm#TCRs.
Appendix A: SR 146 Data Sheet
Appendix B: About the TCR