1. Water, Wastewater and Storm Drainage

In all cases, water, wastewater and storm drainage infrastructure received a neutral score (Ø) because:

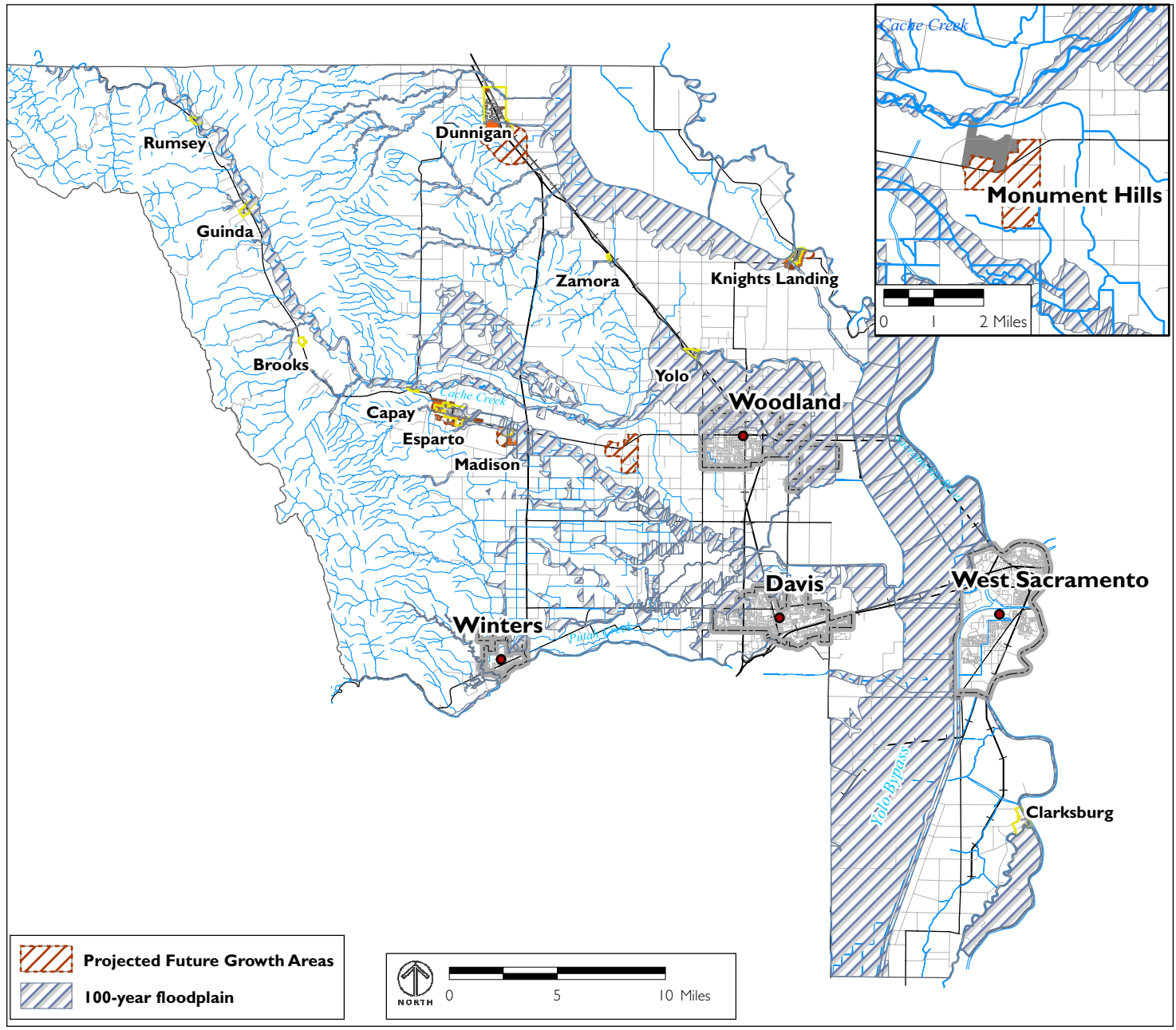
- there would be either no clear benefit or adverse effect -- for example continued reliance on individual wells or septic systems where there are no adverse consequences for groundwater contamination, service by an existing community system with adequate capacity and no need for expansion (e.g., Madison in Alternatives 1 and 3), or expansion of an existing community water system where there are no constraints to expansion (e.g., Esparto, Knights Landing, Madison).
- the benefits would be offset by adverse effects – the development would require a new community system that would help fix existing problems such as groundwater overdraft, water quality, or ineffective wastewater systems or would provide more reliable, better quality, less costly or more convenient service but those benefits would be offset by the need to establish a new managing entity such as a CSA (assumed to be a negative) (e.g., Dunnigan, Monument Hills).

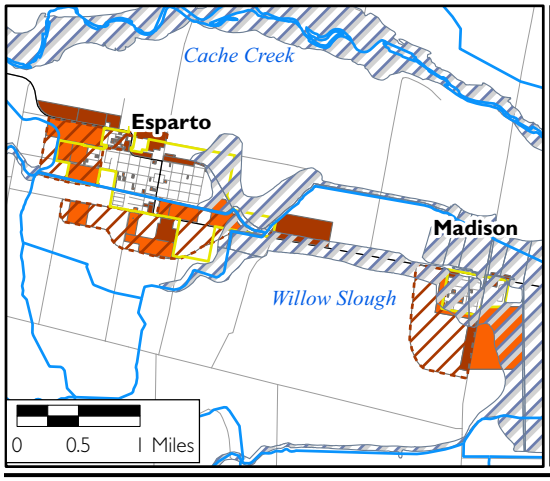
2. Flooding

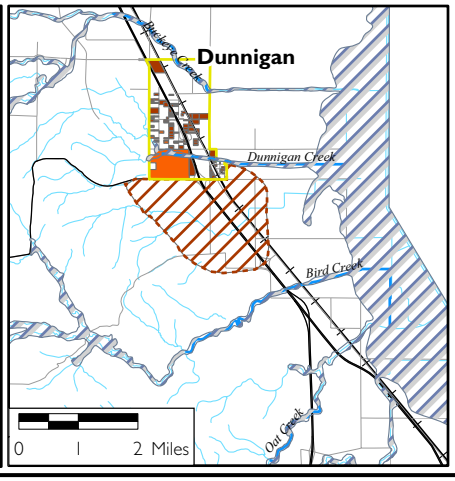
The report evaluates the alternatives and growth scenarios for flood hazards, which is shown in Figure B-2. The evaluation for flood hazards considers two fundamental criteria:

a. Using the latest FEMA floodplain data provided by the county, DC&E assessed the hazard associated with a 100-year flood event on the existing unincorporated communities under each alternative, and the presence of levees. The 500-year flood plain was not evaluated, since available data regarding the 500-year flood plain is incomplete.

b. In the last few years, it has become clear that levees can, at times, fail, and there is little analytical information available on the stability of levees in Yolo County. Therefore, the potential for levee failure was considered in this analysis to be a detriment to future development.







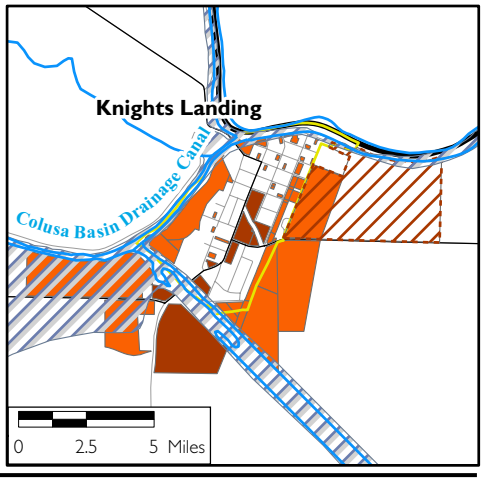


FIGURE B-2

FLOOD HAZARDS

The criteria were scored as follows:

- ΘΘ More than 25 percent of the acreage within town limits or the acreage of expected growth areas overlapped with the 100-year floodplain.
- Θ Portions of the existing town or areas of future development are located within the 100-year floodplain, but not to an extent that is more than 25 percent of either; and/or a levee of unknown stability provides flood protection for the area.
- ⊕ The 100-year floodplain does not overlap with the town or its expected growth areas, and the town does not rely on levees for flood protection.

C. Transportation

1. Proximity to Freeways

This section evaluates the proximity of the development areas under each alternative to the county's freeways,[16] which include Interstate 5, Interstate 505, Interstate 80 and Highway 113 between Davis and Woodland. Proximity to freeways is important in terms of the market potential for new development, particularly revenue-generating and job-creating commercial and industrial development.

The criteria were scored as follows:

- Θ New development would be over four miles from a freeway.
- ⊕ New development would be one to four miles from a freeway.
- ⊕⊕ New development would be less than one mile from a freeway.

2. Freeways and Regional Roadways

The topics and issues discussed related to transportation and circulation includes freeways, regional roadways, transit service, and bicycle and pedestrian

[16] A freeway is defined by the Federal Highway Administration as "a divided arterial highway designed for the unimpeded flow of large traffic volumes. Access to a freeway is rigorously controlled and intersection grade separations are required."

circulation. Evaluation of the transportation and circulation system within each area assumes full buildout of both residential and non-residential land uses without regard to market feasibility unless otherwise noted. BAE's work shows that much of the non-residential development in the alternatives may not be feasible, which would result in lower trip generation and also avoid imported work trips due to the excess supply of non-residential land uses compared to residential land uses. In addition, the proximity of complementary land uses that could result in reduced vehicle trip generation and an increase in transit ridership, biking, and walking has not yet been determined.

Table B-5 compares the estimated new gross total daily vehicle trips for each land use alternative and the proposed Dunnigan Hills development for unincorporated Yolo County. This data does not consider location of planned land uses.

TABLE B-5 **ESTIMATION OF NEW GROSS DAILY VEHICLE TRIP GENERATION**

	Alternatives				Dunnigan Hills
Trip Generation	**1**	**2**	**3**	**4**	**Proposal**
Residential Daily Vehicle Trips	26,000	53,000	96,000	67,000	125,000
Non-Residential Daily Vehicle Trips	9,000	14,000	22,000	27,000	28,000
Total Daily Vehicle Trips	35,000	67,000	118,000	94,000	153,000

As shown in Table B-5, Alternative 1 would generate the lowest new gross total daily vehicle trips in the unincorporated County. Alternative 3 and the proposed Dunnigan Hills development would generate the highest new gross total daily vehicle trips in the unincorporated County, since they include the largest amounts of growth, primarily in the Dunnigan area.

The regional roadway system in Yolo County consists of both state highways and freeways. Interstate 80 (I-80), Interstate 5 (I-5) and Interstate 505 (I-505) connect Yolo County's cities and lead to the San Francisco Bay Area and Downtown Sacramento employment centers.[17] State Route 113 and State Route 16 cut across the County and connect Davis, Woodland, Esparto, Madison, Knights Landing, and the Capay Valley. The regional roadways also connect Yolo County to regional shopping centers and other activities.
The alternatives were scored as follows, with respect to freeways and regional roadways:

[17] Based on the 2000 US Census, 33 percent of home-based work trips in Yolo County have destinations outside of Yolo County.

- ΘΘ Major regional improvements needed (i.e., widening of roadway)
- Θ Major regional improvements may be needed, or minor regional improvements are needed (i.e., intersection or interchange improvements)
- Ø No regional improvements needed or there is little development
- ⊕ Reduced need for minor regional improvements (i.e., reduce vehicle miles of travel on freeways or regional roadways)
- ⊕⊕ Reduced need for major regional improvements

3. Transit Service

In addition to transit service in and between the incorporated cities, the Yolo County Transportation District (YCTD) provides fixed route service to the most of the communities throughout the unincorporated area.

Research shows that four main factors affect transit use—residential density, employment intensity, land use diversity, and university uses. Based on research related to residential densities and providing transit service, six dwelling units per acre is considered the absolute minimum to viably provide fixed-route transit service (with one hour headways) in auto-oriented areas such as Yolo County. A minimum residential density of 15 dwelling units per acre is needed to effectively promote transit usage. This allows for ten minute headways, since the transit mode split increases significantly from around three percent for residential densities of less than 15 dwelling units per acre to 11 percent for residential densities of 15 or more dwelling units per acre.

Therefore, for this evaluation, residential density of six dwelling units per acre is considered the minimum to viably provide fixed-route transit service, and 15 dwelling units per acre is considered the minimum to promote transit ridership.

Currently, most of the unincorporated towns in the County have an average residential density of five dwelling units per acre or less, which does not meet the minimum residential density criteria to provide viable transit service. Also, these towns are located substantial distances from urbanized areas,

which means the existing transit service to these areas is inefficient compared to transit service provided in and between existing cities. The mode split for transit usage outside of the incorporated cities is approximately one percent based on the 2000 US Census.

In addition to residential densities, the spacing of transit stops is an important component of an efficient transit system. Half-mile spacing between transit stops promotes an efficient transit system that provides reasonable walking distances to and from transit stops and maximizes the potential for transit ridership.

Employment densities are as or more important than residential densities. Seattle Metro recommends a minimum density of 50 employees per acre. The proposed office and retail developments within the unincorporated areas would result in approximately 33 employees per acre (which would not meet the minimum employment density criteria) and 52 employees per acre[18] (which would meet the minimum employment density criteria), respectively, under the alternatives including the proposed Dunnigan Hills development. In addition, the densities for non-residential uses need to be within a half mile, preferably within a ¼-mile, of a transit station.

Transit Service is scored as follows:

- ΘΘ if there is poor service today and the development is both 1) significant and 2) would not be able to support transit service enhancements.
- Ø if the transit service today is adequate to serve proposed development, and /or if there is very little development.
- ⊕ if there is poor service today and the development would support transit service enhancements.

[18] Assuming a typical suburban development of one office employee per 400 square feet and a 0.3 floor-to-area ratio and assuming a typical suburban development of one retail employee per 250 square feet and a 0.3 floor-to-area ratio.