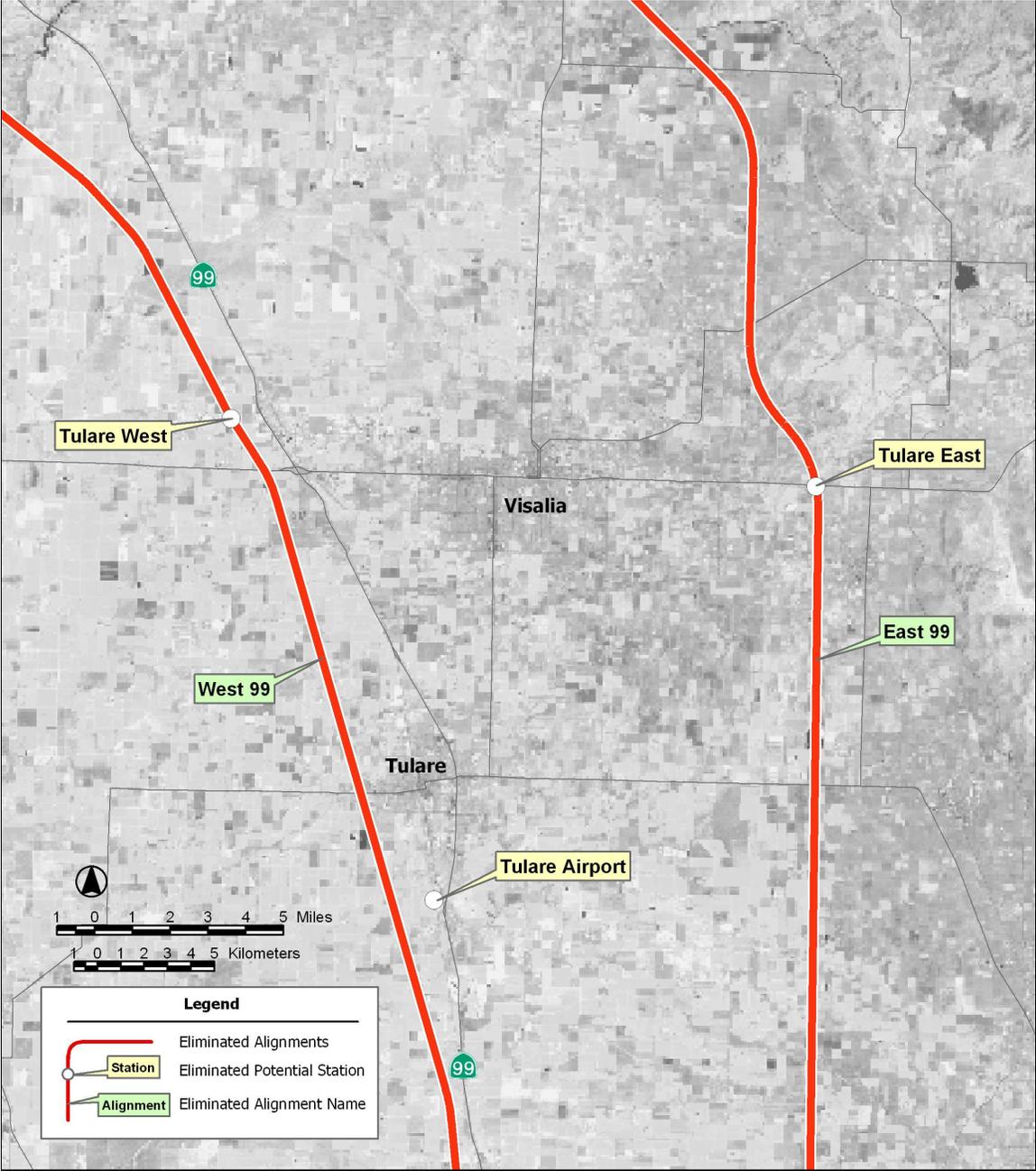


**Figure 2.6-29
Eliminated Alignments Fresno to Tulare**



Tulare to Bakersfield: The alignment and station options eliminated from further consideration in this segment are illustrated in Figures 2.6-29 and 2.6-30. The proposed E99 and W99 alignments are the only alignment options eliminated from further consideration in this segment, and those options are discussed previously in this section before the segment-by-segment discussions. The station options associated with them were also eliminated from further consideration as discussed above. One additional station option is discussed below.

Additional Station Location:

- Tulare Airport: This potential station site would be located on the UPRR alignment. It would not meet project objectives because it would have low ridership and revenue potential, and would provide insufficient connectivity and accessibility.

Bakersfield to Los Angeles Connectors: Several alignment options were studied to the south and east of Bakersfield to connect to the mountain crossing alignment options considered in the Bakersfield to Los Angeles region. The connecting alignment and station options eliminated from further consideration in this segment are also illustrated in Figure 2.6-30 and discussed below.

- Bakersfield Station to I-5 via Comanche Point Connector: This alignment would diverge from the SR-184/Wheeler Ridge Road alignment option heading south-southeast to Comanche Point to the base of the Tehachapi Mountains where it would connect with the Bakersfield-to-Los Angeles corridor.
- Bakersfield Station to I-5 or Comanche Point Connector via Union Avenue: This alignment would extend south along Union Avenue from a Bakersfield station location, to a point south of the urban area where, depending on the alignment crossing the Tehachapi Mountains, it would either continue south generally following I-5 or would head southeast to Comanche Point.

Alignment options connecting to Comanche Point from the south and the station options associated with them were not recommended for further study based on the analysis and data in the Los Angeles to Bakersfield regional study. Because of construction issues and seismic constraints (see the discussion of the Bakersfield to Sylmar segment under the discussion for the Bakersfield to Los Angeles region), they were determined to be impracticable.

Additional Station Locations:

- Old Amtrak Station: This station is located along the BNSF route near freight yards just south of Truxton Avenue near K Street and Chester Avenue. This potential site would not meet project objectives because it would not be compatible with existing and planned development.

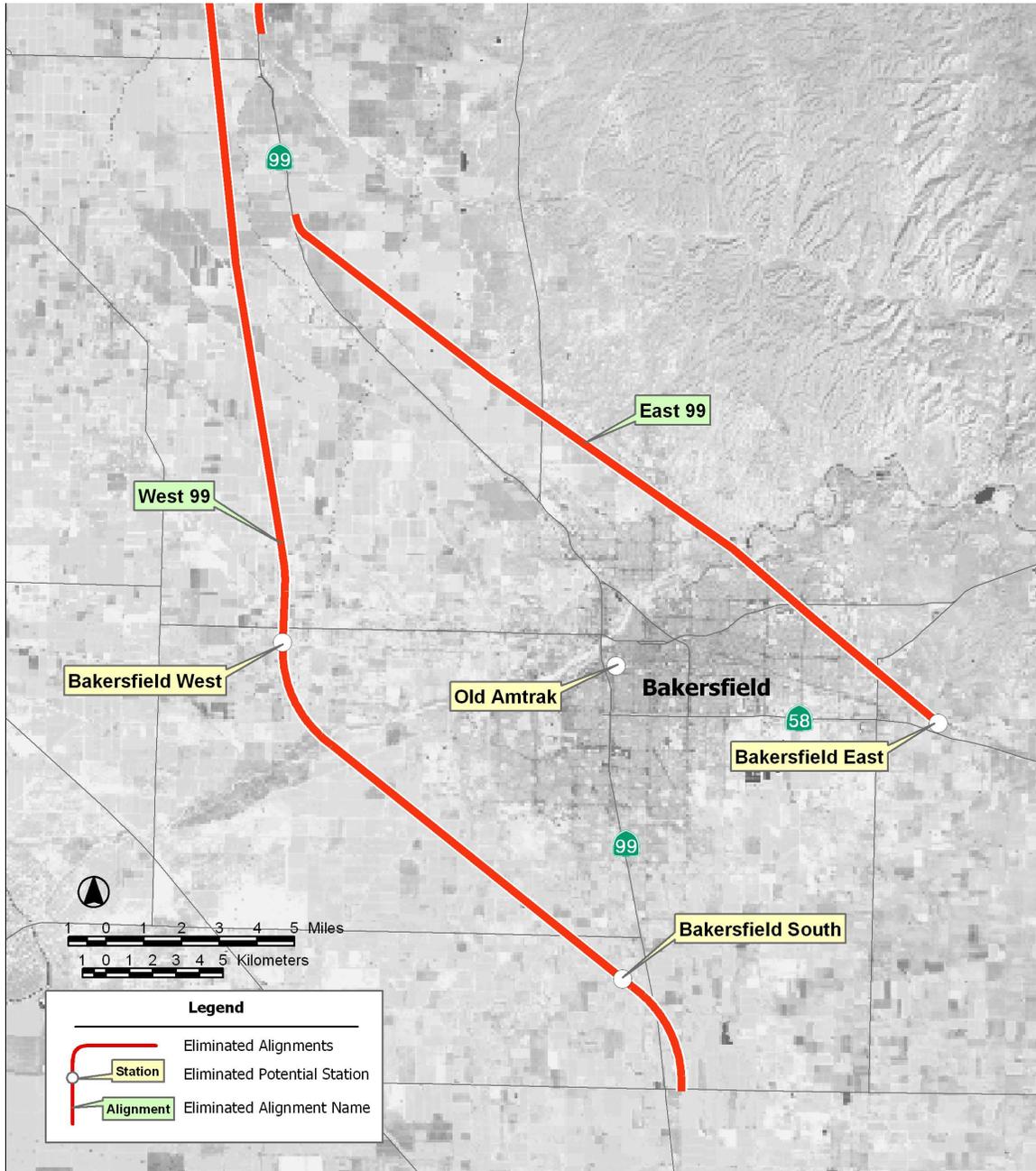
Sacramento to Bakersfield Options Carried Forward

The following alignments and stations are being analyzed for this region (see Figures 2.6-31 and 2.6-32).

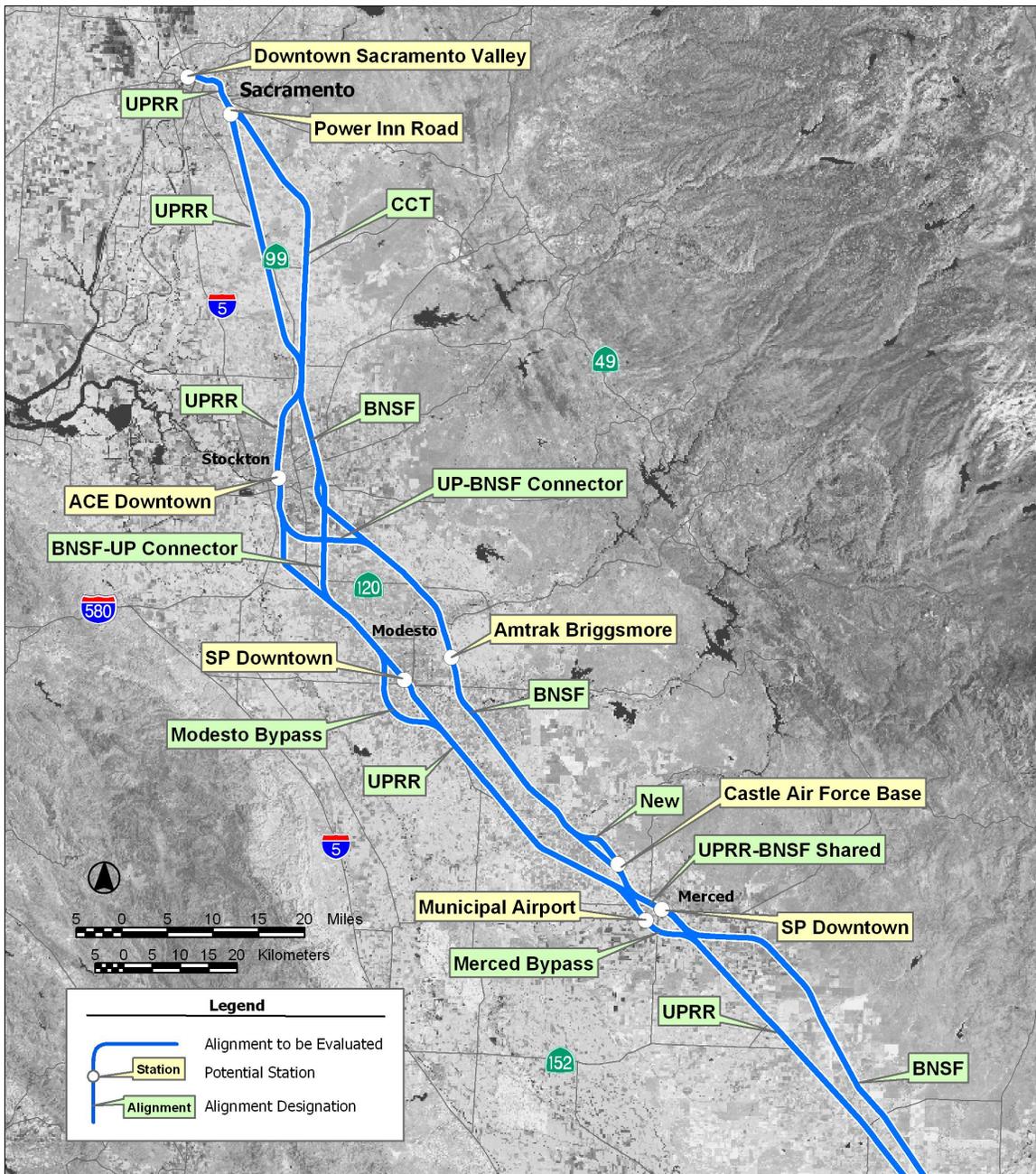
Sacramento to Stockton: The alignment and station options carried forward for further consideration in the Program EIS/EIR in this segment are illustrated in Figures 2.6-33 and 2.6-34 and discussed below.

- UPRR: This potential alignment extends east from the Sacramento Rail Depot to an embankment near California State University Sacramento. North of Lodi the alignment would diverge from the UPRR to the CCT that would bypass Lodi because of extensive geometric

Figure 2.6-30
Eliminated Alignments Tulare to Bakersfield



**Figure 2.6-31
Sacramento to Bakersfield Corridor (North)
Alignments and Stations Carried Forward**



**Figure 2.6-32
Sacramento to Bakersfield Corridor (South)
Alignments and Stations Carried Forward**

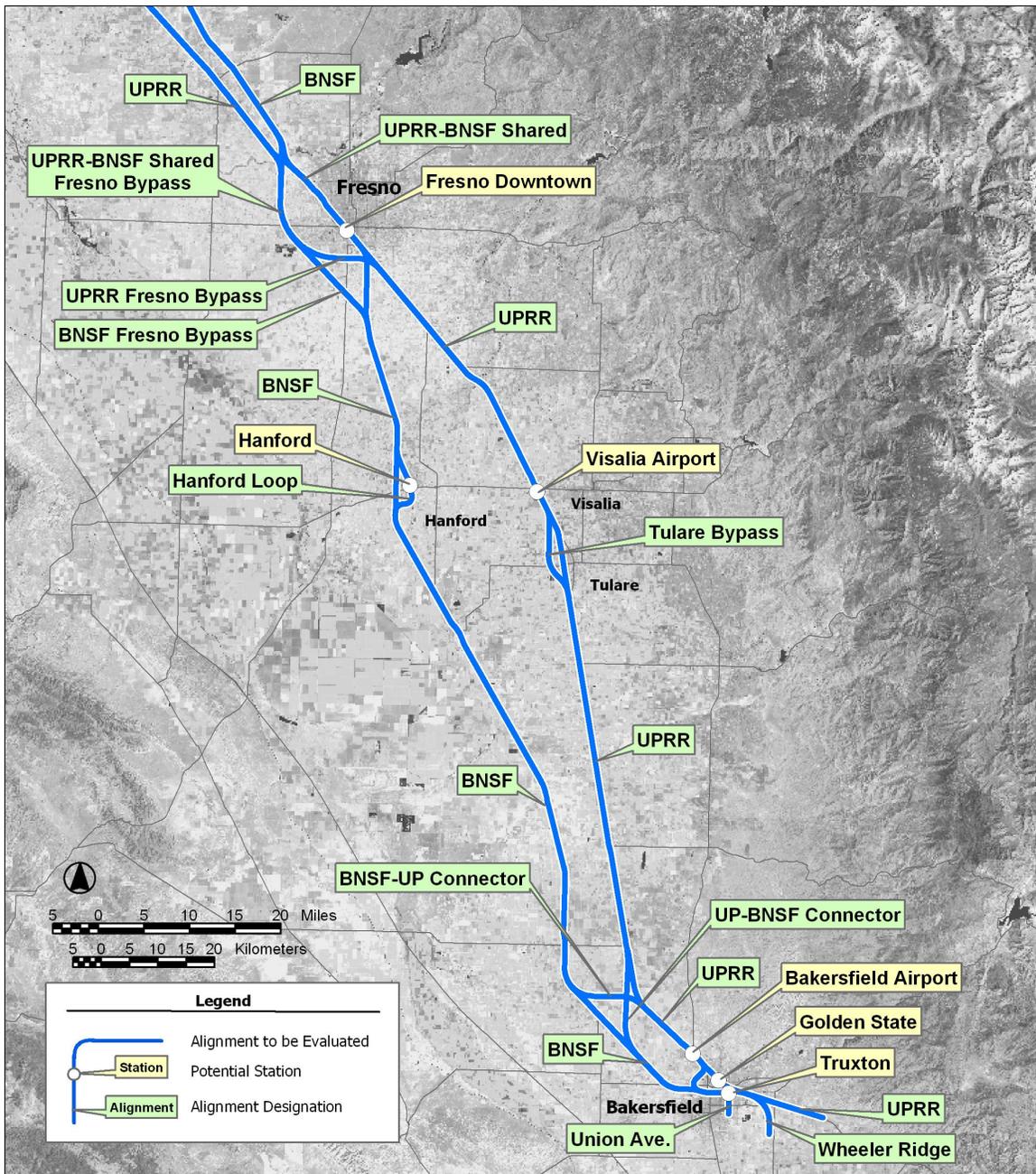
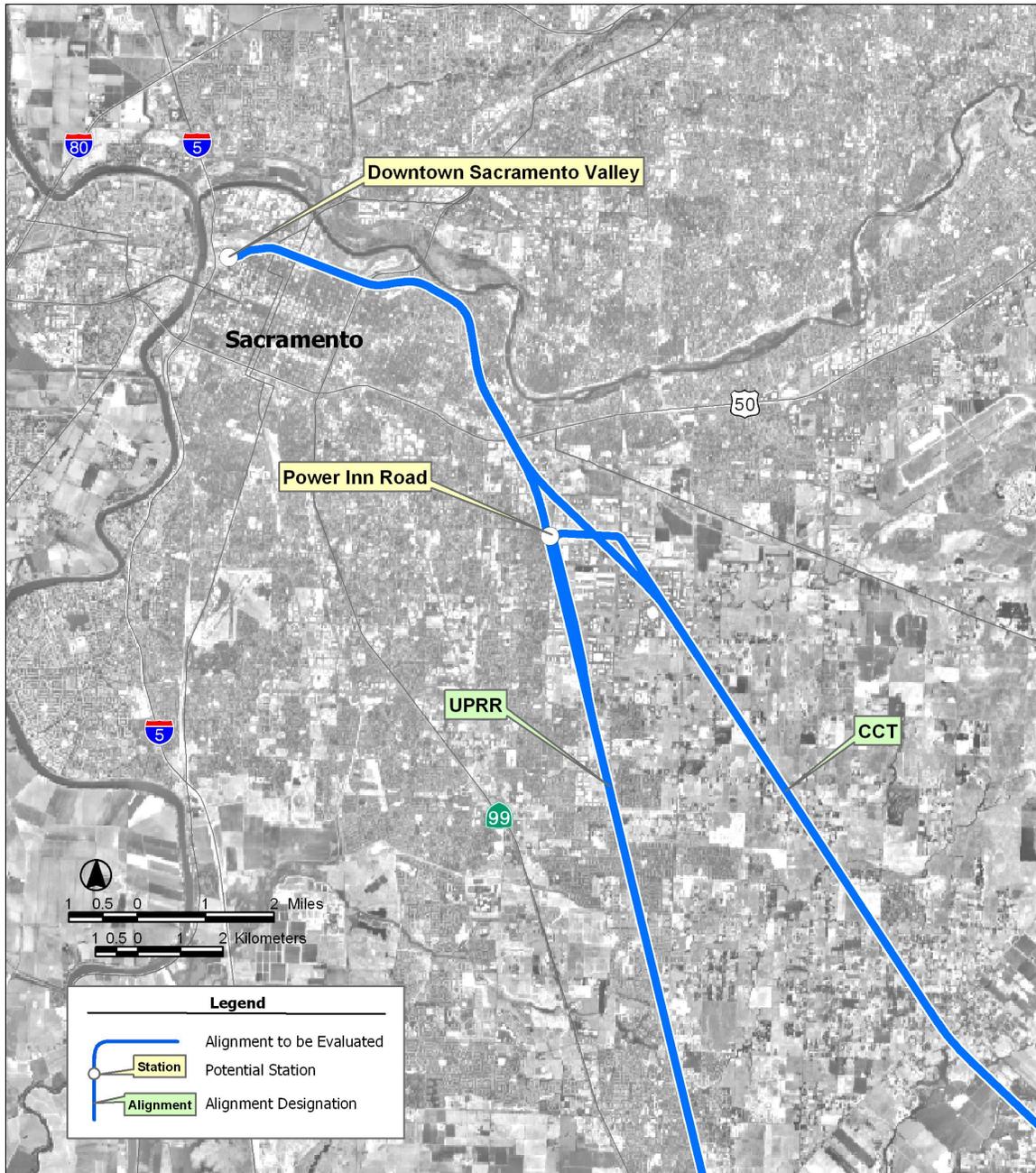
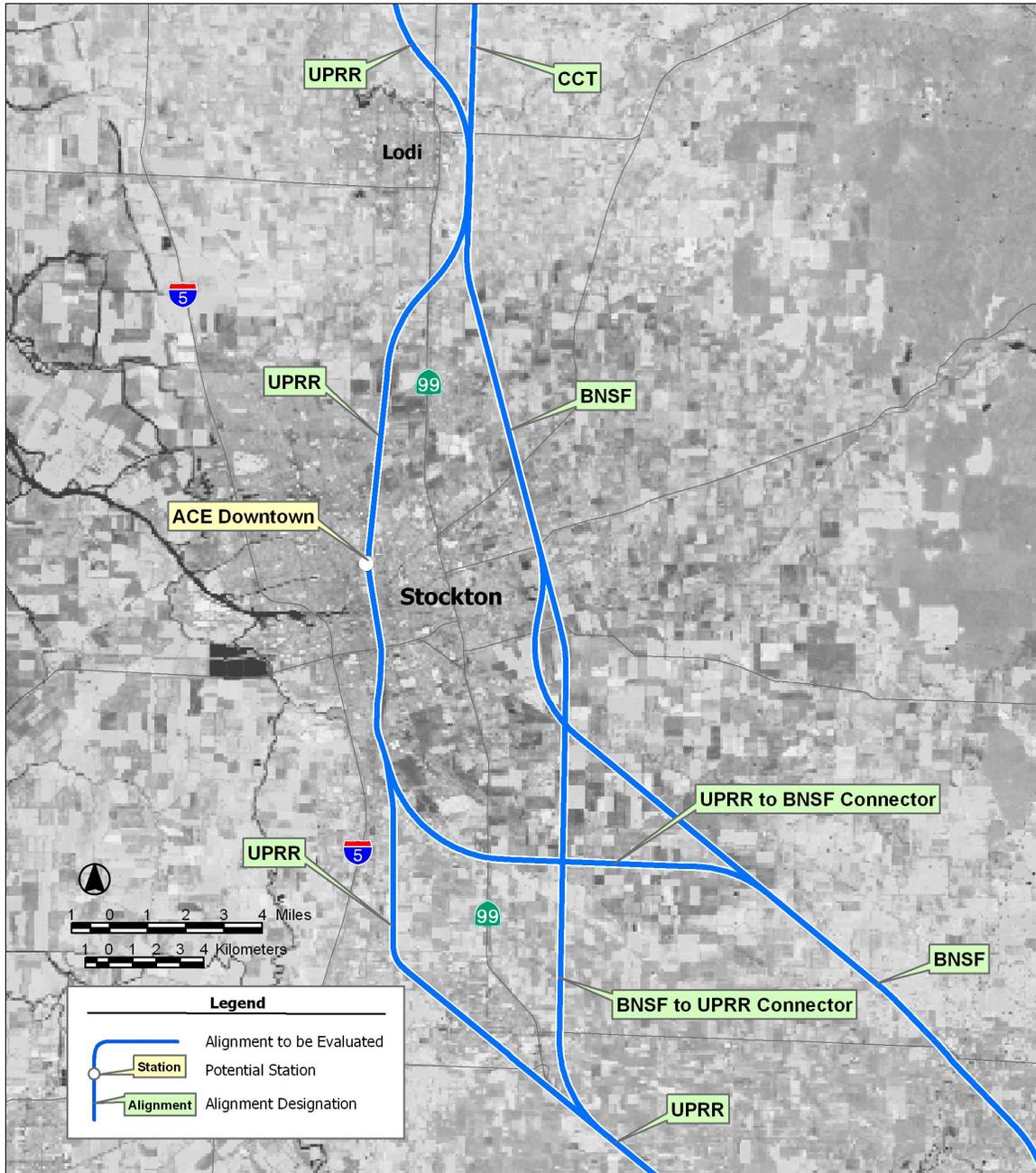


Figure 2.6-33
Sacramento to Stockton
Alignments and Stations Carried Forward



**Figure 2.6-34
Sacramento to Stockton
Alignments and Stations Carried Forward**



(alignment) and right-of-way constraints and would reconnect to the UPRR to serve the proposed downtown Stockton station site.

The UPRR alignment is a direct route that serves both Sacramento station sites recommended for further review. This proposed alignment would have high ridership and revenue potential and would be consistent with existing and planned development. Additionally, utilizing an existing rail corridor would reduce potential impacts on natural resources, agricultural lands, and adjacent properties.

- **CCT:** This potential alignment would extend southeast from the proposed Power Inn Road station location.

CCT, like UPRR, would provide high ridership and revenue potential and would be consistent with existing and planned development in that corridor. Additionally there is low population along the route (between Sacramento and Stockton) and the current freight rail owners are considering abandoning the line. Although CCT is a longer route than the other alignment option being considered in this segment, it bypasses Lodi and would provide a direct connection with an express loop option around Stockton and a connection to UPRR to serve the proposed downtown Stockton station site.

Station Locations:

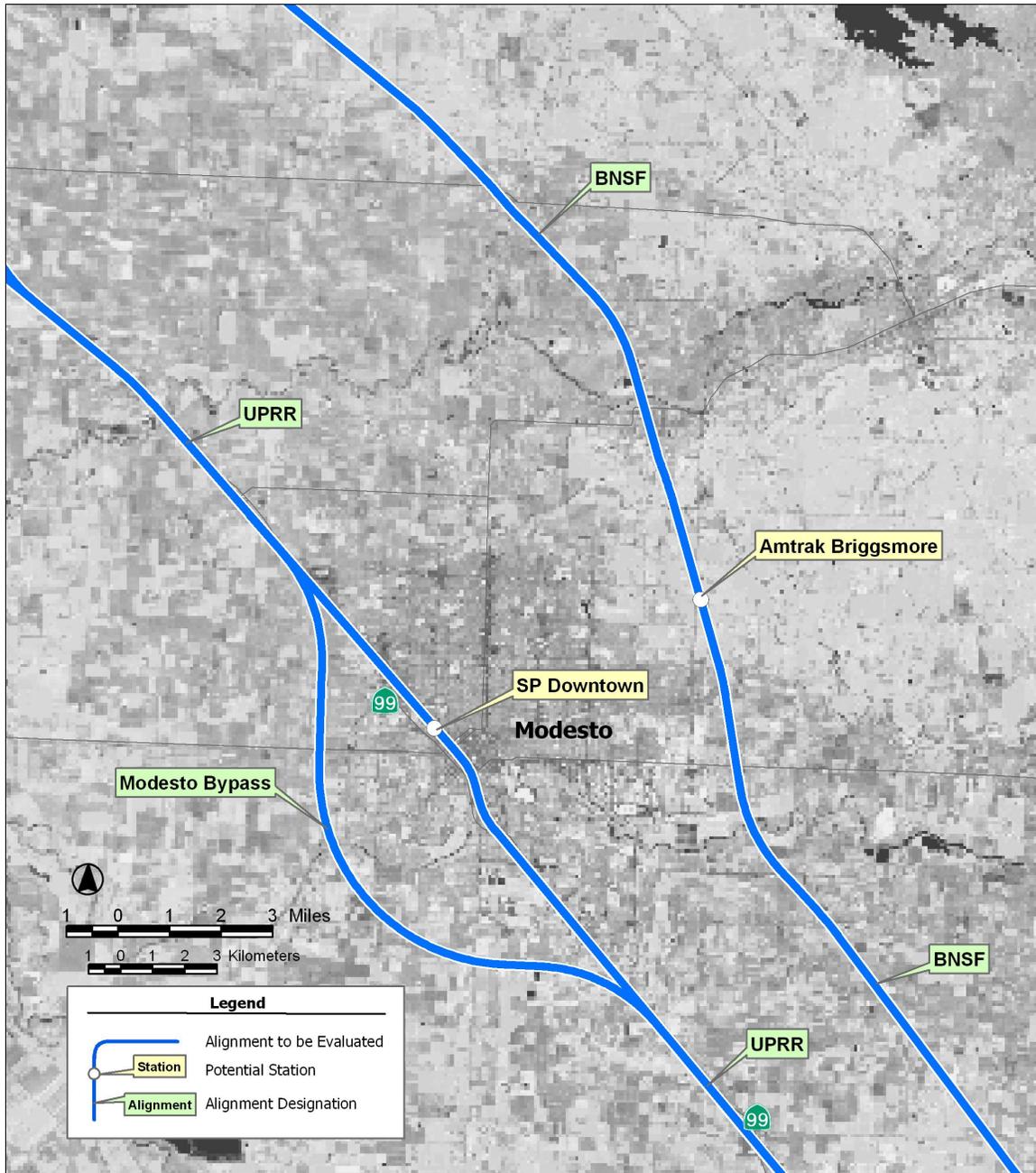
- **Sacramento Downtown:** Located at the existing Amtrak station, this potential downtown station site would connect to other modes effectively, is close to the I-5 and other freeway connections, and is close to government and downtown business destinations. This site would provide high ridership and revenue potential, would be compatible with existing and planned development, and would not result in impacts on agricultural lands. The City of Sacramento and various regional transportation agencies have indicated support for including a proposed HST system at the Sacramento downtown site.
- **Power Inn Road:** Located on Power Inn Road south of US-50 and north of Fruitridge Road, this potential station would be located in a largely industrial area. It would have minimal impacts on social and economic resources compared to other options and lower capital costs than some options. This site would be accessible to the growing suburban region of Sacramento, and it would provide good intermodal access to light rail and US-50.

Stockton to Modesto: The alignment and station options carried forward for further consideration in the Program EIS/EIR in this segment are illustrated in Figures 2.6-34 and 2.6-35 and discussed below.

- **Express Loop/BNSF:** This potential alignment would allow high-speed through service while providing service to the proposed downtown Stockton ACE station. Both the stopping and through tracks would diverge from the UPRR/CCT north of Stockton and would converge with the BNSF alignment southeast of Stockton.

The proposed downtown ACE station would be served by two tracks on the UPRR through downtown that would be used by local HST services stopping in Stockton. Two additional tracks on a new rail alignment would be routed to the east of Stockton, avoiding urban disruption for express services that would not stop in Stockton. An express loop option would reduce impacts on downtown Stockton while providing high ridership and revenue potential, good accessibility, and connectivity to other transit modes. The BNSF alignment leaving Stockton toward Modesto would provide ridership and revenue potential, good connectivity and accessibility, and would be compatible with existing and planned development while limiting impacts on natural resources. BNSF would provide the shortest alignment to Modesto.

**Figure 2.6-35
Stockton to Modesto
Alignments and Stations Carried Forward**



- Express Loop/UPRR: This potential alignment would allow for high-speed through service while providing service to the proposed Downtown ACE station. The stopping track would continue on the UPRR alignment to the proposed station site, and the through tracks would diverge from the UPRR/CCT north of Stockton and would converge back with the UPRR south of Stockton.

The UPRR alignment would provide direct service to the proposed Downtown ACE station and a direct connection with a downtown Modesto station. This alignment would provide high ridership and revenue potential, good connectivity and accessibility, and would be compatible with existing and planned development while limiting impacts on natural resources.

Station Locations:

- Downtown ACE: This potential station site is the former Southern Pacific depot and the current terminal of ACE service to San Jose. Because of the tight curves on the existing rail line through downtown Stockton that would limit maximum speeds, an express track outside of the urban area would be needed in order to provide high-speed service. This potential station site would provide high ridership and revenue potential, and good connectivity and accessibility, while limiting potential impacts on natural resources. The downtown station site is supported by the city of Stockton as the preferred potential HST system station location for Stockton.

Modesto to Merced: The alignment and station options carried forward for further consideration in the Program EIS/EIR in this segment are illustrated in Figures 2.6-35 and 2.6-36 and discussed below.

- BNSF: This potential alignment is adjacent to the BNSF extending south from the proposed Modesto Amtrak Briggsmore station location to downtown Merced.

The BNSF alignment would provide a direct alignment to Merced that would avoid or reduce impacts on established communities, compared to the UPRR alignment in this segment. Additionally, this alignment would result in minor impacts on cultural resources and only minor impacts on social and economic and natural resources.

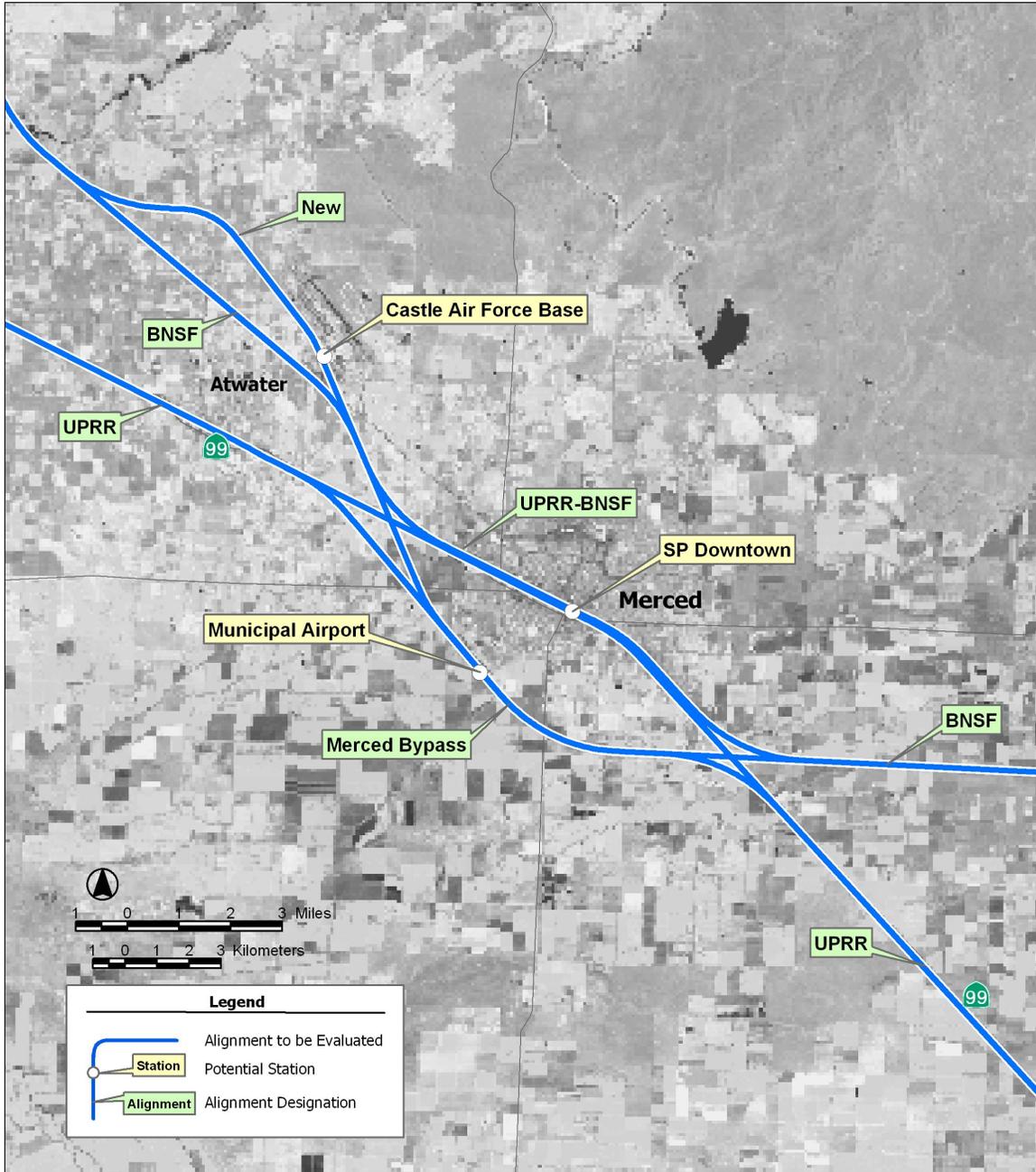
- UPRR: This potential alignment would be adjacent to the UPRR extending south from the proposed downtown Modesto station location to downtown Merced.

The UPRR alignment would provide direct service to the proposed downtown Modesto station and the downtown Merced station. This alignment would provide high ridership and revenue potential and good connectivity and accessibility. It would be compatible with existing and planned development, and it would have only limited potential impacts on natural resources.

Station Locations:

- Modesto SP Downtown: This potential station site was formerly the SP rail station and is currently the Modesto Transportation Center. This site is compatible with existing and planned development. It would provide high ridership and revenue potential, and good connectivity and accessibility. Because the proposed downtown Modesto station site would be on a constrained corridor, consideration of an express loop option would be required for this station site and for the UPRR alignment between Modesto and Merced.
- Modesto Amtrak Briggsmore: This potential station site would be located at the existing Amtrak station on Held Drive north of Briggsmore Avenue on the BNSF alignment. This is a suburban site in the growth areas of the metropolitan Modesto area. The site could serve as a transfer point for Amtrak San Joaquin service. This site is compatible with existing and

**Figure 2.6-36
Modesto to Merced
Alignments and Stations Carried Forward**



planned development, and would likely avoid impacts on social and economic, and cultural resources.

Merced to Fresno: The alignment and station options carried forward for further consideration in the Program EIS/EIR in this segment are illustrated in Figures 2.6-36 and 2.6-37 and discussed below.

- UPRR: This potential alignment would extend south from Merced to a downtown Fresno station location.

The UPRR alignment would provide direct service to the proposed downtown Merced station and the downtown Fresno station. The alignment would provide high ridership and revenue potential and good connectivity and accessibility. It would be compatible with existing and planned development.

- BNSF: This potential alignment would extend south from Merced to a downtown Fresno station location.

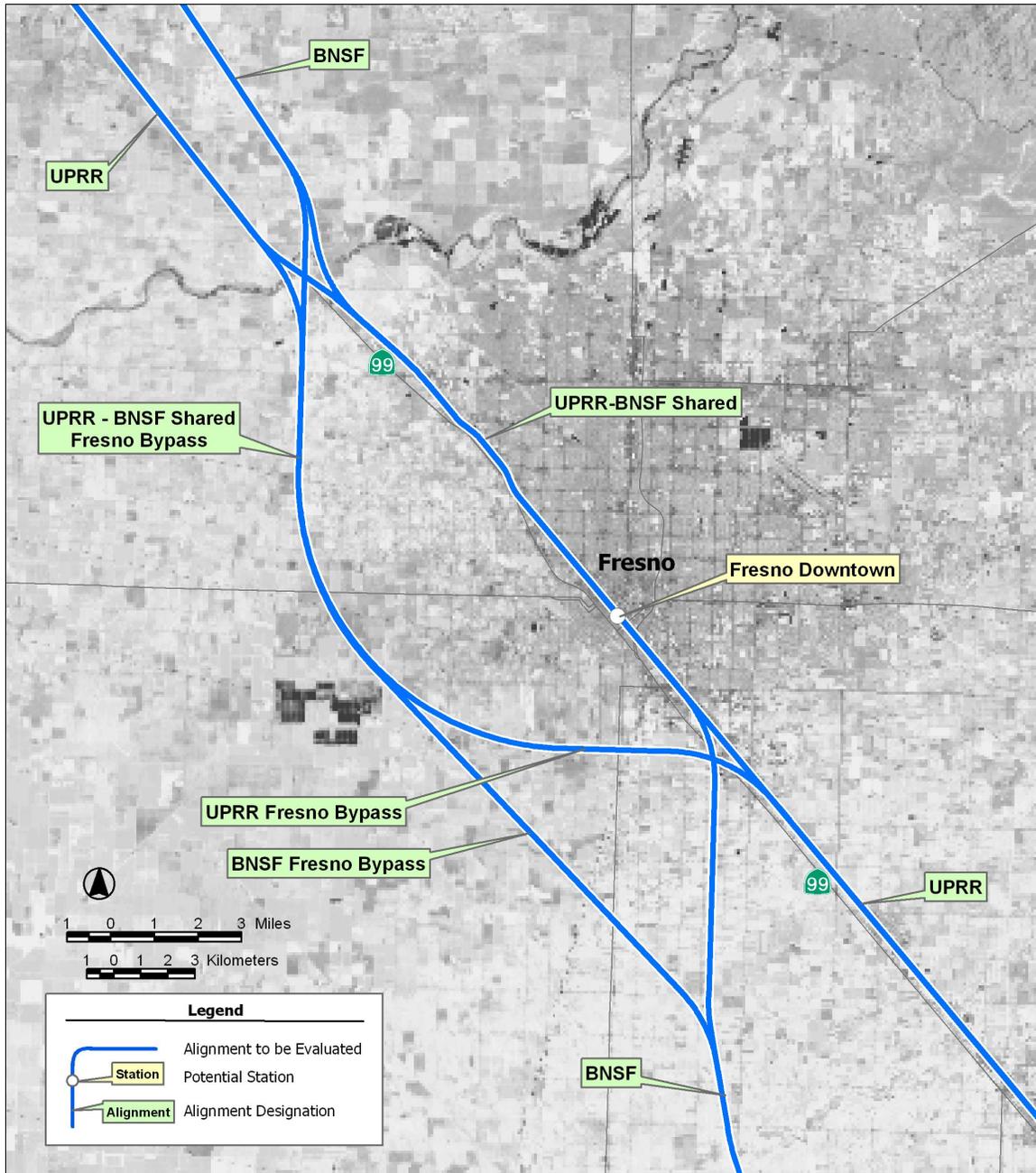
To serve the proposed Castle or Merced Municipal Airport station sites while avoiding impacts on developed urban areas, the alignment would diverge from the BNSF onto a new high-speed rail alignment connecting to either of the station sites and would converge with the BNSF south of Merced. North of Fresno, if the proposed Fresno rail consolidation plan were implemented through Fresno consolidating the BNSF rail alignment onto the UPRR corridor, the BNSF alignment would serve the proposed downtown Fresno station site. If the rail consolidation did not move forward, however, the alignment from Merced would diverge from the BNSF onto the UPRR north of Fresno to serve the proposed Fresno station site. Being adjacent to an existing rail corridor would reduce potential impacts on agricultural land and adjacent properties.

Station Locations:

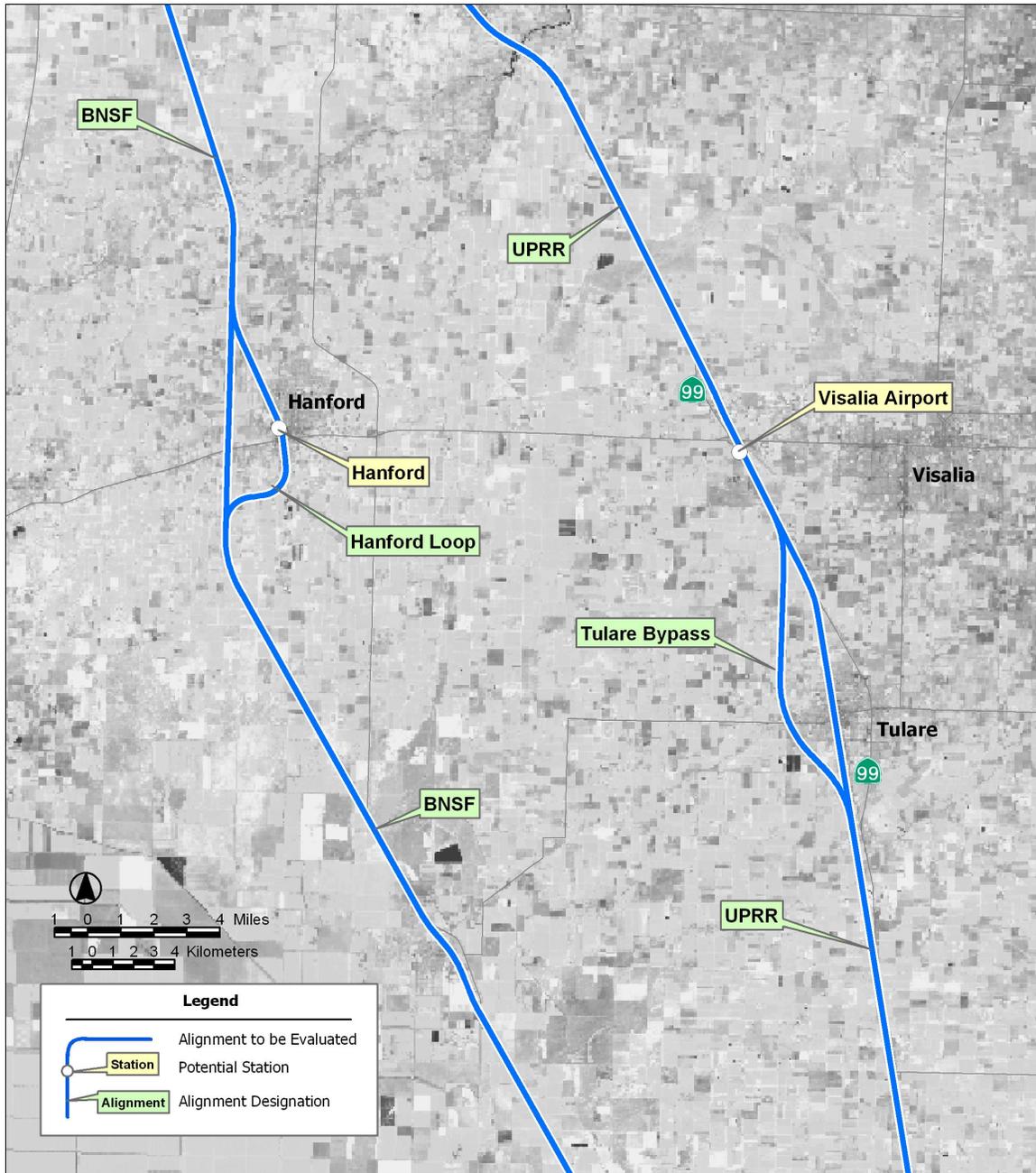
- Merced UPRR Downtown: This potential station site is on the UPRR alignment near the city center and would be the transit hub of Merced on the UPRR route. The downtown station site would provide high ridership and revenue potential and good connectivity and accessibility, while limiting or avoiding potential impacts on natural resources.
- Castle: This potential station site is located at the decommissioned Castle AFB close to the BNSF alignment coming from Modesto. The Castle site would require a divergence from the BNSF to connect to the station site. The divergence would connect to the UPRR alignment south of Merced. This site would provide little disruption to local access patterns. There would be easy access to and from the developing University of California Merced campus and community via a new highway alignment along Bellevue Avenue.
- Merced Municipal Airport: This potential station site is located on the grounds of the existing Merced Municipal Airport complex southwest of SR-99. This station site would require a divergence from the BNSF to connect to UPRR. This site would be located at a considerable distance from the developing University of California Merced, but it would be adjacent to downtown Merced. This site would be compatible with existing and planned development.

Fresno to Tulare: The alignment and station options carried forward for further consideration in the Program EIS/EIR in this segment are illustrated in Figures 2.6-37 and 2.6-38 and discussed below.

**Figure 2.6-37
Merced to Fresno
Alignments and Stations Carried Forward**



**Figure 2.6-38
Fresno to Tulare
Alignments and Stations Carried Forward**



- **UPRR:** This potential alignment is the continuation of the UPRR alignment from Merced and would extend southeast from the proposed downtown Fresno station to the proposed Visalia airport station site.

The UPRR alignment would provide good connectivity and accessibility, and the most direct service from the proposed downtown Fresno station to Visalia. Being adjacent to an existing rail corridor would limit potential impacts on agricultural lands and other adjacent properties. The alignment would be consistent with the existing and planned development in the area.

- **BNSF:** This potential alignment extends south from Fresno to a Hanford station site.

Currently the BNSF alignment in Fresno runs through residential areas on a narrow single-track right-of-way, crossing many local streets, and proposed HST system use would require grade separations, would entail considerable costs, and would result in visual impacts. However, as part of the rail consolidation plan being proposed by the Fresno Council of Governments, the BNSF line would be relocated into the UPRR alignment north of Fresno and would diverge from the UPRR south of Fresno. If the rail consolidation plan were implemented, this alignment would provide good connectivity and accessibility and the most direct service from the proposed downtown Fresno station to Hanford. If the rail consolidation plan were not implemented, however, the alignment to the north of Fresno would be diverted from the BNSF to the UPRR alignment to connect with the proposed downtown Fresno station location and would converge with the BNSF south of Fresno.

Station Locations:

- **Fresno Downtown:** This potential station site is located within the UPRR right-of-way in downtown Fresno and is the site currently being studied in the rail consolidation study.

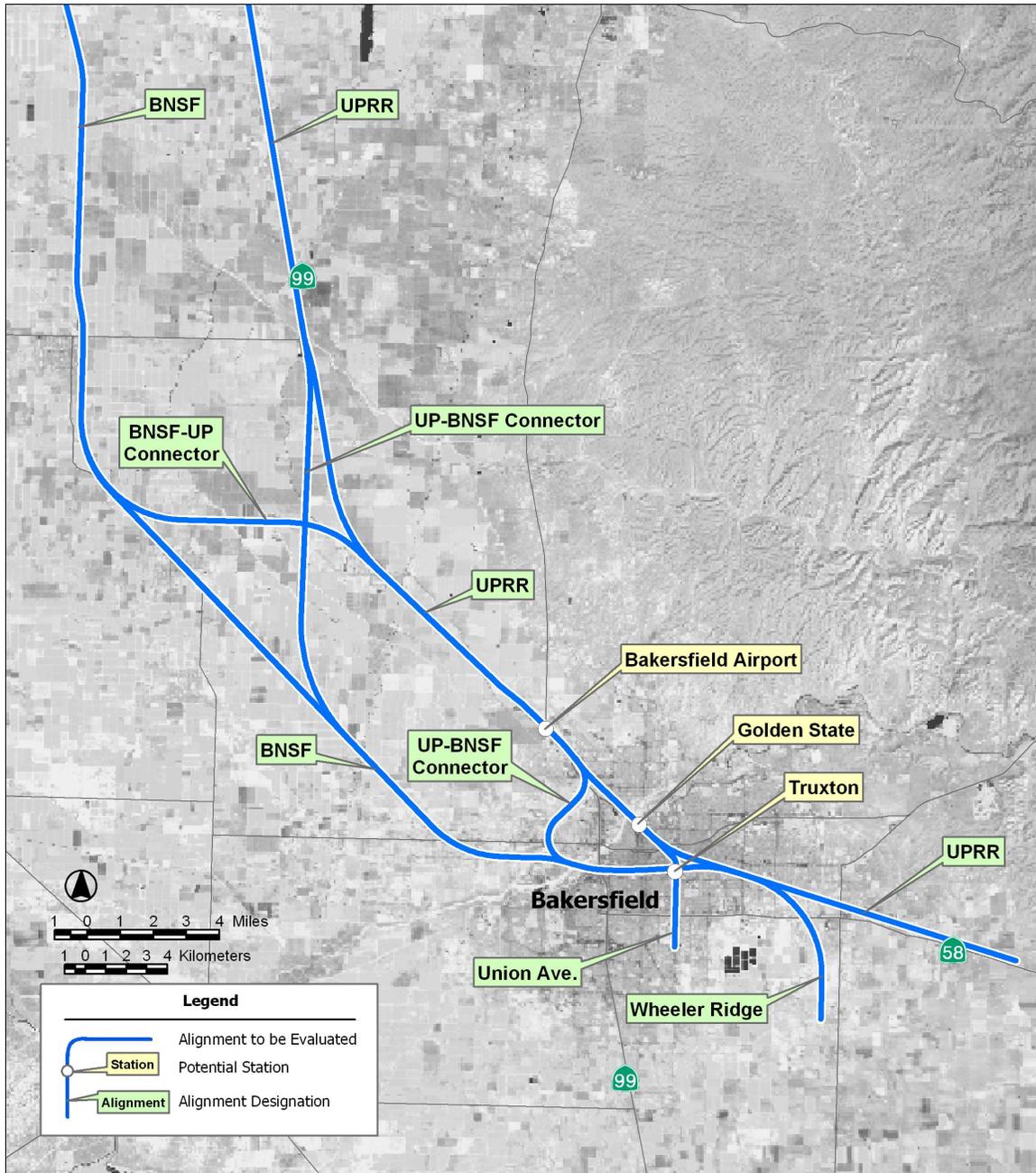
The Fresno downtown station site would be closest to the city center as well as the triangle formed by the SR-99, SR-41, and SR-180 highways, which would provide good connectivity and accessibility and would result in high ridership and revenue potential. This station would be compatible with existing and planned development and is the preferred choice of the City of Fresno. The downtown station site would be close to freeways and to the urban core, provide a straight alignment in a largely industrial corridor, and have only limited potential impacts on residential properties. Conceptual analysis was done for a four-track high-speed station that could fit on this site next to existing and future freight rail operations. Since there could be high right-of-way, land use and noise impacts associated with a four-track HST alignment (220-mph or 354-kph trains through Fresno), an express loop to the west of the urban area is being considered as part of this Program EIR/EIS. An express loop would require two stopping tracks downtown and two through tracks to the west of Fresno.

Tulare to Bakersfield: The alignment and station options carried forward for further consideration in the Program EIS/EIR in this segment are illustrated in Figures 2.6-38 and 2.6-39.

- **UPRR:** This potential alignment would extend south from the proposed Visalia airport station location to Bakersfield.

The UPRR alignment would provide the most direct link to Bakersfield with high ridership and revenue potential and good connectivity and accessibility in this area. It would be compatible with existing and planned development and would serve the Visalia Airport station site as well as the station locations in Bakersfield. A divergence from the UPRR line to bypass Tulare is being considered as part of this Program EIR/EIS to avoid and/or minimize potential impacts.

**Figure 2.6-39
Tulare to Bakersfield
Alignments and Stations Carried Forward**



- **BNSF:** This potential alignment extends south from the proposed downtown Hanford station site to Bakersfield.

The BNSF alignment would serve a downtown Hanford station site with a connection to the proposed Bakersfield Truxton station site. Because this potential alignment would require an express loop around Hanford (as a result of speed-restricting curves through Hanford) it would result in some impacts on agricultural lands and natural resources.

- **UPRR/BNSF:** This potential alignment would extend south from the proposed Visalia Airport station location to just north of Bakersfield, where the UPRR alignment proceeds to the southeast as it enters Bakersfield. From this point, the alignment option would continue south on a new rail alignment where it would converge with BNSF just west of Bakersfield.

The UPRR/BNSF alignment would have high ridership and revenue potential and would provide good connectivity and accessibility. It would be compatible with existing and planned development and would serve the Visalia station site. This variation of the UPRR alignment would provide the best connection to the proposed Truxton station site with an SR-58 connection into the Antelope Valley. The UPRR portion of this alignment could result in impacts on communities along the route. This Program EIR/EIS is considering a divergence from the UPRR line to bypass Tulare to mitigate potential impacts.

- **BNSF/UPRR:** This potential alignment extends south from the proposed Hanford Station site along BNSF to just north of Bakersfield. From this point the alignment option would continue southeast on a new rail alignment where it would converge with UPRR just north of Bakersfield.

Station Locations:

- **Visalia Airport:** This potential station site would be located along the UPRR alignment near the junction of SR-99 and SR-198 at the Visalia Airport. It would provide good connectivity and good ridership and revenue potential, and it would result in only limited potential impacts on natural resources, with the exception of potential impacts to floodplain areas. This centralized site would serve the populations of Tulare and Kings Counties. This is the site preferred by the City of Visalia and is supported by the County of Tulare.
- **Hanford:** This potential station site would be located along the BNSF alignment in the vicinity of the existing Amtrak station in Hanford. The Hanford station site would likely avoid impacts on social and economic, natural, and cultural resources.

Bakersfield to Los Angeles Connectors: Several alignment options were studied to the south and east of Bakersfield to connect to the mountain crossing alignment options considered in the Bakersfield to Los Angeles region. The connecting alignment and station options carried forward for further consideration in the Program EIR/EIS are discussed below. These alignment options are included in the discussion and appendix tables for the Bakersfield to Sylmar segment of the Bakersfield to Los Angeles region.

- **Bakersfield Station to I-5 Connectors:** This alignment would extend east along the UPRR alignment from a Bakersfield station location and south along SR-184/Wheeler Ridge Road or Union Avenue, and would generally follow the I-5 to the base of the Tehachapi Mountains where it would connect with the Bakersfield to Los Angeles corridor.
- **Bakersfield Station to SR-58 Connector:** This alignment would extend from a Bakersfield station location along SR-58 east from Bakersfield where it would connect with the Bakersfield to Los Angeles corridor.

Station Locations:

- Truxton: This potential downtown station site is located just east of the new Amtrak station in downtown Bakersfield near Truxton Avenue and R Street. This proposed site would provide high ridership and revenue potential and good connectivity and accessibility. It would be compatible with existing and planned development and would likely avoid impacts on cultural resources and result in only limited impacts on natural resources. This site would be served by the BNSF or UPRR/BNSF alignment options from the north, and would serve the I-5 and SR-58 connectors to the Bakersfield to Los Angeles corridor. The UPRR alignment could also serve the Truxton site by construction of a loop line through downtown Bakersfield.
- Golden State: This potential downtown station site would be located along the existing UPRR alignment that parallels Golden State Avenue in the northern part of downtown Bakersfield. This proposed site would provide high ridership and revenue potential and would likely avoid impacts on social and economic resources. This site would be served by the UPRR or BNSF/UPRR alignment options from the north, and would serve the I-5 and SR-58 connectors to the Bakersfield to Los Angeles corridor.
- Bakersfield Airport: This potential station site would be located along the existing UPRR alignment just west of SR-99 and south of 7th Standard Road, which is planned for freeway expansion. This proposed site would be compatible with existing and planned development, would likely avoid social and economic and cultural resources, and would result in only limited potential impacts on natural resources. This site would be served by the UPRR or BNSF/UPRR alignment options from the north, and would serve the I-5 and SR-58 connectors to the Bakersfield to Los Angeles corridor.

C. BAKERSFIELD TO LOS ANGELES

This region of southern California encompasses the southern portion of the Central Valley south of Bakersfield, the mountainous areas between the Central Valley and the Los Angeles basin, and the northern portion of the Los Angeles Basin from Sylmar to downtown Los Angeles. To facilitate analysis, this corridor was divided into two segments.

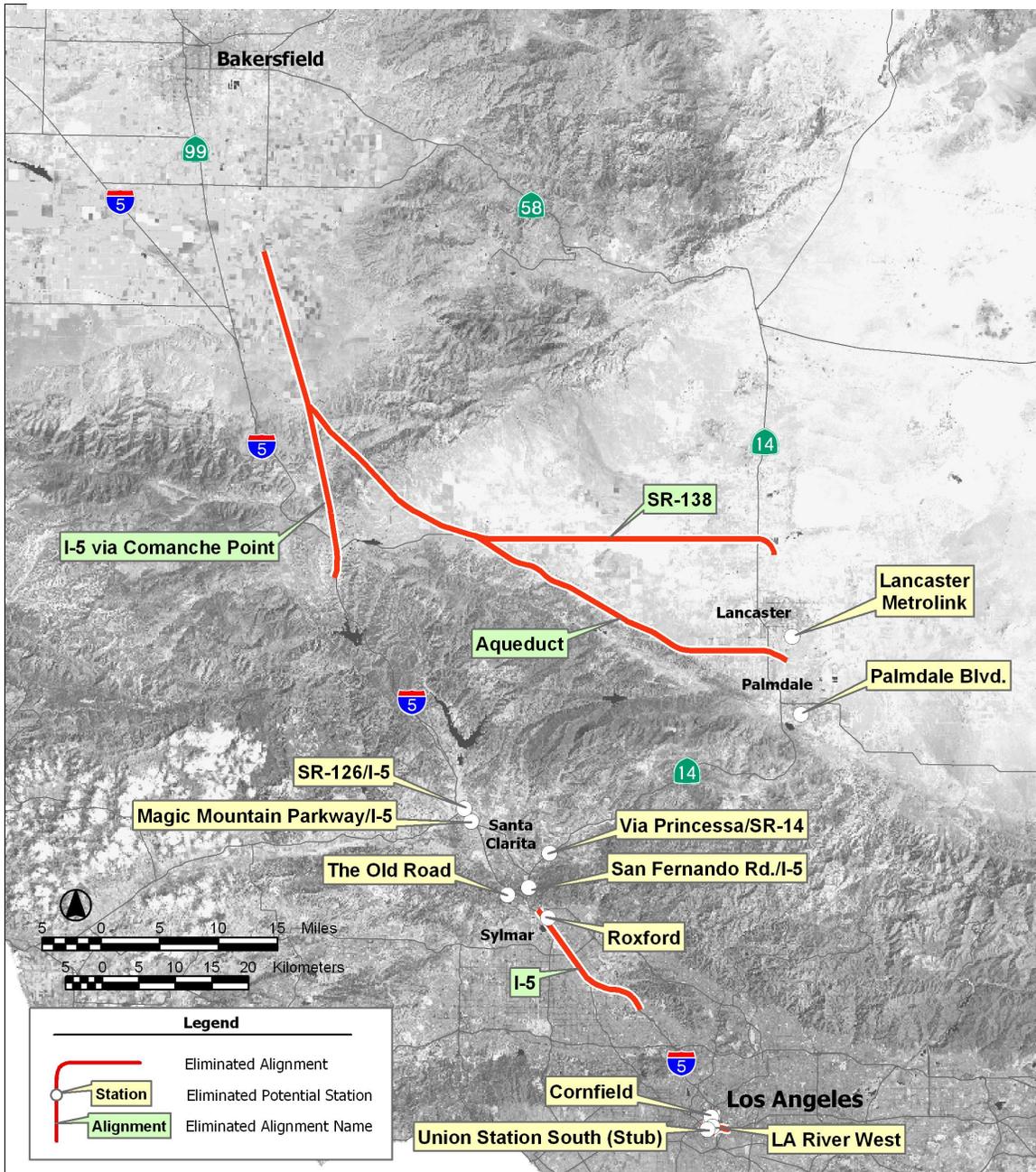
- Bakersfield to Sylmar.
- Sylmar to Los Angeles.

These segments are fundamentally different and distinct in terms of land use, terrain, and construction configuration (mix of at-grade, aerial structure, and tunnel sections). The Sylmar to Los Angeles section is located in the Los Angeles basin and is characterized by existing urban development. The Bakersfield to Sylmar section traverses rugged terrain crossing the Tehachapi Mountains. The alignment and station options considered in each segment of the Bakersfield to Los Angeles region are discussed below and compared in detail in Appendix 2-H.

Bakersfield to Los Angeles Options Eliminated

The following alignments and stations were considered and eliminated for this region (see Figure 2.6-40). The reasons for elimination of each option in this region are categorically summarized in Table 2.6-8 and further described in the subsections that follow. A summary discussion of each option follows.

Figure 2.6-40
Eliminated Alignments and Stations Bakersfield to Los Angeles



**Table 2.6-8
Bakersfield to Los Angeles: High-Speed Train Alternative Alignment and
Station Options Considered and Eliminated**

Alignment or Station	Reason for Elimination							Environmental Concerns
	Construction	Incompatibility	Right-of-Way	Connectivity/ Accessibility	Revenue/ Ridership	Alignment Eliminated	Environment	
Bakersfield to Sylmar								
I-5 (2.5% grade)	P						S	Seismic constraints
I-5 via Comanche Point	P						S	Seismic constraints
SR-58/Soledad Canyon (2.5% grade)	P						S	Seismic constraints
SR-138/Soledad Canyon	P						S	Seismic constraints
SR-138/SR-14	P						S	Seismic constraints
Aqueduct/Soledad Canyon	P						S	Lengthy run adjacent and parallel to San Andreas fault zone, seismic constraints
Aqueduct/SR-14	P						S	Lengthy run adjacent and parallel to San Andreas fault zone, seismic constraints
<i>Station Locations</i>								
Santa Clarita (SR-126/I-5)	P			P			S	Santa Clara River Floodplain, visual
Santa Clarita (Magic Mountain Parkway/I-5)				P				
Santa Clarita (Via Princessa/SR-14)	P							
Santa Clarita (The Old Road/I-5)	P	S	P	P			P	Significant Ecological Area, steep terrain, visual
Santa Clarita (San Fernando Road/SR-14)	P	S					P	Significant Ecological Area, national forest land, steep terrain, visual
Lancaster Metrolink	S				P			
Palmdale Boulevard			P	P	P			
Sylmar to Los Angeles								
I-5 Freeway	P	S	P				P	Socioeconomics, land use, visual, parks
<i>Station Locations</i>								
LAUS (LAUS South–Stub)					P			*operational issues with stub-end station

Alignment or Station	Reason for Elimination							Environmental Concerns
	Construction	Incompatibility	Right-of-Way	Connectivity/Accessibility	Revenue/Ridership	Alignment Eliminated	Environment	
LAUS (Los Angeles River West)		P	P					
LAUS (Cornfield Site)		P		S	P			*operational issues for northern and southern connections
Definitions:								
Reason: Primary (P) and secondary (S) reasons for elimination.								
Construction: Engineering and construction complexity, initial and/or recurring costs that would render the project impracticable and logistical constraints.								
Environment: High potential for considerable impacts to natural resources, including streams, floodplains, wetlands, and habitat of threatened or endangered species that would fail to meet project objectives.								
Incompatibility: Incompatibility with current or planned local land use as defined in local plans that would fail to meet project objectives.								
Right-of-Way: Lack of available rights-of-way or extensive right-of-way needs would result in high acquisition costs and/or delays that would render the project impracticable.								
Connectivity/Accessibility: Limited connectivity with other transportation modes (aviation, highway and/or transit systems) would impair the service quality, could reduce ridership of the HST system, and would fail to meet the project purpose.								
Ridership/Revenue: The alignment and station would result in longer trip times and/or have suboptimal operating characteristics and would have low ridership and revenue and would fail to meet the project purpose.								
Alignment Eliminated: Station or connection eliminated because the connecting alignment option was eliminated.								

Bakersfield to Sylmar: The alignment and station options eliminated from further consideration in this segment are illustrated in Figure 2.6-41 and discussed below.

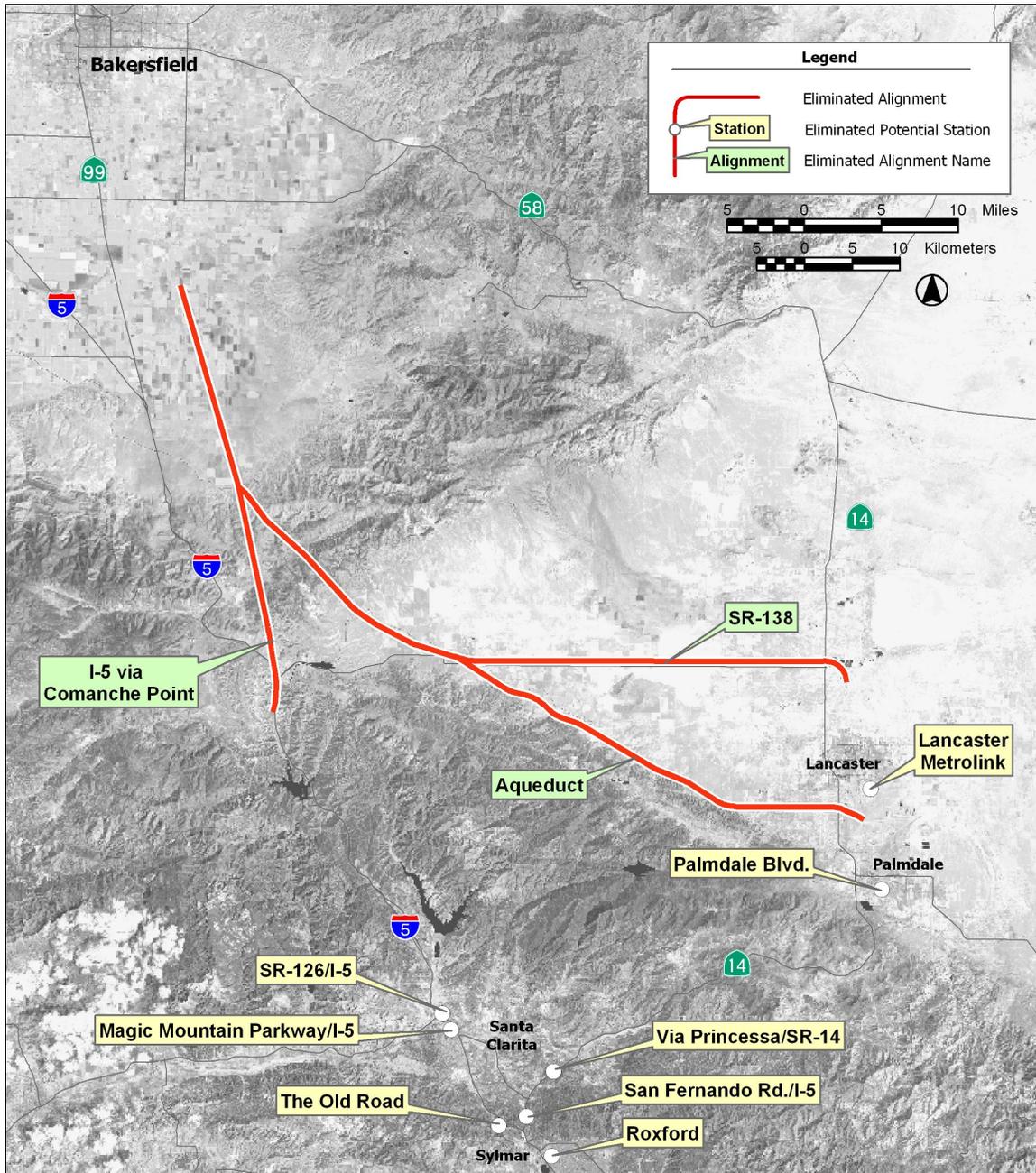
- **I-5 (2.5% grade):** This alignment extends east along the UPRR alignment from a Bakersfield station and then south along SR-184/Wheeler Ridge Road. It generally follows I-5 over the Tehachapi Mountains through Santa Clarita to Sylmar.

The I-5 (2.5% grade) alignment alternative would have extensive tunneling and high capital costs. This option would be impracticable because it would not allow the alignment to cross the San Andreas and Garlock faults at grade and would require a maximum single tunnel length of more than 33 mi (53 km). Crossing the faults at grade would allow for less expensive initial infrastructure and infrastructure replacement in the event of a serious seismic event. It also would allow for immediate emergency response and repair.

- **I-5 via Comanche Point:** This alignment would extend east along the UPRR alignment from a Bakersfield station; south along SR-184; then south-southeast to Comanche Point along an existing power easement, tunneling from Comanche Point and converging back with the I-5 alignment.

The I-5 via Comanche Point alignment would traverse a region of highly sheared and fractured rock between the San Andreas and Garlock faults, crossing both faults in a long,

**Figure 2.6-41
Eliminated Alignments Bakersfield to Sylmar**



deep tunnel. This alignment would closely follow the existing California Aqueduct tunnel alignment through the Tehachapi Mountains. Based on the experience in constructing that facility, tunneling through fractured rock would require slow drill-and-blast methods for long portions of the alignment. Because the area between the faults is highly sheared and unstable, an enlarged chamber could be required for the entire reach between the two faults. Additionally, high volumes of groundwater would likely be encountered in fractured rock, making construction more difficult and expensive. For these reasons, this would be an impracticable option.

- SR-58/Soledad Canyon (2.5% grade): This alignment would extend from Bakersfield along SR-58 east from Bakersfield, generally following SR-58 through the Tehachapi Mountains to Mojave, along MTA/Metrolink through Antelope Valley and Soledad Canyon and generally following SR-14 from Santa Clarita to Sylmar.

The SR-58/Soledad Canyon at 2.5% grade alignment option would have extensive tunneling and high capital costs, and would not allow the alignment to cross the San Andreas and Garlock faults at grade, making it impracticable.

- SR-138/Soledad Canyon: This alignment option in the California Aqueduct corridor would extend east along the UPRR alignment from a Bakersfield station; south along SR-184; then south-southeast to Comanche Point along an existing power easement, tunneling under the Tehachapi Mountains near the California Aqueduct. It then would veer to the east along SR-138 to the MTA/Metrolink through Soledad Canyon and generally following SR-14 from Santa Clarita to Sylmar.

Reasons for elimination of this alignment option are discussed in the following bullet with the reasons for elimination of the SR-138/SR-14 option.

- SR-138/SR-14: This alignment would diverge from the MTA/Metrolink, generally following SR-14 to Sylmar.

The SR-138/Soledad Canyon and SR-138/SR-14 alignments would require long (greater than 12 mi or 19 km), deep tunneling through the Garlock fault zone. The tunneling associated with the SR-138 alignment would result in considerably higher construction costs and risks, making these options impracticable.

- Aqueduct/Soledad Canyon: This alignment would extend east along the UPRR alignment from a Bakersfield station; south along SR-184; then south-southeast to Comanche Point along an existing power easement, tunneling under the Tehachapi Mountains near the California Aqueduct. It would generally follow the aqueduct to SR-14 through Soledad Canyon, and then generally follow SR-14 from Santa Clarita to Sylmar.

This option would closely parallel the San Andreas fault for a long distance, creating a long length of track and infrastructure that could be subject to high seismic shaking and potential ground movement. Additionally, this option would require long, deep tunneling through the Garlock fault zone with associated high costs that would make this option impracticable.

- Aqueduct/SR-14: This option in the aqueduct corridor would follow the same alignment as the aqueduct/Soledad Canyon option. The exception is that this alignment would generally follow SR-14 through the Antelope Valley to Sylmar.

This option would closely parallel the San Andreas fault for a long distance, creating a long length of track and infrastructure that could be subject to high seismic shaking and potential ground movement. Additionally, this option would require long, deep tunneling through the Garlock fault zone with associated high costs that would make this option impracticable.