

## **Green Tree Blvd. Extension Project New Bridge over BNSF Railroad**

### Project Description

- The Green Tree Boulevard Extension Project will extend Green Tree Boulevard from Hesperia Road to Ridgecrest Road/Yates Road, for a distance of over one mile. Integral to this project, a new bridge will be constructed over the BNSF Railroad and the wash adjacent to the railroad. Ultimately, Green Tree Boulevard will be two lanes in each direction. Bike lanes will be provided on the shoulders of the road to connect to the existing bike lanes on Green Tree Boulevard, Hesperia Road, and Yates Road. The adjacent intersection of Green Tree Boulevard and Hesperia Road will be widened with a new signal. A new three-way intersection will be constructed at Green Tree Boulevard and Ridgecrest Road with Ridgecrest terminating at the new alignment of Green Tree.
- Project Limits: Green Tree Blvd. (Hesperia Rd. to Yates Rd.) Please refer to Attachment A, a map of the project. This is Phase 3 of three construction phases of a larger overall project. Please refer to Attachment B, a map of the overall project.

### Project Consultants and Contractor

Design & Right of way Services:	Dokken Engineering
Construction Management:	Parsons
Contractor:	Skanska

### A few project facts:

- Bridge: length 550 ft., width 101.5 ft., depth 10 ft.
- 1.4 centerline miles of new road
- 557,000 cubic yards excavation
- 273 Plans sheets
- Right of Way – 19 parcels with 11 fee takes, 9 road easement, 13 slope easements and 3 drainage easements, and 10 temporary construction easements.

### Chronology of some key events:

- 1988 – Green Tree Blvd., between Hesperia Rd. and Ridgecrest Rd., was added to the Circulation Map of Victorville's General Plan. Also, Victorville, Apple Valley and the County entered into a cooperative agreement for an alignment study.
- 1994 – The alignment study was completed with a road alignment close to what is now the approved final alignment.
- 2008 – Apple Valley was the lead agency for an environmental document (ED) for the Yucca Loma Rd. / Yates Rd. / Green Tree Blvd. Corridor from Apple Valley Rd. to Hesperia Rd. Also, Apple Valley, Victorville and the County shared in matching funds to a federal grant which funded the environmental phase of the project.
- 2011 – The ED was approved by Apple Valley as the lead agency for CEQA (California Environmental Quality Act) and by Caltrans for NEPA (National Environmental Policy Act).
- 2013 – Federal funds for final design, programmed by the San Bernardino County Transportation Authority (SBCTA), were authorized by FHWA.

- 2014 – City Council approved a Project Funding Agreement with SBCTA. Also, City Council approved a contract with Dokken Engineering for final design and right of way acquisition service.
- 2016 – City Council approved a Term Loan Agreement with SBCTA and a cooperative agreement with Apple Valley and the County. Also, federal funds for right of way were authorized by FHWA.
- 2017 – The Yucca Loma Bridge, and the widened Yucca Loma Rd. and Yates Rd., were completed and opened to traffic.
- 2019 – City Council approved an agreement with BNSF Railway permitting construction of the bridge. Also, approvals for all environmental permits were obtained for the project.
- 2020 – Right of way acquisition was completed by the City and certified by Caltrans. City Council approved an agreement for the construction management. Also, federal funds for construction, provided by SBCTA, were authorized by FHWA
- September 2020 - Construction management contract approved
- March 2021 – Construction Contract Awarded
- May 2021 – Construction started
- May 2023 – Construction scheduled for completion

#### Various aspects and benefits of this project

##### 1. Improved Access & Safety

This project will improve access for Victorville, the Town of Apple Valley, and unincorporated areas of the County, by linking a third major east-west corridor in the Victor Valley to I-15 and the local road network. The route is 5.4 miles from Apple Valley Rd. to I-15. Please refer to the attached exhibit.

Safety will be enhanced by improving the sight distance at several intersections. The realigned Ridgecrest Rd. will be constructed to City standards. Safety will also be enhanced by providing new sidewalks, bike lanes and bike paths. On the bridge, sidewalks and bike paths will be protected behind concrete barriers.

##### 2. Innovative & Unique

This project is unique in the aspect of being a new corridor. New roads are being constructed where roads did not previously exist. New roads are being constructed for 1.1 miles for Green Tree Blvd. (between Yates Rd. and Hesperia Rd.) and 0.25 miles for a realigned Ridgecrest Rd. This project is the final construction phase to link the 5.4-mile-long corridor. The previous construction phases were: widening Yucca Loma Rd. from 2 to 4 lanes; a new Bridge for Yucca Loma Bridge over the Mojave River; and widening Yates Rd. from 2 to 4 lanes. This project will also connect the last 1.5 mile link for pedestrians and bicyclists as part of the 12-mile Mojave Riverwalk system (partially funded by an Active Transportation Program grant) and a network of other bike lanes and bike paths in Victorville, Apple Valley and the County. Please refer to Attachment C, a map of the Mojave Riverwalk Project and other bikeways.

### 3. A Model to Follow

This project can be used as an example of collaboration among local agencies and partnering with various organizations. This project was collectively identified as a priority project in the Victor Valley sub-committee and the Mountain Desert / Committee of SBCTA.

This project is a construction phase of a larger, overall project for a 5.4-mile-long arterial road corridor. One ED was prepared for both NEPA and CEQA clearances for the all three planned construction phases. This saved years in the project development because the ED only had to be revalidated with the subsequent two construction phases.

A habitat area was set aside within the County Mojave Narrows Regional Park and on land owned by the Dept. of California Fish & Wildlife (CDFW) to mitigate permanent environmental impacts for the entire project. This satisfied permitting requirements of CDFW, the US Army Corps of Engineers and the Lahontan Regional Water Quality Control Board.

### 4. Sustainable Positive Outcomes

The reinforced concrete bridge is designed as a low maintenance structure with a long life. The drainage systems are constructed with reinforced concrete structures and pipes with slopes which are self-cleaning are also low maintenance. The asphalt concrete mix designs specified have been found to perform well in Victorville's climate which over time should reduce maintenance costs. Video detection for the traffic signals will be used instead of detection loops in the pavement (which require replacement in the pavement is overlaid or reconstructed). The sidewalks, bike lanes and bike paths are incorporated into the road cross sections and will remain in service after adjacent vacant land is developed.

### 5. Cost-effectiveness

During the preliminary design, the most cost-effective bridge structure was selected, while still satisfying BNSF requirements. BNSF permitted columns to be constructed with their right of way which reduced the bridge span length and structure depths. This resulted in significant cost savings.

Approximately 300,000 cubic yards of earth had to be exported resulting from the excavation for the new road. The haul distance was minimized by filling and compacting the earth on nearby vacant parcels (less than two miles away) that can be developed in the future. The compacted fill operation complied with City permitting and environmental requirements. This was a win-win for the City and the property owners.

Several single-family homes adjacent to the new Green Tree Blvd. were protected. The road alignment was shifted to avoid impacting the residences, taking the properties, and relocating the residents. This saved costs while minimizing the impacts of the projects to the residents.

Portland cement concrete (PCC) was supplied by local ready-mix plants. Likewise, the road base came from local sources.

## 6. Positive Effects on Environment

Positive effects on the environment include a reduction in motor vehicle emissions, by reducing stopped or slowed vehicles. There will be fewer hours of vehicle delay because this project will relieve the heavily congested State Route 18 and Bear Valley Rd. The shortened earth haul reduced the length of truck trips and emissions. Sidewalks, bike paths and bike lanes provide an alternative to motor vehicle travel which also reduce emissions and fuel consumption. Permanent erosion controls and a water quality basin were incorporate into the project to protect water quality in a nearby natural wash.

## 7. Collaboration and Partnerships

Collaboration on the ED phase started in 2007 with a cooperative agreement among the Town of Apple valley, the City of Victorville, and the County of San Bernardino to share in the costs for the ED. Apple Valley was the lead on the ED. This phase was federally funded with local agency matches.

SBCTA was a funding partner to provide state and federal and federal funds for all phases this project. Subsequent amendments to the agreement among the three local agencies and a funding agreement with SBCTA continued the collaboration and funding for the design, right of way and construction phases.

The BNSF Railroad was engaged early and has been a partner through the planning, design, right of way and construction phases and has met with City staff on a regular basis. Because of regular meetings and input from BNSF, the bridge design continued to progress without requiring revisions and delays.

Utilities companies were involved early in the planning and design phases and throughout the project development. The utility companies incorporated their relocated and new facilities into the project design. The utilities include SCE, Southwest Gas, Frontier Communications, and Spectrum.

## 8. Benefits

Benefits of this project include the following:

- Congestion will be relieved with reducing vehicle delays and shorter trip times. Congestion will be relieved on two major east-west routes which are severely congested. The average daily traffic volumes for State Route 18 (49,000 vehicles per day) and Bear Valley Rd. (74,000 vehicles per day). Both routes have Level of Service F traffic conditions for several hours a day. Traffic counts have been taken for several roads, including State Route 18 and Bear Valley Rd., before construction started on the project. Traffic counts will be taken again at the same locations before after the after the project has been opened to traffic. This will Pedestrian and bicycle counts will also be taken. This will provide measurable outcomes for reducing traffic volumes on the congested corridors and pedestrian and bicyclist usage of the project.
- Will reduce emergency response times for police, fire, and medical services.
- Will provide a shorter public transit route for residents.

- Vehicle emissions will be reduced due to fewer stopped or delayed vehicles.
- Vehicle miles traveled (VMT) will be reduced. Trip lengths will be reduced by up to 7.3 miles.
- Improved access for Victorville, Apple Valley and County residents, workers, and students.
- Improved safety by improving sight distance.
- Improved safety with new sidewalks, bike lanes and bike paths for pedestrians and bicyclists.
- Improved safety from an open graded friction course asphalt concrete which will reduce the potential for hydroplaning.
- A new sewer 21-inch sewer trunk line was incorporated in this project to increase capacity and reduce the potential for sanitary sewer overflows.
- A new 12-inch water main was constructed as a looped system and providing another water supply for residents in the eastern part of Victorville.

#### 9. Innovative technology

This project utilized reclaimed asphalt pavement which was incorporated into the asphalt concrete pavement for the project. The latest Caltrans specifications were used for asphalt concrete on the roads and structural PCC for the bridge, retaining walls and drainage structures. Fiber optic cable will be installed in the road alignment to connect two traffic signals to the City's fiber optic network. This will facilitate both traffic signal communications for traffic operations, video data, and support the automated license plate reader system utilized by the Police for investigating crimes.

#### 10. Preserves local road system

This project benefits the preservation of the local road system by providing an alternate route for motor vehicles which will reduce traffic impacts, vehicle miles traveled and the degradation of the pavement condition on other local roads.

#### 11. Funding

This project was funded in accordance with the SBCTA Congestion Management Program policies. Funding for the Green Tree Extension Project is comprised of the following sources (in rounded million \$):

Federal funds	\$26
Road development impact fees	\$20
SBCTA Measure I	<u>\$1</u>
Total	\$47

Road development impact fees are comprised of: City of Victorville \$15; Town of Apple Valley \$4; and County of San Bernardino \$1.

The cost of the project development phases is shown below (in rounded million \$):

Environmental	\$1
Design (PS&E)	\$4
Right of Way	\$3
Construction Management	\$5
Construction	<u>\$34</u>
Total	\$47