

APPENDIX 3.14-C

High-Speed Train Noise Disturbance on Grazing Lands

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Based on existing research, FRA has established a threshold for HST noise effects on livestock of 100 A-weighted decibels (dBA) sound exposure level SEL (FRA 2005). SEL describes the noise from a single event, such as a train passing a given point. At a distance of 100 feet from the tracks, the SEL along the alignment would be less than 100 dBA SEL. In order to identify potential impacts to grazing cattle, geographic information system (GIS) analysts measured 100 feet from all HST tracks within areas designated as Grazing Lands by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP). Results of the GIS calculations are presented in Table 3.14-C-1 for each of the HST and HMF alternatives. GIS analysts also produced a visual representation of the data for use in Google Earth, and an example of the visual data is presented in Figure 3.14-C-1.



Figure 3.14-C-1
 Example of 100-dBA SEL Contour

Within these areas, HST operation would result in noise levels (i.e., over 100 dBA SNEL) that would disturb livestock. Noise disturbance to grazing animals would vary by alternative from a maximum of 79.18 acres of noise disturbance (BNSF Alternative with Ave 21 Wye and Mission Ave East of Le Grand design option) to a minimum of 33.88 acres (UPRR/SR 99 Alternative with Ave 24 Wye and West Chowchilla design option). The affected acreages are shown in Table 3.14-C-1.

The impact would not convert grazing lands to non-agricultural use; however, it could result in increased stress to grazing cattle that remain within the affected area. Cattle could move from the affected area, which would eliminate the noise-related stress but also would reduce the usable grazing area. Losses in

farm productivity from these effects may be considered an economic impact. To the extent that productivity would be impaired within this zone, the impact could be alleviated by providing the farmer with financial compensation. In most cases, appropriate compensation would be settled during the right-of-way acquisition process. In addition, owners who believe they have suffered a loss of property value as a result of the project may file a claim with the State of California’s Government Claims Board. It should be noted that many of the affected areas are located along existing roadway and railroad rights-of-way. Because the impact from noise disturbance would not preclude agricultural use and would not result in farmland conversion, there would be no impact to agricultural resources under NEPA or CEQA.

Table 3.14-C-1
 Area of Noise Encroachment

HST Alternatives	Noise Encroachment into Grazing Land (acres)
UPRR/SR 99 with Ave 21 Wye and East Chowchilla Design Option	58.81
UPRR/SR 99 with Ave 24 Wye and East Chowchilla Design Option	59.04
UPRR/SR 99 with Ave 24 Wye and West Chowchilla Design Option	33.88
BNSF Alternative with Ave 21 Wye and Mariposa Way Design Option	72.18
BNSF Alternative with Ave 21 Wye and Mariposa Way East of Le Grand Design Option	71.64
BNSF Alternative with Ave 21 Wye and Mission Ave Design Option	74.87
BNSF Alternative with Ave 21 Wye and Mission Ave East of Le Grand Design Option	79.18
BNSF Alternative with Ave 24 Wye with Mariposa Way Design Option	72.59
BNSF Alternative with Ave 24 Wye with Mariposa Way East of Le Grand Design Option	72.05
BNSF Alternative with Ave 24 Wye with Mission Ave Design Option	75.28
BNSF Alternative with Ave 24 Wye with Mission Ave East of Le Grand Design Option	79.60
Hybrid with Ave 21 Wye	76.24
Hybrid with Ave 24 Wye	43.41
HMF Alternatives	Noise Encroachment into Grazing Land (acres)
Castle Commerce Center HMF	0.00
Fagundes HMF	0.00
Gordon-Shaw HMF	2.56
Harris DeJager HMF	0.00
Kojima Development HMF	13.77