APPENDIX D: EFFECTS ON AGRICULTURAL PRODUCTION

The Central Valley is one of the most productive agricultural centers of California and of the United States. In 2014, Merced and Madera Counties ranked 5th and 9th, respectively, in total agricultural production value in California (CDFA 2015). Construction of the Merced to Fresno Section: Central Valley Wye (Central Valley Wye) would require acquisition of agricultural farmlands and confined animal agriculture facilities. Agricultural farmlands are not replaceable; therefore their conversion results in the permanent depletion of agricultural resources. This analysis evaluates the effects of the Central Valley Wye alternatives on agricultural production in Merced and Madera Counties and estimates potential losses of agricultural revenue and jobs as a result of the acquisition and conversion of agricultural farmlands.

Methodology

This analysis examines both the agricultural farmlands and the animal agriculture operations that would be affected by implementation of the Central Valley Wye alternatives. Analysts estimated loss of agricultural revenue and jobs through an evaluation of the quality of the land and the value of the type of crop affected by the Central Valley Wye alternatives.

The following sections describe the methodologies used to evaluate the effects of the Central Valley Wye on agricultural production. First, estimates of the values of crops and animal agricultural operations are presented. Then, an estimate is presented for the acreages of agricultural farmland converted to nonagricultural uses as a result of the Central Valley Wye alternatives. It is important to note that the economic losses estimated represent the value of the agriculture displaced by the Central Valley Wye and subsequently not relocated within the region. Therefore, when considering these losses, effects on Prime Farmland are identified as especially important, given the difficulty of relocating any Prime Farmland production.

Estimating the Value and Acreage of Crops

Crop Value

Crop type is one of the most influential determinants for annual agricultural revenue generated on an acre of farmland. For example, 1 acre of alfalfa generates less than $1,500 per year, whereas 1 acre of almond trees generates more than $6,000 annually. This production value is also dependent on crop location, because annual values differ across counties. For example, in 2015, 1 acre of corn in Merced County generated an average of $1,276 per year, but a corresponding acre in Madera County generated an average of $1,410 per year (Merced County Department of Agriculture 2015, Madera County Department of Agriculture 2015).

Analysts obtained data on crop value from the annual crop reports published by Merced and Madera Counties and calculated the values per acre of crops by multiplying the value per unit by the production per acre. In some cases, the crop reports did not provide a dollar value and acres for every crop type; when specific crop type data was unavailable, analysts relied on the value of aggregated crop types. This method results in an average price between Prime and Non-Prime Farmland. In general, this has little effect on results because most of the higher-value crop types are on Prime Farmland. Table 1 presents the results of this analysis—an estimated value of agricultural production by crop type per acre in each county.

Table 1 Value per Acre by County for Affected Crop Types

Crop Type	Merced County $/Acre	Madera County $/Acre
Alfalfa	1,158	1,430
Almonds	5,420	6,627
Beans (dry)	1,675	N/A
Corn	1,276	1,410
Cotton	1,706	2,329
Dairies and Feedlots[1]	38,575	41,123
Field Crops	462	161
Figs	0	N/A
Fruits and Nuts	N/A	5,964
Grain and Hay[2]	633	733
Oats[3]	462	N/A
Oranges	N/A	7,161
Pasture (Irrigated)	162	150
Peaches and Nectarines	7,545	12,122
Pistachios	5,270	5,327
Prunes	2,316	4,675
Tomatoes	4,795	4,478
Vegetable Crops	7,082	5,767
Vineyards	3,899	3,454
Unknown Agriculture Land[4]	1,546	2,013
Other Acreage[5]	0	0

Sources: Merced County Department of Agriculture, 2015; Madera County Department of Agriculture, 2015
[1] Also refers to Dairy and Livestock
[2] Includes barley, wheat, and oat
[3] Aggregated into "Silage (other)" in the Merced County Crop Report
[4] Unknown agricultural land values were estimated by a weighted average of crops for which acreage and value were reported in the County Crop Report.
[5] Other acreage is nonagricultural land and therefore generates a price of $0 per acre in all counties.
$/Acre = dollars per acre
N/A = Not applicable

Acreages

In addition to estimating the price per acre of crops, analysts calculated the acreage of crops converted to a nonagricultural use by the Central Valley Wye alternatives using geographic information systems (GIS) and agricultural land use data for Merced and Madera Counties. The source of this data was the California Department of Water Resources' land use survey, which emphasizes the mapping of agricultural lands and identifies over 70 different crop types or crop categories in each county (DWR 2002, 2011).

To determine the amount of farmland that would no longer be in production as a result of the Central Valley Wye, analysts considered both direct and indirect impacts that could result in the permanent conversion of farmland to a nonagricultural use.

- For direct impacts, this analysis assumed that all farmland located within the permanent features of the project footprint[1] would be permanently converted to a nonagricultural use. GIS software was used to calculate the direct permanent conversion of farmland to nonagricultural use for each alternative by overlaying agricultural land use data with the permanent project footprint for each alternative to determine the acreage of conversion.
- For indirect impacts, analysts evaluated the potential for Important Farmland outside the permanent features of the project footprint to be converted to a nonagricultural use as a result of being severed by the Central Valley Wye. GIS software was used to identify parcels of Important Farmland that would be 20 acres or less following severance. Analysts licensed by the California Department of Consumer Affairs Bureau of Real Estate Appraisers then evaluated the viability of continued agricultural use of remnant[2] parcels or likely conversion to a nonagricultural use on the basis of several criteria.

Section 3.14, Agricultural Farmland, of the *Merced to Fresno Section: Central Valley Wye Supplemental Environmental Impact Report (EIR)/Supplemental Environmental Impact Statement (EIS)* (Supplemental EIR/EIS) contains additional information about the methodology for determining the acreage of agricultural farmland converted to a nonagricultural use, including the criteria used to determine the viability of continued agricultural use of remnant parcels.

To avoid underestimating the potential agricultural revenues generated on lands converted to a nonagricultural use by the Central Valley Wye alternatives, the total acreages were cross-referenced with data from a broader agricultural acreage dataset from the Farmland Mapping and Monitoring Program (FMMP) of the California State Department of Conservation (CDOC 2014). If acreage was identified by the FMMP as farmland but did not have a crop designation as defined by the specific county, it was included in the analysis as "unknown agricultural land," which means that it is potentially productive agricultural land but the crop type is unknown. The dollar value for this unknown crop type was estimated through the use of a weighted average for all crop land in the county, which captured the value of the potential agricultural use of this land.

Contrary to the situation where the county data were missing for some agricultural lands, in some cases the county data showed a crop designation for land that the FMMP data did not designate as farmland. In these cases, the land was identified as Non-Prime Farmland with the specified crop type. This approach was taken to avoid underestimating revenues generated on agricultural lands. Overall, the use of these two databases allowed for the analysis to be as complete as possible. When conflicts in these two data sources led to uncertainty as to whether a particular parcel was farmland, the analysis was conservative and assumed an agricultural use to avoid underestimating revenues.

In some cases, certain parcels were identified as having more than one crop type. When multiple crops were identified, this analysis assumed the acreage was evenly split between the crop types.

[1] The permanent project footprint includes the HSR right-of-way and associated facilities (including HSR tracks, traction power substations, switching and paralleling stations, maintenance of infrastructure facilities, and areas like overcrossings and interchanges associated with modifying or relocating roadways for those facilities).

[2] Many severed parcels contain small or irregularly shaped remnants. Some of these parcels will not be added to the acquisition area because analysts have determined that some agricultural use will continue to be viable. For example, some small parcels could be consolidated with adjacent landowners and larger, irregularly shaped parcels could still be farmed (although with some loss of efficiency). The purpose of this analysis is to determine whether HSR impacts have the potential to convert farmland to nonagricultural use. Impacts associated with farm efficiency or property transactions are social and economic effects that do not mean farmland would be lost, and will therefore not be evaluated as part of the Agricultural Lands analysis.

Any land that did not have a crop designation and that was not identified as farmland in the FMMP dataset was classified for the purpose of this analysis as "other acreage," which is valued at $0 per acre for agricultural purposes. Land assumed to be unused for agriculture included the following land types, which are defined by the FMMP (CDOC 2014):

- Native vegetation
- Rural residential land
- Semi-agricultural and rural commercial land
- Urban and built-up land
- Vacant or disturbed land

Estimating the Value of Dairies and Livestock Operations

Dairy production in Merced and Madera Counties was another important consideration in this analysis. Estimating the average annual revenue for an acre of dairy farm, feedlot, and livestock operations required additional effort because the County Agricultural Commissioners and the California Department of Food and Agriculture do not provide values per acre for these operations. As a result, it was necessary to estimate the number of animals per acre and then apply a value per animal.

It is difficult to determine the exact number of cows supported by each acre of dairy production because the different scales of operations and types of manure management plans lead to a wide variation in estimates. Analysts developed an initial estimate of 30.1 cows per 1 acre of dairy facilities by dividing the total acreage of dairy facilities in the two-county region by the number of dairy cows (CDFA 2014). However this estimate does not account for requirements for manure and wastewater management.

Confined animal agriculture facilities are frequently located on land that is permitted for disposal of manure and wastewater, and that uses cropland and on-site detention ponds to manage wastewater. When these surrounding lands that support the dairy operation are included in the estimate, the density for both a dairy farm and a feedlot could be as low as five head of cattle per acre (Authority and FRA 2014). The Authority intends to relocate any agricultural facilities that would be displaced before removing existing facilities so that the loss of dairy facility acreage would not result in decreased production. Therefore, the effects of the Central Valley Wye would generally be limited to production losses associated with relocation of manure lands. Analysts assumed that the typical dairy operation could support 10 cows per acre of land (the necessary crop lands for nutrient distribution and manure management). Multiplying the dollar value of gross revenue generated per cow by the number of estimated cows supported by 1 acre yielded a value of $38,575 per acre in Merced County and $41,123 per acre in Madera County (CDFA 2014; Merced County Department of Agriculture 2015; Madera County Department of Agriculture 2015).

Crop and Livestock Production Acreage Displaced

Agricultural land type is a key component in estimating total agricultural loss due to displaced farmland. Agricultural farmlands are not replaceable, and therefore their conversion results in the permanent depletion of agricultural resources. The FMMP categorizes farmland as *Prime Farmland*, and *Non-Prime Farmland*, which includes *Unique Farmland*, *Farmland of Statewide Importance*, *Farmland of Local Importance*, and *Grazing Land*. While all types of farmland are important, Prime Farmland has the best combination of physical and chemical features to sustain long-term agricultural production and high yields.

Analysts combined Prime Farmland data from the FMMP with the agricultural crop type data to identify the types of agricultural land that could be converted as a result of the Central Valley Wye (CDOC 2014; DWR 2002, 2011). The acreage of each crop was identified and then further differentiated into Prime Farmland and Non-Prime Farmland acreages. The methodology for calculating the acreage of agricultural farmland converted to a nonagricultural use is described under the Acreages section.

The determination of the displacement of livestock production acreage required a different methodology from that used to determine the displacement of cultivated crop land. A list of

potentially affected operations was generated using the country parcel land use designations. All parcels designated for livestock production within the project footprint of the Central Valley Wye alternatives were identified. Each parcel was then evaluated individually. See the Supplemental EIR/EIS, Volume 2, Appendix 3.12-D, High-Speed Rail Impacts on Confined Animal Agriculture Facilities, for a listing of all affected animal operations.

The Central Valley Wye alternatives may have severe effects on 1–2 animal operations, resulting in their relocation. The alternatives would affect facilities on some operations and reduce the productive area of the affected farms and surrounding crop lands specifically required for nutrient distribution. Effects on animal operations facilities (e.g., animal housing, wastewater treatment lagoons) were not considered in this analysis because it is the Authority's intention to relocate any facilities that would be displaced before removing existing facilities, and therefore no reductions in production are expected. However, if relocation of manure management practices would be required, the analysis considered these conditions to result in reductions in production. Because of difficulties associated with relocating displaced acreage used for livestock (e.g. permitting requirements for manure and wastewater management), the analysis assumed these displaced acres would not be relocated immediately.

Agricultural Displacement and Job Loss

Analysts calculated agricultural job loss using data supplied by the California Employment Development Department and the United States Department of Agriculture (CEDD 2015; USDA 2015). The California Employment Development Department data includes the total number of agricultural jobs in California aggregated for production of various crop types (e.g., oilseed, vegetables and melons, fruit and nut trees), as well as the number of jobs in support activities for crop and animal production (e.g., soil preparation, crop harvesting, support activities for animal production, and farm labor and management). Soil preparation was assumed to only occur in annual crops, and crop-harvesting jobs would be applicable to all types of crops. Management job values were weighted for each crop type based on the total number of people working. The total number of jobs was then divided by acres of cultivation in California to calculate the average number of jobs per 1,000 acres, as shown in Table 2. The value for any land identified as "unknown agricultural land" was calculated using the sum total of jobs and land use in the state.

Table 2 Estimated California Agricultural Jobs by Crop Type

California Agricultural Jobs by Crop Type	
Crop Type	**Jobs/1,000 Acres**
Oilseed, Grain and Hay, and Field Crops	12
Vegetables and Melons	48
Fruit and Nut Trees	59
Dairies and Feedlots	212
Unknown Agricultural Land	39

Sources: CEDD, 2015; USDA, 2015

Results

Tables 3 through 10 provide estimates of how the Central Valley Wye alternatives would affect agricultural production and associated jobs in Merced and Madera Counties. Acreages for each crop type and livestock production are differentiated into displaced Prime Farmland and Non-Prime Farmland and the percent of entire crop loss is compared to the total crop acreage for each county. The tables also present estimated revenue losses and job losses.

The tables illustrate the makeup of agricultural farmland displacements, including crop types, Prime and Non-Prime Farmland, and maximum number of acres that would be displaced. Analysts calculated the annual revenue associated with lost production by multiplying the value of

the lost acres by the crop value per acre for each county (Table 1). Finally, the "estimated job loss in the county" was calculated by using the jobs per acre values shown in Table 2.

Table 3 Agricultural Effects in Merced County under the SR 152 (North) to Road 13 Wye Alternative

Crop Type	Prime Farmland	Non-Prime Farmland	Total Farmland			
	Maximum Acres Displaced	Maximum Acres Displaced	Maximum Acres Displaced	% of Entire Crop Loss (acreage)	Estimated Revenue Loss in County ($)	Estimated Job Loss in County
Alfalfa	95	134	229	0.27%	265,182	2.7
Almonds	16	8	24	0.02%	130,080	1.4
Beans	13	0	13	1.21%	21,775	0.8
Corn	4	3	7	0.00%	8,932	0.1
Cotton	84	12	96	0.27%	163,776	1.2
Dairies and Feedlots[1]	0	14	14	0.05%	540,050	3.0
Field Crops	2	3	5	0.00%	2,310	0.1
Grain and Hay	13	56	69	0.05%	43,677	0.8
Oats	0	12	12	0.35%	5,544	0.1
Pasture	0	0	0	0.00%	0	0.0
Pistachios	6	0	6	0.12%	31,620	0.4
Prunes	5	2	7	0.50%	16,212	0.4
Tomatoes	17	5	22	0.08%	105,490	1.1
Vineyards	27	29	56	0.07%	218,344	0.7
Unknown Agriculture	1	3	4	N/A	6,184	0.2
Other Acreage	3	16	19	N/A	0	0.7
Total Prime Farmland	**287**	**296**	**583**	**N/A**	**1,559,176**	**13.6**

Sources: Merced County Department of Agriculture 2015; Madera County Department of Agriculture 2015
[1] Also refers to Dairy and Livestock
SR = State Route
N/A = Not applicable

Table 4 Agricultural Effects in Madera County under the SR 152 (North) to Road 13 Wye Alternative

Crop Type	Prime Farmland	Non-Prime Farmland	Total Farmland			
	Maximum Acres Displaced	Maximum Acres Displaced	Maximum Acres Displaced	% of Entire Crop Loss (acreage)	Estimated Revenue Loss in County ($)	Estimated Job Loss in County
Alfalfa	29	60	89	0.51%	127,270	1.1
Almonds	145	201	346	0.35%	2,292,942	20.4
Corn	11	209	220	0.93%	310,200	2.6
Cotton	26	31	57	3.35%	132,753	0.7
Dairies and Feedlots[1]	13	32	45	0.56%	1,850,535	9.5
Field Crops	7	7	14	0.00%	2,254	0.2
Fruits and Nuts	2	2	4	0.00%	23,856	0.2
Grain and Hay	10	30	40	0.12%	29,320	0.5
Oranges	41	6	47	1.68%	336,567	2.8
Pasture	20	9	29	1.81%	4,350	0.3
Peaches and nectarines	0	2	2	0.96%	24,244	0.1
Pistachios	35	62	97	0.34%	516,719	5.7
Prunes	22	4	26	2.51%	121,550	1.5
Vegetable Crops	0	17	17	0.27%	98,039	0.8
Vineyards	50	60	110	0.15%	379,940	1.3
Unknown Agriculture Land	54	205	259	N/A	521,367	10.1
Other acreage	10	32	42	N/A	0	1.6
Total Prime Farmland	**474**	**970**	**1,444**	**N/A**	**6,771,906**	**59.6**

Sources: Merced County Department of Agriculture 2015; Madera County Department of Agriculture 2015
[1] Also refers to Dairy and Livestock
SR = State Route
N/A = Not applicable

Table 5 Agricultural Effects in Merced County under the SR 152 (North) to Road 19 Wye Alternative

Crop Type	Prime Farmland	Non-Prime Farmland	Total Farmland			
	Maximum Acres Displaced	Maximum Acres Displaced	Maximum Acres Displaced	% of Entire Crop Loss (acreage)	Estimated Revenue Loss in County ($)	Estimated Job Loss in County
Alfalfa	92	131	223	0.27%	258,234	2.7
Almonds	19	23	42	0.04%	227,640	2.5
Beans (dry)	13	0	13	1.21%	21,775	0.8
Corn	6	19	25	0.02%	31,900	0.3
Cotton	84	7	91	0.26%	155,246	1.1
Dairies and Feedlots[1]	0	14	14	0.05%	540,050	3.0
Field Crops	5	0	5	0.00%	2,310	0.1
Figs	5	5	10	3.50%	590	0.59
Grain and Hay	24	39	63	0.05%	39,879	0.8
Oats	1	10	11	0.32%	5,082	0.1
Pasture	0	0	0	0.00%	0	0.0
Tomatoes	15	7	22	0.08%	105,490	1.1
Vineyards	35	43	78	0.10%	304,122	0.9
Unknown Agriculture Land	5	11	16	N/A	24,736	0.6
Other Acreage	5	31	36	N/A	0	1.4
Total Prime Farmland	**309**	**340**	**649**	**N/A**	**1,717,054**	**15.8**

Sources: Merced County Department of Agriculture 2015; Madera County Department of Agriculture 2015
[1] Also refers to Dairy and Livestock
SR = State Route
N/A = Not applicable

Table 6 Agricultural Effects in Madera County under the SR 152 (North) to Road 19 Wye Alternative

Crop Type	Prime Farmland	Non-Prime Farmland	Total Farmland			
	Maximum Acres Displaced	Maximum Acres Displaced	Maximum Acres Displaced	% of Entire Crop Loss (acreage)	Estimated Revenue Loss in County	Estimated Job Loss in County
Alfalfa	7	23	30	0.17%	42,900	0.4
Almonds	120	254	374	0.38%	2,478,498	22.1
Corn	31	86	117	0.49%	164,970	1.4
Cotton	26	27	53	3.12%	123,437	0.6
Dairies and Feedlots[1]	4	20	24	0.30%	986,952	5.1
Field Crops	11	9	20	0.00%	0	0.2
Fruits and Nuts	0	0	0	0.00%	0	0.0
Grain and Hay	9	45	54	0.16%	39,582	0.6
Oranges	39	6	45	1.61%	322,245	2.7
Pasture	5	6	11	0.69%	1,650	0.1
Peaches and nectarines	0	1	1	0.55%	12,122	0.1
Pistachios	37	60	97	0.34%	516,719	5.7
Prunes	22	4	26	2.51%	121,550	1.5
Vineyards	74	94	168	0.23%	580,272	2.0
Unknown Agriculture Land	92	252	344	N/A	692,472	13.4
Other Acreage	31	61	92	N/A	0	3.6
Total Prime Farmland	**508**	**948**	**1,456**	**N/A**	**6,083,369**	**59.6**

Sources: Merced County Department of Agriculture 2015; Madera County Department of Agriculture 2015
[1] Also refers to Dairy and Livestock
SR = State Route
N/A = Not applicable

Table 7 Agricultural Effects in Merced County under the Avenue 21 to Road 13 Wye Alternative

Crop Type	Prime Farmland	Non-Prime Farmland	Total Farmland			
	Maximum Acres Displaced	Maximum Acres Displaced	Maximum Acres Displaced	% of Entire Crop Loss (acreage)	Estimated Revenue Loss in County ($)	Estimated Job Loss in County
Alfalfa	168	100	268	0.32%	310,344	3.2
Almonds	16	8	24	0.02%	130,080	1.4
Beans (dry)	1	0	1	0.09%	1,675	0.1
Corn	3	4	7	0.00%	8,932	0.1
Cotton	73	11	84	0.24%	143,304	1.0
Dairies and Feedlots[1]	0	4	4	0.01%	154,300	0.8
Field Crops	14	11	25	0.00%	11,550	0.3
Grain and Hay	4	54	58	0.04%	36,714	0.7
Oats	1	10	11	0.32%	5,082	0.1
Pasture	0	0	0	0.00%	0	0.0
Pistachios	6	0	6	0.12%	31,620	0.4
Prunes	5	2	7	0.50%	16,212	0.4
Tomatoes	40	13	53	0.20%	254,135	2.5
Vegetable Crops	12	0	12	0.02%	576	0.1
Vineyards	19	23	42	0.05%	163,758	0.5
Unknown Agriculture Land	6	14	20	N/A	30,920	0.8
Other Acreage	9	8	17	N/A	0	0.7
Total Prime Farmland	**375**	**263**	**639**	**N/A**	**1,299,202**	**13.2**

Sources: Merced County Department of Agriculture 2015; Madera County Department of Agriculture 2015
[1] Also refers to Dairy and Livestock
N/A = Not applicable

Table 8 Agricultural Effects in Madera County under the Avenue 21 to Road 13 Wye Alternative

Crop Type	Prime Farmland	Non-Prime Farmland	Total Farmland			
	Maximum Acres Displaced	Maximum Acres Displaced	Maximum Acres Displaced	% of Entire Crop Loss (acreage)	Estimated Revenue Loss in County ($)	Estimated Job Loss in County
Alfalfa	45	97	142	0.82%	203,060	1.7
Almonds	360	328	688	0.69%	4,559,376	40.6
Corn	16	112	128	0.54%	180,480	1.5
Cotton	11	31	42	2.47%	97,818	0.5
Dairies and Feedlots[1]	0	38	38	0.48%	1,562,674	8.1
Field Crops	13	53	66	0.01%	0	0.8
Fruit and Nuts	0	10	10	0.00%	59,640	0.6
Grain and Hay	12	55	67	0.19%	49,111	0.8
Oranges	0	4	4	0.14%	28,644	0.2
Pasture	0	5	5	0.31%	750	0.1
Pistachios	0	0	0	0.00%	0	0.0
Prunes	59	45	104	10.03%	554,008	6.1
Vegetable Crops	0	0	0	0.00%	0	0.0
Vineyards	47	46	93	0.13%	321,222	1.1
Unknown Agriculture Land	38	78	116	N/A	233,508	4.5
Other Acreage	1	49	50	N/A	0	2.0
Total Prime Farmland	**602**	**951**	**1,553**	**N/A**	**7,850,291**	**68.6**

Sources: Merced County Department of Agriculture 2015; Madera County Department of Agriculture 2015
[1] Also refers to Dairy and Livestock
N/A = Not applicable

Table 9 Agricultural Effects in Merced County under the SR 152 (North) to Road 11 Wye Alternative

Crop Type	Prime Farmland	Non-Prime Farmland	Total Farmland			
	Maximum Acres Displaced	Maximum Acres Displaced	Maximum Acres Displaced	% of Entire Crop Loss (acreage)	Estimated Revenue Loss in County ($)	Estimated Job Loss in County
Alfalfa	154	179	333	0.40	385,614	4.0
Almonds	17	0	17	0.02	92,140	1.0
Beans (dry)	23	0	23	2.15	38,525	1.4
Corn	2	7	9	0.01	11,484	0.1
Cotton	138	15	153	0.43	261,018	1.8
Dairies and Feedlots[1]	0	18	18	0.06	694,350	3.8
Field Crops	6	0	6	0.00	2,772	0.1
Grain and Hay	41	83	124	0.09	78,492	1.5
Oats	0	21	21	0.62	9,702	0.3
Pasture	0	1	1	0.00	162	0.0
Pistachios	36	45	81	1.62	426,870	4.8
Prunes	0	0	0	0.00	0	0.0
Tomatoes	22	10	32	0.12	153,440	1.5
Vegetable Crops	0	0	0	0.00	0	0.0
Vineyards	36	8	44	0.06	171,556	0.5
Unknown Agriculture Land	0	0	0	N/A	0	0.0
Other Acreage	11	29	40	N/A	0	1.6
Total Prime Farmland	**486**	**416**	**902**	**N/A**	**2,326,125**	**22.3**

Sources: Merced County Department of Agriculture 2015; Madera County Department of Agriculture 2015
[1] Also refers to Dairy and Livestock
N/A = Not applicable

Table 10 Agricultural Effects in Madera County under the SR 152 (North) to Road 11 Wye Alternative

Crop Type	Prime Farmland	Non-Prime Farmland	Total Farmland			
	Maximum Acres Displaced	Maximum Acres Displaced	Maximum Acres Displaced	% of Entire Crop Loss (acreage)	Estimated Revenue Loss in County ($)	Estimated Job Loss in County
Alfalfa	67	113	180	1.04	257,400	2.2
Almonds	213	333	546	0.55	3,618,342	32.2
Corn	5	0	5	0.02	7,050	0.1
Cotton	33	31	64	3.77	149,056	0.8
Dairies and Feedlots[1]	10	11	21	0.26	863,583	4.5
Field Crops	2	9	11	0.002	0	0.1
Fruit and Nuts	8	7	15	0.01	89,460	0.9
Grain and Hay	37	202	239	0.69	175,187	2.9
Oranges	55	1	56	2.00	401,016	3.3
Pasture	0	5	5	0.31	750	0.1
Pistachios	29	70	99	0.34	1,200,078	5.8
Prunes	23	4	27	2.60	143,829	1.6
Vegetable Crops	3	16	19	0.30	88,825	1.1
Vineyards	102	81	183	0.25	632,082	2.2
Unknown Agriculture Land	96	294	390	N/A	785,070	15.2
Other Acreage	6	30	36	N/A	0	1.4
Total Prime Farmland	**689**	**1,207**	**1,896**	**N/A**	**8,411,728**	**74.3**

Sources: Merced County Department of Agriculture 2015; Madera County Department of Agriculture 2015
[1] Also refers to Dairy and Livestock
N/A = Not applicable

References

Authority	California High-Speed Rail Authority
CDOC	California Department of Conservation
CDFA	California Department of Food and Agriculture
CEDD	California Employment Development Department
Central Valley Wye	Merced to Fresno Section: Central Valley Wye
FMMP	Farmland Mapping and Monitoring Program
FRA	Federal Railroad Administration
USDA	U.S. Department of Agriculture

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