

## EXECUTIVE SUMMARY

### ES 1 SCOPE AND INTENDED USE OF THIS DOCUMENT

This document is the environmental analysis of the Downtown-Natomas-Airport (DNA) project. It is a program-level analysis of the entire project – focused documents will be prepared for each individual segment as those projects are advanced to subsequent stages of project development. As a programmatic document, this analysis addresses the general environmental impacts of the DNA project as a whole based upon the general alignment adopted by the Sacramento Regional Transit District in 2003 (i.e., the Truxel alignment). Further analysis and final decisions on the exact alignment (e.g., side of the street, separate guideway, mixed-flow traffic) and exact design (e.g., architectural elements) will be made in conjunction with the more focused environmental documents to come.

The anticipated first phase of the DNA project is an alignment from Downtown along 7th Street to Richards Boulevard. Where relevant, information is presented in this document about this anticipated first segment.

The project proponent is the Sacramento Regional Transit District (RT). As a California special district, RT's action is subject to the California Environmental Quality Act (CEQA). This document is a Program Environmental Impact Report (PEIR) as required by CEQA. As indicated in the CEQA Guidelines (Section 15168), a PEIR can be prepared on a series of related actions that can be characterized as one large project. The DNA project is a series of related actions – individual segments will be implemented over time, expanding the project in length (eventually to the Airport) and in other ways (for example, widening a single-track starter segment to include both north and southbound tracks). These actions are expected to be phased over a period of years depending on available funding. A detailed analysis of environmental effects for these future phases would be speculative at this time because the future environmental setting could be substantially different than the current setting. Implementation timing has not yet been established, and exact alignment and design options have not yet been developed. These considerations support RT's determination that a PEIR is the appropriate level of environmental documentation at this time. Tiering of environmental analyses is appropriate when the sequence of analysis is from a program-level to a project-level. This approach can eliminate repetitive discussions of the same issues allowing the later EIR to focus solely on the issues specific to the later project.

RT's intended use of this document is to support a determination that the appropriate means of implementing transit improvements along the DNA Corridor is to construct a light rail system on the Truxel alignment. This document also will be used to support preparation of project-level environmental documents. As described in the CEQA Guidelines (Section 15168), a program-level document can be incorporated into future project-level documents to:

- Provide a basis for determining whether subsequent phases may have significant environmental effects;
- Help address regional influences, secondary effects, cumulative impacts, broad alternatives, and other elements that apply to the program as a whole; and

- Focus the subsequent evaluation on new effects that had not been considered before.

During future, project-level analysis of each phase, there is likely to be substantial participation by federal agencies. RT assumes that one or more future phases may be subject to the National Environmental Policy Act, with the Federal Transit Administration as the federal lead agency and with additional participation by other federal agencies with regulatory authority over the DNA project. At this time, there is no federal action on the project, and the PEIR is intended only to meet RT's obligations under CEQA.

## ES 2 INTRODUCTION

### ES 2.1 DEFINITION OF THE DNA STUDY AREA

The DNA study area, shown on Figure ES-1, extends 12.8 miles from 7th and H Streets in Downtown Sacramento to the Sacramento International Airport and includes the communities of Alkali Flat, South Natomas, North Natomas, and Metro Air Park. Between State Route (SR) 99 and Powerline Road, the study area traverses the Greenbriar property, which is under consideration for a large residential development. The study area was developed in 2002 to be sufficiently broad to encompass the entire range of alternatives under consideration at that time. See Chapter 5, Alternatives, for more information. This study area is also referred to as the "DNA Corridor."

### ES 2.2 OBJECTIVES OF THE PROJECT

The primary objective of the DNA project is to provide a transit travel option in a high travel-demand corridor in the rapidly growing study area in Sacramento, California. Supporting objectives of the DNA project are to:

- Provide mobility improvements in the DNA Corridor;
- Provide environmental benefits in the Corridor;
- Improve systemwide operational efficiencies;
- Provide cost-effective transportation solutions; and
- Provide transportation improvements that are enhanced by transit-supportive land use plans and policies.

According to a report produced by the Center for Continuing Study of the California Economy, the Sacramento Region is poised for significant growth over the next 50 years. The number of jobs is projected to more than double to 1.9 million, while average household size will fall. Unless action is taken, the combination of these two factors will inevitably lead to urban sprawl and congestion within the region's transportation network. By taking a comprehensive planning or "smart growth" approach, SACOG, the designated Metropolitan Planning Organization for the Sacramento Region, hopes to avoid many of the problems associated with sprawl. The DNA study area residents and local organizations have embraced the "smart growth" approach through their planning efforts. A description of these planning efforts is presented below.

- **Population and Employment Growth Will Increase the Demand on the Transportation System.** According to the *2006 Metropolitan Transportation Plan (MTP)*, by 2027 the number of households in the DNA study area is expected to increase by 149 percent and employment by 81 percent. These growth figures are the



highest in the City of Sacramento. The rate of growth in North Natomas has exceeded City of Sacramento expectations and development activities have not slowed down, as evidenced by the development proposals that continue to be submitted to the City and County, indicating that growth will continue in the DNA Corridor.

- **Major New Development Projects.** New development proposals in North Natomas and around the Airport are now underway. Below are current plans that are under consideration:
  - Creation of a City/County “Natomas Joint Vision” that will guide the future development of 25,000 acres located in unincorporated Sacramento County immediately north of the Natomas area. A significant goal established by this vision is the adoption of smart growth principles that emphasize pedestrian and transit orientation by addressing density and efficient design that is interdependent on quality transit service with connections linking activity centers. Included in this project is 7,000 acres of urban reserve;
  - Greenbriar is a proposal to build a new residential and commercial development project on 577 acres between Metro Air Park and State Route 99. This project would include nearly 3,500 high-, medium-, and low-density homes; nearly 50 acres of commercial development; and a light rail station at the southern edge of the development that has been identified in this Draft PEIR as an “optional” station to be built with developer fees;
  - The Natomas Panhandle is a project to build homes and retail on 1,465 acres between Elkhorn Blvd and I-80, east of the Corridor that will need an improved transit system to reduce increased dependence on single occupant vehicles and Interstate 5 (I-5);
  - Construction of Metro Air Park, a County-approved project just east of the Airport that will include 20 million square feet of warehouse, light manufacturing, office, retail space, and 950 hotel rooms for which developer fees will be collected for constructing a station adjacent to the development; and
  - The West Lakeside project would consist of homes built 133 acres in unincorporated Sacramento County at the northeast corner of Del Paso Road and the West Main Drain Canal, creating increased demand for improved transit.

In addition, several Downtown development proposals in the DNA study area have been submitted to the City of Sacramento. These include the Railyards Redevelopment Plan and Township 9, as described below.

- The Railyards Redevelopment Plan proposes development of the 240-acre Union Pacific Railroad property. The project would consist of 11,000 homes, 1.3 million square feet of retail, and 2.9 million square feet of office space, hotels, restaurants, entertainment venues, and open space. A light rail station is identified in the Plan adjacent to the proposed Sacramento Intermodal Transportation Facility; and
- The Township 9 Plan includes construction of approximately 2,700 homes, 69,000 square feet of retail, and 17.33 acres of open space on 65 acres along

Richards Boulevard between 5th and 7th Streets. Plans for additional projects adjacent to this site include office and retail space development. The developer of this plan has dedicated land on its property for a light rail station and agreed to contribute payment of mitigation fees for station construction.

- **Continuous Planning Support.** Since 1984, there has been local and regional interest, and rising support to build light rail between Downtown and the Airport. In 1989, the Truxel Road Alignment was identified by RT, the City of Sacramento and Sacramento County as the preferred alignment. This decision was reinforced again in 1994 by the City's adoption of the North Natomas Community Plan, which identified a preferred alignment along Truxel Road, with right-of-way and station locations. As a result, the City has been requiring developers to dedicate right-of-way for the DNA alignment and contribute payment of mitigation fees for station construction.

More recently, in polling conducted for the November 2004 campaign to extend the Measure A local transportation sales tax, over 60 percent of those surveyed indicated strong support for extending light rail to the Airport. As a result, the sales tax extension was approved and will provide \$50 million for engineering and design of the DNA project.

The SACOG Board of Directors has also shown support for transit in the DNA Corridor, evidenced by several actions:

- In 2000, SACOG prepared the *Sacramento International Airport Transit Access Study*, which identified the need for increased transit access to the Airport using enhanced bus service or light rail;
- In 2002, SACOG adopted the *Metropolitan Transportation Plan for 2025* that identified Truxel Road as the preferred transit alignment between Downtown, Natomas, and the Airport; and
- In 2006, SACOG adopted the *Metropolitan Transportation Plan for 2027* that again identified Truxel Road as the preferred transit alignment between Downtown, Natomas, and the Airport.

With broad community participation, SACOG also developed and adopted the *Blueprint: Transportation/Land Use Study for 2050* (Blueprint). This is the first comprehensive examination of the regional land use patterns in the Sacramento Region and was approved in December 2004 by the SACOG Board of Directors. The Blueprint emphasizes why good land use decisions, such as encouraging infill development and improved transit, are needed, with the following facts:

- By 2050, the six-county region is projected to grow by 1.7 million people, 1 million jobs, and 840,000 dwellings;
- Under existing development patterns, vehicle-miles traveled (VMT) per household are 41.9 miles per day. By 2050, this is projected to increase to 47.2 miles per household per day. Under the Preferred Blueprint Scenario, VMT will decline to 34.9 miles per day;

- Existing transit mode share of regional commute trips is 3.3 percent. Under the Preferred Blueprint Scenario, mode split is to increase to 7.6 percent;
- Existing transit mode share for Downtown Sacramento is 19 percent. Under the Preferred Blueprint, this is to increase to 41 percent; and
- Existing regional transit trips per day is 93,000. Under the Preferred Blueprint, this is to increase to 903,000.

In 2004, Sacramento County included the DNA line as part of its long-range master plan update for the Airport. The LRT station is shown in that plan as being located within the new Airport terminal and providing passengers with direct access to check-in facilities. On August 29, 2006, the Board of Supervisors approved construction of the new Airport terminal that will be operational by 2011, with the dedicated light rail station area. The Airport has already contributed \$1 million to RT to begin preliminary engineering on the alignment through the airport property and the end-of-line light rail station.

Also in 2004, the City of Sacramento adopted plans for construction of a new Downtown Intermodal Transportation Facility to provide connections for local and express bus and LRT services via the DNA line; intercity buses; the Capitol Corridor commuter rail; and Amtrak. The Capitol Corridor passenger train service provides 32 trains daily between Sacramento and the San Francisco Bay Area. It is currently the third busiest Amtrak-provided route in the nation with nearly 1.3 million annual riders, a figure that has tripled within the past seven years. The plan for the Intermodal Facility incorporates the future DNA light rail alignment and station.

- **Increased Demand for Transit Services.** Since the first light rail line opened for service in 1987, RT service and ridership has continued to grow. RT completed its first light rail expansion along the Highway 50 Corridor in September 1998 with the opening of the Mather Field/Mills Station. Five years later (September 2003) RT opened the first phase of the South Line, a 6.3-mile extension to South Sacramento. In June 2004, light rail was extended from the Mather Field/Mills Station to Sunrise Boulevard, and on October 15, 2005, a 7.4-mile extension from the Sunrise Station to the City of Folsom was opened. In December of 2006, the final leg of the Gold Line project opened, extending 0.5 mile to the Downtown Sacramento Valley Station, connecting light rail with Amtrak inter-city and Capitol Corridor services as well as local and commuter buses. The DNA project will be a continuation of the Gold Line, north to the Airport
- **Increased Traffic Congestion.** Due to rapid urbanization in the DNA study area, traffic congestion in the Corridor is projected to increase significantly by 2027. Traffic volumes are projected to increase from 40 to 100 percent on I-5; 57 percent on Interstate 80 (I-80); and 60 intersections would operate at failure (LOS "F") in the DNA study area in 2027.
- **Increased Airport Passenger Demand.** According to the projections prepared for the *Draft Sacramento International Airport Master Plan Study*, passenger traffic is expected to increase at an average annual rate of 3.5 percent between 1999 and 2020, resulting in between 15 and 16 million passengers annually by 2020. On an average day for the peak month of passenger activity in 2020, the Airport will have 22,000 passenger origins and destinations, twice the current number. By 2027, origins and destinations to the

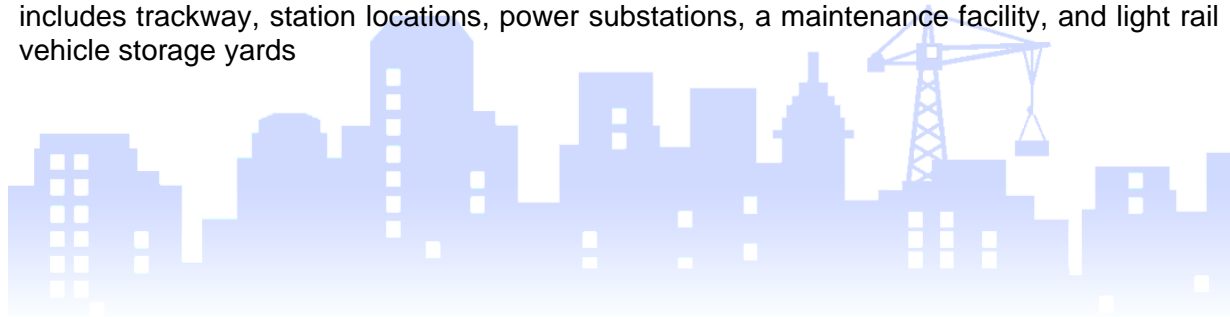
Airport will have increased 69 percent over 2000 estimates, and about two-thirds of these passengers will be coming to or from the RT service area.

- **Transit Service Needs.** RT needs to expand its system for the following reasons:
  - The RT service area receives significantly less transit service than other comparably sized cities in the United States;
  - An expanded transit system, especially in the high growth DNA Corridor, will promote economic development, reduce traffic congestion, and help the region remain competitive with other regions;
  - Intermodal connections are critical to the long-term success of transportation systems. RT presently has no bus service to the Airport;
  - Many of the region's students, seniors, disabled persons, and other non-driver populations depend on public transit for access to jobs and public services. The DNA study area has a significant percentage of low-income and minority households that could benefit greatly from transit linking Downtown Sacramento, South and North Natomas, and the Airport; and
  - Because much of the DNA Corridor has only recently been developed, transit service in the area has been provided only at modest levels based on available funding. However, ongoing and past planning efforts have identified the proposed project as the preferred transportation solution to provide transit service in the Corridor.
- **Air Quality Nonattainment Area.** The project would be located in a federally designated nonattainment area for air quality and, therefore, must meet transportation conformity requirements at the regional and project levels. The DNA project would provide a small benefit to the region's air quality by reducing vehicle miles traveled by approximately one percent as compared to future conditions.

### ES 3 PROJECT DESCRIPTION

The DNA project would provide light rail service in the Corridor by extending the Gold Line from approximately 7th and H Streets to the Airport. The recent extension of the Gold Line to the Sacramento Valley Station connects to the southern edge of the Corridor. The DNA project would build on this extension, constructing a new transit guideway from the relocated Sacramento Valley Station (part of the proposed Intermodal Facility) to the Airport.

Light rail service would be provided along a 12.8-mile alignment through South and North Natomas to the Airport. Figure ES-2 illustrates the alignment. The project description includes trackway, station locations, power substations, a maintenance facility, and light rail vehicle storage yards





### ES 3.1 ALIGNMENT

The alignment would originate at 7th and H Streets, adding a second track parallel to the existing Gold Line. Heading west on H Street, the DNA line would then loop north along the west side of the proposed extension of 5th Street to the relocated Sacramento Valley Station (part of the future Intermodal Facility)<sup>1</sup>.

Continuing north, the loop would then connect to a future extension of F Street and continue north along 7th Street, operating through the existing 7th Street undercrossing of the Union Pacific Railroad. From this point north, the alignment would continue to follow North 7th Street to Richards Boulevard. At North 7th Street and Richards Boulevard, the alignment would cross Richards Boulevard and turn to the west to follow a semi-exclusive guideway on the north side of the street.

The alignment through the Railyards assumes that several improvement projects have been built. These projects are separate from the DNA project but are necessary for its viability. These projects include:

- Relocation of the Union Pacific mainline rail tracks north of their current location;
- Relocation of the Gold Line and station so that they are parallel and west of 5th Street to align near the new Sacramento Valley Station location; and
- Construction of a new light rail platform to serve the Gold Line.

The alignment would then turn north towards the American River. A new river crossing over the American River would be built approximately 1,200 feet east of the existing I-5 bridge. Bicycle and pedestrian lanes also would be provided on the river crossing, with direct access from the bridge structure to the American River Parkway trail system. By incorporating a pedestrian and bicycle facility with the American River Crossing, residents of Natomas will have a direct link to this regionally significant trail.

The alignment would continue on an elevated structure through the American River Parkway to Garden Highway, where it would touch down and enter into the median of Truxel Road and operate in a mixed flow with vehicular traffic. The alignment would continue at grade in mixed flow on Truxel Road from Garden Highway to San Juan Road. North of San Juan Road, the guideway would shift to the east side of the street into semi-exclusive right-of-way and transition to a section of retained fill, then move onto a new double-track structure over the I-80 Interchange located north of the Natomas High School playing fields.

The alignment would descend to grade just south of Gateway Park Boulevard and continue at grade in an existing semi-exclusive right-of-way. The alignment would cross to the west side of Truxel Road just south of Natomas Crossing Drive. From this location, the alignment

<sup>1</sup> In addition, a track would be built along 7th Street to by-pass the loop that passes by the Federal Courthouse. This “emergency” by-pass was added in response to national safety and security concerns raised by the U.S. District Court that could result in occasional, temporary closures of H Street.

would be located on an existing semi-exclusive right-of-way, adjacent to the west side of Truxel Road and continue north to Del Paso Road. At-grade crossings would be constructed where roadways cross the semi-exclusive right-of-way between Gateway Park Drive and Del Paso Road. A spur track into the ARCO Arena property could be built to provide direct arena access during special events. This optional track also could be used as a mid-line vehicle storage area.

After crossing Del Paso Road, the alignment would proceed north along Natomas Boulevard (north of Del Paso Road, Truxel Road changes name to Natomas Boulevard). At New Market Drive, the alignment would turn northwest and proceed in the median around the Natomas Town Center Education Complex toward the Natomas Town Center. West of the Town Center, the alignment would again turn north and follow East Commerce Parkway in a semi-exclusive right-of-way adjacent to the east side of the roadway. At the intersection of Club Center Drive and East Commerce Parkway, the alignment would cross East Commerce Parkway at-grade and enter an exclusive transit right-of-way to reach SR 99 at the proposed Meister Way overcrossing.

This structure would span the freeway, with the alignment returning to grade west of SR 99. The alignment would continue along the south side or in the median of the future Meister Way through Greenbriar and Metro Air Park. West of Powerline Road, the alignment would continue on an exclusive right-of-way along the north side of an extended Elkhorn Boulevard into the Airport property. The alignment would remain adjacent and to the east of Elkhorn Boulevard in exclusive right-of-way as it curves northward crossing over Crossfield Drive. North of Crossfield Drive, the alignment would continue in an exclusive right-of-way between McNair Circle and Aviation Boulevard. The alignment would cross over the northbound lanes of Aviation Boulevard on a new aerial structure, and under the existing southbound Aviation Boulevard aerial structure.

After crossing under Aviation Boulevard, the alignment would shift to line up with the central axis of the new terminal building proposed by the Airport to be built south of the existing parking lot between Terminals A and B. The end-of-line station is proposed to be incorporated into this new building.

### **ES 3.2 STATIONS**

The DNA project would include 14 stations; of these, seven would have Park-and-Ride lots, for a total of 2,260 spaces. Additional locations have been designated as sites for optional stations, to be built either with private funds or at a later date as additional public funds become available. Park-and-Ride spaces are provided based on parking demand derived from the DNA ridership forecasting model. The impact of optional stations on Park-and-Ride demand was not assessed. Physical constraints of available property have resulted in fewer parking spaces available than the model depicted. To mitigate the impact of not fully meeting parking demand, recommendations for parking policies were developed and are described in Chapter 7 of Regional Transit's 2007 *Final Definition of Alternatives Report* (the public can review this report at Regional Transit, 1400 29th Street, Sacramento or [www.dnart.org](http://www.dnart.org)). The City of Sacramento currently has a program for establishing Residential Permit Parking Zones. It is recommended that this program be replicated in neighborhoods around new transit stations.

Each station would have a 400-foot-long platform to accommodate a maximum four-car train and would include platforms to satisfy accessibility requirements under the Americans with

Disabilities Act. The width of the station platform would vary from 16 feet for a side platform station to 28 feet for a center platform station. All stations would be at grade. These criteria are consistent with the existing RT system. Other amenities would include passenger shelters, telephones, bicycle racks and lockers, information kiosks, ticket vending machines, preferential access for pedestrians, enhancements for elderly and disabled passengers, lighting, and landscaping. When RT deploys real-time tracking equipment for RT buses, a bus arrival prediction system would be added to provide passengers with real-time information on connecting feeder bus service.

Stations will incorporate design features such as lighting to deter crime and all stations and trains will be patrolled by RT Police Services. On April 14, 2003, the RT Board of Directors adopted Ordinance 03-04-01, which permits authorities to remove people not using transit from station locations. (For additional details on proposed station characteristics, refer to the *Final Definition of Alternatives Report*.)

### **ES 3.3 TRACTION ELECTRIFICATION SYSTEM**

Two different traction power supply distribution systems would be used as part of the Traction Electrification System for the Corridor. In Downtown, power would be provided by direct-suspension, single-contact wire electrically supplemented by below-ground parallel feeders. The remainder of the Corridor would use an auto-tensioned simple catenary system. Steel poles located in the middle of or adjacent to the tracks would support the overhead catenary wires. Sacramento Municipal Utility District would provide electrical power to the system through 13 traction power substations constructed along the Corridor. Each substation would be located in a secured, fenced area with a vehicle access road and would consist of a self-contained building approximately 15 feet high with a 15 feet by 40 feet linear dimension, installed on a concrete pad. A grounding grid with approximate dimensions of 25 feet by 50 feet also will be installed.

### **ES 3.4 DNA PROJECT AND FEEDER BUS OPERATING PLAN**

The DNA project includes a light rail route along with feeder buses and shuttles to serve the Corridor. Light rail would operate at 15-minute headways from Downtown Sacramento to the Airport and back. Service would be reduced to 30-minute headways during early morning and evening non-peak hours. Service in the Corridor would operate from 5:00 AM to 12:00 midnight on weekdays and from 6:00 AM to 12:00 midnight on weekends, consistent with current operations. Corridor trains would continue through Downtown Sacramento to serve the Gold Line (to Folsom); passengers on other routes would need to transfer trains in Downtown Sacramento to reach the Airport. Trains operate primarily at-grade with crossings that are controlled by traffic signals. Light rail vehicles would have signal preemption at all signalized intersections.

### **ES 3.5 MAINTENANCE AND VEHICLE STORAGE FACILITIES**

The DNA project would require additional facilities for bus and light rail vehicle maintenance. Additional bus vehicles required for future phases of the DNA project would be maintained at the existing bus maintenance facility at McClellan Park. As a separate capital improvement project, the McClellan facility would be designed to accommodate an expanded bus fleet and the additional bus maintenance requirements of future phases of the DNA project.

RT does not have sufficient capacity in existing or planned light rail vehicle maintenance facilities to accommodate repair activities for the DNA project. A new maintenance facility in the Corridor is proposed to provide additional maintenance capacity. This facility would require a 15.5-acre site and would include an inspection pit, a car wash, a 4,000-square-foot maintenance building, overnight vehicle storage for up to 50 light rail vehicles, locker room and break room facilities for train operators, and a small parking lot for employee and maintenance-of-way vehicles. Employee hours would be set as appropriate for service needs. It was determined that a location along the eastern portion of Metro Air Park provided an appropriate site for a maintenance facility.

A separate light rail vehicle storage facility would be required for the DNA project. An analysis of potential vehicle storage sites for the DNA project was conducted based on proximity to the end of the line, light rail vehicle and maintenance vehicle access, required acreage, adopted and planned land uses, and proximity to sensitive land uses. Two sites were identified; the site next to ARCO Arena north of the existing Arena building met the criteria and has been incorporated into the DNA project as part of the spur track option.

### **ES 3.6 PROJECT PHASING**

RT would like to construct the DNA project as soon as possible, but recognizes that phasing the project will be necessary because of project costs and other financial considerations. For this document, it is assumed that full implementation would occur by 2027. This date is consistent with the 2006 MTP, and allows this document to describe traffic and related impacts in a manner consistent with full implementation of the MTP. If financial considerations allow, RT will fully develop the DNA project before 2027.

At this time, RT expects to begin detailed design and project-level environmental review for the first phase of the DNA project from Downtown to Richards Boulevard. This first phase is called MOS-1 because it is the initial minimum operable segment identified by RT. Where available, information specific to MOS-1 is included in the analysis. However, detailed project-level review would occur prior to this first phase of the DNA project.

For MOS-1, the alignment would begin at 7th and H Streets running north on 7th Street to F Street. This alignment is the same as the emergency courthouse by-pass described above, and would remain in service with full implementation of the DNA project for periods when use of the by-pass is requested by the U.S. District Court. North of F Street, the alignment would continue on 7th Street to just north of the Union Pacific overcrossing. At this point, the alignment would follow North 7th Street. The construction of a Railyards station under MOS-1 would be deferred to correspond with development of the Railyards project. At Richards Boulevard, the alignment would turn west on an exclusive right-of-way on the north side of Richards Boulevard, ending at a station on Richards Boulevard and North 7th Street. The MOS-1 alignment is shown on Figure ES-3.

For MOS-1, parking may be provided near the Richards Boulevard station west of the intersection of North B and North 7th Streets. The parking lot would be a temporary end-of-line facility and would be removed once the next phase of the DNA project is constructed. The end-of-line station on Richards Boulevard would be double tracked, facilitating end-of-line operations such as overnight train storage. Traction power substations would be constructed as described above for the full project. No new maintenance facility would be built under MOS-1. Vehicle maintenance would occur at existing RT facilities.



Full buildout of the DNA project in the MOS-1 project area would require additional construction, including the loop and station at the future Intermodal Facility and development of a full double-tracked guideway requiring a new crossing of the Union Pacific tracks on a dedicated alignment. The timing of these improvements is not known at this time. Development of the Railyards station also would be required at this time, unless that station can be expedited as part of the Railyards Redevelopment Project.

**ES 3.7 CAPITAL AND O&M COST SUMMARY**

The assumptions and results of each set of cost estimates are presented below.

**ES 3.7.1 Capital Costs**

Capital cost estimates were developed for the project (Table ES 1) Capital costs include all construction costs (such as construction of the transit guideway, maintenance facilities, Park-and-Ride lots, stations and associated facilities, and utility relocations); costs for new transit vehicles and initial spare parts; acquisition of right-of-way; and allowances for final engineering design, construction management, construction change orders, and an allocation for costs to RT for managing construction.

<b>Table ES 1 Capital Costs for DNA Project (Millions of 2006\$)</b>					
Scenario	Construction Costs	Vehicles	Right-of-Way	Final Engineering, Construction Management, Project Reserve	Total Costs
DNA Project	392.9	106.9	68.2	217.3	785.3

**ES 3.7.2 O&M Costs**

Annual O&M costs were estimated for the overall DNA project (Table ES 2), as well as for MOS-1. O&M costs include all expenditures required to provide daily transit service, including pro-rata RT system administrative costs, wages and benefits for transit vehicle operators and maintenance workers, security costs, and maintenance expenditures for the transit guideway, stations, facilities, and vehicles.

<b>Table ES 2 Systemwide Annual O&amp;M Cost Estimates (Millions of 2006\$)</b>				
Scenario	Annual Light Rail O&M Cost	Annual Bus O&M Cost	Total O&M Cost	Increase over Baseline Conditions
Baseline	60.3	119.0	179.3	N/A
DNA Project	74.9	120.8	195.7	16.7

O&M costs were calculated using a systemwide approach because the impacts from new service often extend beyond the route or corridor served. The DNA project relies on modifications to existing trunk routes and the establishment of new bus services that extend outside the Corridor. This interconnection with the future RT route network requires that O&M costs be examined systemwide.

Costs specific to the Corridor were calculated as the incremental change between Baseline costs (systemwide O&M costs without the DNA project) and with the DNA project. The estimated annual O&M cost for MOS-1, which includes light rail service to the Richards Boulevard Station, is approximately \$0.9 million more than for the Baseline (2006). The annual O&M cost associated with the DNA project, which includes MOS-1 and future phases, is estimated to be \$16.7 million more than the Baseline.

## ES 4 TRANSPORTATION IMPACTS

This section summarizes the transportation impacts related to implementation of the DNA project analyzed in this Draft PEIR including transit impacts; highway, local roadway, and intersection impacts; and parking impacts.

### ES 4.1 TRANSIT IMPACTS

One measure that evaluates the extent to which a project would improve transit service is the comparison of transit travel times to the existing conditions. Table ES 3 shows the AM peak transit travel times for existing conditions (2005), future no-project conditions (2027), and the DNA project (2027).

<b>Table ES 3 AM Peak Transit Travel Times (Transit/Walk Access in Minutes)</b>			
	<b>Existing Conditions (2005)</b>	<b>Future No-Project (2027)</b>	<b>DNA Project (2027)</b>
Downtown to the North Natomas Town Center	54	64	35
Gateway Park/Natomas Crossing Area to Downtown Sacramento	41	51	34
South Natomas Near Truxel to Downtown Sacramento	34	42	29
Downtown Sacramento to the Airport	41	43	43

#### ES 4.1.1 Transit Ridership/Patronage Impacts

As shown in Table ES 4, the DNA project is expected to lead to an increase in transit ridership within the corridor and within the region as a whole. This is a direct result of faster transit speeds that will make transit a more attractive travel option. Some trips that would be made by automobile under the no-project conditions are expected to be made on transit if the DNA project is constructed. The transit mode share (i.e., the percentage of trips made on transit) will increase, particularly for work trips from north of the American River to

	<b>Existing Conditions (2005)</b>	<b>Future No-Project (2027)</b>	<b>DNA Project (2027)</b>
Daily Ridership in DNA Corridor (Linked Trips*)	4,100	8,470	15,910
Total Regional Daily Ridership (Linked Trips*)	102,080	164,870	179,040
<small>*A "linked transit trip" means a trip that is taken from an origin to a destination using some mode of transit. Trips that involve a transfer from one transit vehicle to another, such as a transfer from bus to light rail, are counted as a single linked trip.</small>			

downtown Sacramento. In 2005, the DNA Corridor experienced 4,100 linked transit trips on an average weekday. This is anticipated to increase in 2027 to 8,470 linked transit trips under future no-project conditions, and to 15,910 linked transit trips with implementation of the DNA project.

**ES 4.2 STREET AND HIGHWAY IMPACTS**

This section reviews the impacts to the DNA Corridor freeway, arterials, and intersections for the future no-project conditions and the DNA project.

**ES 4.2.1 Future No-Project**

The 2006 MTP includes significant roadway improvements in the DNA Corridor. This results in somewhat less congestion than would be anticipated by the increases expected in demand. According to the MTP, traffic volumes along segments of I-5 between the Airport and Downtown are expected to increase by 18 to 39 percent by 2027. The highest level of traffic growth on I-5 is projected to occur between the Richards Boulevard interchange and Garden Highway interchange, where 42 percent growth is anticipated.

Average daily traffic volume increases by 2027 on other roadways in the study area vary greatly. Under future no-project conditions, daily volumes on several important study area roadways increase by more than one hundred percent, including:

- Truxel Road: north of Gateway to Club Center, volumes increase from 124 to 226 percent;
- Arena Boulevard & North Market Boulevard: from Commerce Parkway to Gateway, volumes increase by 206 percent; and
- San Juan Road: from El Centro to Northgate, volumes increase from 34 to 147 percent.

**ES 4.2.2 DNA Project**

The DNA project would have minimal effect on congestion in the DNA study area. Light rail service would slightly reduce traffic volumes on some roadways and marginally increase

volumes on others compared to future no-project conditions in 2027. Traffic volumes would change between the future no-project condition and the DNA project for two reasons. First, the construction of the DNA project would attract some additional transit riders and thereby reduce traffic volumes on some roadways. Second, some people would shift their travel routes and drive to Park-and-Ride lots at one of the new light rail stations. The traffic coming to and from these new stations would result in traffic increases on some roadways, or in some additional turn movements at some intersections.

### **ES 4.3 INTERSECTION IMPACTS**

In addition to intersection impacts related to increased volumes at or near Park-and-Ride lots, some intersection impacts are related to increases in delay due to new at-grade rail crossings. The traffic analysis for the DNA project includes an estimate of the increase in delay at intersections related to a loss of the green time for autos at traffic signals when the tracks need to be cleared prior to a train arrival.

#### **ES 4.3.1 Future No-Project**

Future no-project conditions impact four intersections in the Downtown area (5th and H Streets, 6th and H Streets, 7th and H Streets, and 7th and I Streets), plus the intersections of Truxel and Garden Highway, Truxel and San Juan Road, Northgate and Del Paso, and the I-5 northbound ramps at Garden Highway north of the American River.

#### **ES 4.3.2 DNA Project**

Impacts to intersections resulting from the implementation of the DNA project include the following:

- **Truxel Road and Garden Highway.** Under future no-project conditions (2027), this intersection would operate at LOS “E” conditions in the PM peak hour. The DNA project would increase the average vehicle delay by more than 5 seconds and result in LOS “F” conditions in the PM peak hour.
- **Truxel Road and San Juan Road.** Under future no-project conditions (2027), this intersection would operate at LOS “E” during the AM and PM peak hour. Traffic operations would degrade to LOS “F” conditions during both the AM and PM peak hours with the implementation of the DNA project.
- **Truxel Road and Gateway Park Boulevard.** Under future no-project conditions (2027), this intersection would operate at LOS “C” conditions in the AM peak hour and LOS “D” in the PM peak hour. The DNA project would increase the average vehicle delay by more than 5 seconds and result in LOS “E” conditions in the AM and PM peak hour.
- **Truxel Road and Natomas Crossing.** Under future no-project conditions (2027), this intersection would operate at LOS “C” conditions in the AM peak hour. The DNA project would increase the average vehicle delay by more than 5 seconds and result in LOS “D” conditions in the AM peak hour.
- **Truxel Road and Del Paso Road.** Under future no-project conditions (2027), this intersection would operate at LOS “C” conditions in the AM peak hour. The DNA project

would increase the average vehicle delay by more than 5 seconds and result in LOS “D” conditions in the AM peak hour.

- **5th Street and H Street.** Under future no-project conditions (2027), this intersection would operate at LOS “D” conditions in the AM peak hour. The DNA project would increase the average vehicle delay by more than 5 seconds and result in LOS “E” conditions in the AM peak hour.
- **7th Street and Gateway Road.** Under the future no-project conditions (2027), this intersection would operate at LOS “C” conditions in the PM peak hour. The DNA project would increase the average vehicle delay by more than 5 seconds and result in LOS “D” conditions in the PM peak hour.

**ES 4.4 PARKING IMPACTS**

In general, a growing demand for parking and a need to increase parking supply are anticipated at major activity centers in the DNA Corridor, particularly in Downtown Sacramento. The expected 22 percent increase in employment in Downtown Sacramento (from 2005 to 2027) would produce a proportional increase in parking demand in the absence of measures to decrease automobile travel to Downtown. There are currently no Park-and-Ride lots for RT transit services in the DNA Corridor.

As shown in Table ES 5, the future no-project conditions would not add Park-and-Ride spaces for transit services or displace any parking in the DNA Corridor. Transit improvements under the DNA project include Park-and-Ride lots with adequate spaces to match aggregate demand, also reducing parking demand in Downtown Sacramento. Therefore, a beneficial overall impact on parking supply is expected for the DNA project compared to future no-project conditions.

<b>Table ES 5 2027 Parking Demand and Parking Demand Decrease in the Central Business District</b>		
	<b>Parking Demand in DNA Corridor</b>	<b>Decrease in Central Business District Parking Demand (Relative to Future No-Project)</b>
Future No-Project	No transit improvements requiring Park-and-Ride facilities	--
DNA Project	2,260	1,186

**ES 5 ENVIRONMENTAL CONSEQUENCES**

Table ES 6, located at the end this section summarizes the environmental consequences associated with the implementation of the DNA project. The environmental resource areas evaluated for the DNA project include:

- Land Use
- Farmlands
- Community Impacts
- Socioeconomic Impacts

- Property Acquisition and Displacement
- Environmental Justice
- Cultural Resources
- Parklands
- Public Safety and Security
- Visual and Aesthetic Resources
- Air Quality
- Noise and Vibration
- Biological Resources
- Hazardous Materials
- Utilities
- Energy Resources and Greenhouse Gas Emissions
- Water Resources
- Wetland Resources
- Summary of Construction Impacts
- Regulatory and Institutional Requirements
- Cumulative and Growth-Inducing Impacts
- Irreversible Environmental Changes

### **ES 6 AREAS OF KNOWN CONTROVERSY AND ISSUES TO BE RESOLVED**

The state CEQA Guidelines Section 15123(b) requires that areas of controversy known to the lead agency and issues to be resolved be included in an EIR. These issues are addressed in the following sections.

#### **ES 6.1 AREAS OF CONTROVERSY**

A compilation of key public and agency involvement elements to obtain input in the decision process is provided in Chapter 6 of this Draft PEIR. As a result of the public scoping meetings, a number of public and agency comments identified support for, and interest in, the timely implementation of providing fast and frequent transit service from Downtown Sacramento to the Natomas and Airport areas. Other comments did not support the project and concerns expressed with respect to environmental issues typically focused on potential noise, safety, and traffic impacts, as well as on the effects of a new bridge crossing of the American River at Discovery Park.

The major areas of controversy related to the DNA project (and the section of the PEIR in which they are addressed) are:

- Property takings along the alignment (Section 4.6);
- Construction impacts – disruption of neighborhoods and businesses and traffic patterns during the construction phase (Section 4.20);
- Traffic impacts throughout alignment – impacts especially on Truxel Road and throughout South Natomas, and at station locations (Chapter 3);
- Parking spillover into communities at station locations (Chapter 3);

- Noise and vibration impacts along the rail guideway (Section 4.13);
- Visual impacts from elevated portions of the rail guideway (Section 4.11);
- Community impacts – the perceived impact of public transportation on residential neighborhoods, crime, and property values (Section 4.4);
- Biological, recreational, aesthetic, and noise impacts associated with crossing the American River (Sections 4.14, 4.9, 4.11, and 4.13, respectively); and
- Cultural resource impacts (Section 4.8).

## ES 6.2 ISSUES TO BE RESOLVED

There are a number of issues that will need to be resolved as planning and design proceed. These include the following:

- Selection of a final alignment in terms of placing the guideway in mixed-flow traffic or on a separate guideway, and in the median or along the sides of existing streets;
- All architectural details, including design of the new American River crossing;
- Integration of the project with planned developments such as the new Intermodal Terminal, Railyards, and Richards Boulevard redevelopment projects (e.g., Township 9);
- Specific operation patterns (e.g. headways);
- Specific configuration of the alignment and station location at the Airport (new Terminal B);
- Accommodation of crowds before and after events at ARCO Arena;
- Construction coordination with other transit and development projects; and
- Overall financing of future phases of the DNA project.

## ES 7 ALTERNATIVES CONSIDERED

The DNA Corridor Alternatives Analysis (AA) began in October 2001 with a comprehensive evaluation of transit alternatives in the study corridor. Results of this 2-year effort were documented in the *Downtown/Natomas/Airport Final Alternatives Analysis Report* (2004), which underwent continual review by RT staff, a Citizens Review Panel (CRP), a Technical Review Panel (TRP), the general public, and the RT Board of Directors. Based on consideration of all technical and public input provided, the RT Board of Directors approved the selection of the DNA project for further evaluation in the Draft PEIR on December 15, 2003.

Chapter 5, Alternatives, includes the alternatives chosen to be studied in the Draft PEIR for the DNA Corridor: the No-Project, TSM, I-5 Alignment, Hybrid Alignment, and Bus Rapid Transit Alternatives, as well as the I-5 and Urrutia River Crossing Alternatives.

- **No-Project Alternative.** The no-project condition consists of the existing transportation system and all of the transportation projects that are planned for in the 2006 MTP with the exception of the LRT project programmed for the DNA Corridor. Significant improvements to both the highway and transit network are included in the 2006 MTP.
- **TSM Alternative.** The TSM Alternative was developed as part of the AA process to satisfy an FTA requirement to obtain funding under FTA's New Starts program. The TSM Alternative was developed as a modified version of the fiscally constrained 2006 MTP adopted by SACOG. The TSM Alternative includes a set of lower-cost bus transit improvements serving the DNA Corridor. It also includes all other transit and highway improvements in the region that were identified in the 2006 MTP. Finally, the TSM Alternative utilizes the transit network that was created for the No-Project Alternative, with increased frequencies on some routes.
- **I-5 Alignment.** The I-5 Alternative would provide LRT service from Downtown Sacramento, along an 11.6-mile corridor through South and North Natomas along I-5 to the Airport. The alignment would be constructed parallel to I-5 in a separate right-of-way adjacent to the Caltrans right-of-way, avoiding the central areas where residential and commercial development occurs in the Corridor. Ten stations accessible to patrons with mobility impairments would be constructed as part of the I-5 Alternative. A total of 1,500 park-and-ride spaces would be provided at three stations. Seven feeder bus routes and shuttles would connect homes and businesses with LRT stations. A full LRV maintenance facility would be built near or at the northern end of the DNA line. Although it was dropped from further consideration in the 1991 Route Refinement Study, public interest in keeping a transit improvement adjacent to an existing transportation corridor convinced RT to retain this alternative.
- **Hybrid Alignment.** The Hybrid Alignment Alternative would extend LRT service from Downtown Sacramento along a 13.6-mile corridor through South and North Natomas to the Airport. This alignment avoids penetrating South Natomas by following I-5 from Downtown Sacramento to I-80; then continues east parallel to I-80; and finally north, following Truxel Road in North Natomas. Thirteen stations would be constructed as part of the Hybrid Alignment Alternative. Six of the 13 stations would provide a total of 1,880 parking spaces. Seven feeder bus routes and shuttles would connect homes and businesses with LRT stations. A full LRV maintenance facility would be built at or near the northern end of the DNA line. This alternative was developed in direct response to comments from residents living along Truxel Road in South Natomas that requested RT to examine an alternative alignment that avoided any direct impacts to their neighborhood.
- **Bus Rapid Transit.** The Bus Rapid Transit (BRT) Alternative would develop frequent, medium-capacity BRT service from Downtown Sacramento, along a 12.41 route-mile corridor through South and North Natomas to the Airport. The BRT Alternative would use a guided busway with raised curbs to guide buses through most of the Corridor. Exceptions to the guided busway concept include the BRT alignment along Richards Boulevard, which is in curbside bus lanes, and west of SR 99/70, which is in a conventional busway. The BRT Alternative would include a total of 13 stations. Seven of the 13 stations would provide a total of 1,840 park-and-ride spaces. The BRT Alternative would include 13 bus routes. Six BRT routes would provide direct connections between residences and businesses and Downtown Sacramento using the BRT alignment. Modifications to the BRT Alternative considered fewer structures and grade separations

to provide a lower-cost alternative and shorter alignment, extending from Downtown Sacramento to the Natomas Town Center. The BRT Alternative developed as a result of public interest in studying the BRT mode.

- **I-5 River Crossing.** The I-5 River Crossing design option parallels the existing I-5 bridge from Richards Boulevard to the north side of Garden Highway. This is the only crossing design option proposed to be an elevated crossing over Garden Highway, landing at grade on the north side heading east to the Garden Highway and Truxel Road intersection. The location of the I-5 River Crossing would have a direct effect on approximately 500 linear feet of the Nature Study area, removing many mature trees, and 1,500 feet of Discovery Park, which is an active recreational park. Although the bridge would parallel the existing I-5 bridge (thus consolidating bridges), it would be located approximately 100 feet from the existing I-5 bridge to accommodate the HOV lanes planned on I-5 in the 2006 MTP.
- **Urrutia River Crossing.** Under the Urrutia River Crossing design option, the LRT would continue north on North 7th Street. This crossing would require the removal of the Richards Boulevard station and the construction of a new station on North 7th Street. Once across the American River, the LRT would continue over the Urrutia private quarry and residence property, and cross to the north side of Garden Highway at grade. Approximately 60 percent of the Urrutia River Crossing would cross disturbed, abandoned, gravel-mined property. At this point, the alignment turns west to reach Truxel Road, the turning radius of which would require the acquisition of two residences and a utility substation. The approximate 2,000 feet of alignment along Garden Highway is bordered by single-family homes, condominiums, and apartments to the north, at the base of the Garden Highway levee.

## ES 8 COORDINATION AND CONSULTATION

From the onset, RT has taken a proactive and comprehensive approach in engaging both the local community and the region in the development process of the DNA Study. The public process has influenced the selection of the DNA project during each step of the alternatives screening process.

To coordinate with necessary state and local regulatory agency stakeholders, RT identified two key coordination approaches. The first approach included the identification of nearly 60 key community and businesses organizations that formed the basis of two stakeholder advisory groups. The first group, the Technical Review Panel (TRP), comprised nearly 40 representatives, and the Community Review Panel (CRP) comprised nearly 50 members. To date, the TRP has met 19 times and the CRP has met 18 times. Additionally, RT held over 110 public meetings with stakeholder groups and resource agencies to address key issues and coordination efforts related to the project.

As a result of the public involvement effort the following project issues surfaced and were incorporated into the configuration of the DNA project:

- The Alkali and Mansion Flats Historic Neighborhood Associations raised concerns about the project related to cultural, noise and vibration, traffic circulation and pedestrian access. The impacts assessment indicated that there would not be any impacts associated with their issues, which was communicated to the communities. Insofar as

pedestrian access is concerned, working closely with the community during preliminary engineering will ensure that the DNA project does not impede pedestrian access.

- The Natomas Community Association, River Oaks Community Association, Discovery Village Homeowners Association, Truxel Road Preservation Association and the River City Commons Homeowners Association raised concerns about the project and its potential impact on residents and businesses located along Truxel Road, between Garden Highway and San Juan Road. Specific issues included concerns about property values, local resident safety, traffic circulation, noise and vibration, aesthetics, property acquisition and local land use. To address the issue of property acquisition, a design option was developed that eliminated all of the residential relocations (81) for the DNA project. To address impacts on property values and safety, research was conducted and the information was provided to the concerned groups.
- Similar to the residents in South Natomas, the North Natomas Alliance and Natomas Crossing Community Association also raised concerns about the project and its potential impact on people living and working along Truxel Road and north of I-80.

### **ES 9 IMPLEMENTATION STRATEGY**

Despite strong community support for the project, the complexity and financial investment involved in building it will require RT to strategically phase the construction of the DNA project, hence the development of MOS-1. Significant development proposals in the Railyards and Richards Boulevard area are poised to begin construction, all of which anticipate light rail stations adjacent to their developments. Ideally, these projects along with the DNA line should be implemented in the same timeframe. In addition, a statewide ballot measure was approved by voters in November 2006 that will provide RT with additional funds for continuing DNA project development, but not construction.

#### **ES 9.1 OPPORTUNITIES IN THE MAKING**

Due to continued and rapid population growth, coupled with expectations for a strong, real estate market in the Sacramento Region, the City of Sacramento has been presented with several major proposed development projects within the Corridor. Listed below, each of these projects could have a very positive influence on future DNA ridership and construction funding.

##### **ES 9.1.1 Short-Term (through 2007)**

- The City of Sacramento recently acquired 15 acres of property and an existing office building along Richards Boulevard in close proximity to the proposed (and optional) Sequoia Pacific Station. The City will use the site for City offices and a new police station to serve the Richards Area. RT may potentially obtain some station parking on the City site.
- In November 2006, state voters passed Proposition 1A and 1B. Passage of this measure could result in RT receiving a significant increase in State Transit Assistance funds as well as other capital funding. Together, these funds could be used for system expansion, such as building a portion of the DNA project, the replacement of buses and to help cover RT's annual operating and maintenance costs.

- On December 11, 2007, the Sacramento City Council approved the *Railyards Redevelopment Plan*, based on a proposal submitted to the City in 2006 by Thomas Enterprises. This project will help transform the area into a vibrant new hub of much-needed downtown housing and economic activity that would be directly served by light rail. Discussions continue between RT and City staff about how redevelopment could help fund a portion of the DNA extension through this area.
- In August 2007, the Sacramento City Council approved the Township 9 development proposal, located along Richards Boulevard.
- The City of Sacramento has approved the construction of an 810,000-square-foot office complex on the northeast corner of Richards Boulevard and North 7th Street, an easy two-to-three minute walking distance from the proposed Richards Boulevard Station. A three-level parking structure would be built that could also provide some RT station parking.
- Several hundred yards further north on North 7th Street, discussions are also occurring between the owner of Continental Plaza, an existing vacant office campus, and the State of California regarding a new judicial complex to be built on this site. This proposal will include additional parking for employees that could be made available to RT for Park-and-Ride spaces.
- In the summer of 2005, the City of Sacramento circulated a Notice of Preparation of a Draft Environmental Impact Report for the proposed Greenbriar Project. Should this project proceed and be built, it will provide RT with potential system users, dedicated property for the LRT alignment and \$2.2 million in developer funds to build a new rail station and Park-and-Ride lot.

### **ES 9.1.2 Mid-Term (2008 and Beyond)**

- The Airport is experiencing sustained rapid growth and is anticipated to handle between 15 and 16 million passengers annually by 2020, a 60 percent increase over current numbers. There is significant potential to capture many on transit with a direct connection to the new Airport terminal.
- As a separate project within the Railyards area, the City of Sacramento intends to build a new Sacramento Intermodal Transportation Facility to provide efficient transit connections. Planning for this new facility is occurring simultaneously with the City of Sacramento's review of the redevelopment plan proposed by Thomas Enterprises, and both include a light rail station.

### **ES 9.2 TIMING IS KEY**

In a rapidly growing region such as Sacramento, community planning for the future is never static. As decisions are made in the region, RT will work with its planning partners and the local community to strategically implement rail service between Downtown, Natomas, and the Airport in the most efficient and cost-effective manner possible.

**Table ES 6  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>Chapter 3 Transportation</b>			
<b>TRAN-1</b> Implementation of the DNA project south of the American River would increase total regional transit demand from the estimated levels under the 2014 future no-project condition.	Beneficial Impact	No mitigation is required.	Beneficial Impact
<b>TRAN-2</b> Transit travel times for trips within the DNA Corridor and specifically to Downtown would improve under the DNA project compared to the future no-project conditions (2027) for most of the four trip interchanges analyzed.	Beneficial Impact	No mitigation is required.	Beneficial Impact
<b>TRAN-3</b> Implementation of the DNA project north of the American River would increase total regional transit demand from the estimated levels under the future no-project conditions.	Beneficial Impact	No mitigation is required.	Beneficial Impact
<b>TRAN-4</b> Richards Boulevard/I-5 southbound ramp intersection would operate at LOS "C" during the PM peak hour under future no-build conditions and would degrade to LOS "D" under the DNA project.	Potentially Significant Impact	<b>MTRAN-4:</b> The southbound approach to this intersection currently has two separate left turn lanes, a right turn lane, and a shared right turn lane. The impact could be mitigated by changing the shared right turn lane to a shared left turn lane for the southbound approach.	Less than Significant Impact
<b>TRAN-5</b> Viewed on a regional basis, the DNA project would result in a decrease in total regionwide vehicle-miles of travel compared to future no-project conditions.	Beneficial Impact	No mitigation is required.	Beneficial Impact
<b>TRAN-6</b> Under future no-project conditions, the intersection of Truxel Road and San Juan Road would operate at LOS "E" during the AM peak hour. The DNA project would increase delay and degrade traffic operations to LOS "F" conditions during the AM peak hour.	Potentially Significant Impact	<b>MTRAN-6:</b> The addition of a second westbound right turn lane plus right turn overlap phasing on all approaches would mitigate the LOS impact at this intersection under the DNA project.	Less than Significant Impact

**Table ES 6 (Cont'd)**  
**Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>TRAN-7</b> Under future no-project conditions, the intersection of Truxel Road and San Juan Road would operate at LOS "E" during the PM peak hour. The DNA project would increase delay and degrade traffic operations to LOS "F" conditions during the PM peak hour.</p>	Potentially Significant Impact	<p><b>MTRAN-7:</b> The addition of a second westbound right turn lane plus right turn overlap phasing on all approaches would mitigate the LOS impact at this intersection under the DNA project.</p>	Less than Significant Impact
<p><b>TRAN-8</b> Under future no-project conditions, this intersection would operate at LOS "E" conditions in the PM peak hour. The DNA project would increase the average vehicle delay by more than 5 seconds and result in LOS "F" conditions in the PM peak hour.</p>	Potentially Significant Impact	<p><b>MTRAN-8:</b> The 2006 MTP includes widening of Garden Highway from two to four lanes. It is assumed that when the Garden Highway is widened, a second eastbound left turn lane will be added at the intersection with Truxel Road. The additional delay due to the DNA project would cause an impact that could be mitigated by adding a westbound right turn lane on Garden Highway.</p>	Less than Significant Impact
<p><b>TRAN-9</b> Under future no-project conditions, this intersection would operate at LOS "C" during the AM peak hour. The DNA project would increase delay and degrade traffic operations to LOS "D" or "E" conditions during the AM peak hour.</p>	Potentially Significant Impact	<p><b>MTRAN-9:</b> Provide a "free" right turn lane for northbound traffic by widening Gateway Park Boulevard (along its southeast side, east of Truxel Road) so that northbound right turns can turn into their own lane and travel a couple hundred feet before this added "receiving" lane tapers and vehicles must merge with through traffic on Gateway Park Boulevard.</p>	Less than Significant Impact
<p><b>TRAN-10</b> Under future no-project conditions, this intersection would operate at LOS "D" during the PM peak hour. The DNA project would increase the average vehicle delay by more than 5 seconds and result in LOS "E" condition during the PM peak hour.</p>	Potentially Significant Impact	<p><b>MTRAN-10:</b> Provide a "free" right turn lane for northbound traffic by widening Gateway Park Boulevard (along its southeast side, east of Truxel Road) so that northbound right turns can turn into their own lane and travel a couple hundred feet before this added "receiving" lane tapers and vehicles must merge with through traffic on Gateway Park Boulevard.</p>	Less than Significant Impact
<p><b>TRAN-11</b> Under future no-project conditions, this intersection would operate at LOS "C" during the AM peak hour. The DNA project would increase delay and degrade traffic operations to LOS "D" conditions during the AM peak hour.</p>	Potentially Significant Impact	<p><b>MTRAN-11:</b> A right turn overlap phasing on the southbound and eastbound approaches would mitigate the LOS impact at this intersection.</p>	Less than Significant Impact

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>TRAN-12</b> Under future no-project conditions, this intersection would operate at LOS "C" during the AM peak hour. The DNA project would increase delay and degrade traffic operations to LOS "D" conditions during the AM peak hour.</p>	<p>Potentially Significant Impact</p>	<p><b>MTRAN-12:</b> The LOS impact could be mitigated by providing a "free" right turn lane for southbound traffic merging into Del Paso Road.</p>	<p>Less than Significant Impact</p>
<p><b>TRAN-13</b> Under future no-project conditions, this intersection would operate at LOS "D" during the PM peak hour. The DNA project would increase the average vehicle delay by more than 5 seconds and result in LOS "E" conditions during the PM peak hour.</p>	<p>Potentially Significant Impact</p>	<p><b>MTRAN-13:</b> A right turn overlap phasing on the northbound approach would mitigate the LOS impact at this intersection.</p>	<p>Less than Significant Impact</p>
<p><b>TRAN-14</b> Under future no-project conditions, this intersection would operate at LOS "D" during the AM peak hour. The DNA project would increase delay and degrade traffic operations to LOS "E" conditions during the AM peak hour.</p>	<p>Potentially Significant Impact</p>	<p><b>MTRAN-14:</b> The southbound approach to this intersection currently has a separate left turn lane. The LOS impact could be mitigated by changing the separate left turn lane to a shared left lane for the southbound approach.</p>	<p>Less than Significant Impact</p>
<p><b>TRAN-15</b> Under future no-project conditions, this intersection would operate at LOS "C" during the PM peak hour. The DNA project would increase delay and degrade traffic operations to LOS "D" conditions during the PM peak hour.</p>	<p>Potentially Significant Impact</p>	<p><b>MTRAN-15:</b> The LOS impact of the DNA project could be mitigated by adding a westbound through lane on Gateway.</p>	<p>Less than Significant Impact</p>
<p><b>TRAN-16</b> The placement of light rail tracks may impact access to local streets or driveways in some portions of the DNA Corridor by eliminating median left-turn access at some local intersections and driveways along Truxel Road in South Natomas.</p>	<p>Potentially Significant Impact</p>	<p><b>MTRAN-16:</b> The mixed-flow design for Truxel Road in South Natomas would minimize these impacts but would still impact two or three local intersections, as well as driveways at 14 single-family residences.</p>	<p>Significant Impact</p>

**Table ES 6 (Cont'd)**  
**Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>TRAN-17</b> There is the potential for transit passengers to park long-term on local streets in the vicinity of any station.	Potentially Significant Impact	<b>MTRAN-17:</b> RT will coordinate with the City and the community to develop a parking monitoring program in order to best resolve potential overflow parking due to RT facilities. The potentially significant impact of long-term parking by transit users either on-street or at commercial sites could be mitigated by monitoring parking near transit stops and if substantial parking impacts occur, work with City of Sacramento to implement a parking program. Such a program could involve parking enforcement, parking time limits and/or permit parking.	Less than Significant Impact
<b>Chapter 4. Environmental Setting and Environmental Consequences</b>			
<b>4.2 Land Use</b>			
<b>LU-1</b> The DNA project is reflected in all planning documents and approved transportation maps concerning the project area south of the American River. Implementation of the DNA project would support the objectives of the Railyards and Richards Boulevard redevelopment plans.	Beneficial Impact	No mitigation is required.	Beneficial Impact
<b>LU-2</b> The Park-and-Ride lot in the Richards Boulevard redevelopment area would be used until the project is extended into Natomas and there is no longer a need for a Park-and-Ride in this area. This temporary parking use would be inconsistent with the <i>Richards Boulevard Redevelopment Plan</i> to encourage a low parking ratio in full build-out.	Less than Significant Impact	No mitigation is required.	Less than Significant Impact
<b>LU-3</b> The DNA project could be inconsistent with the current agricultural land use designation of Greenbriar.	Less than Significant Impact	No mitigation is required.	Less than Significant Impact

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>4.3 Farmlands</b>			
<p><b>FARM-1</b> The DNA project would require a 40-foot-wide, 1-mile-long section of right-of-way on the Greenbriar property. This area is almost entirely Prime Farmland; however, it is currently being considered for a large residential development. The DNA project would require a total of 7.40-acres, which includes areas for the trackway, a station, a small Park-and-Ride, and access.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required.</p>	<p>Less than Significant Impact</p>
<b>4.4 Community Impacts</b>			
<p><b>COM-1</b> Overflow parking at the Park-and-Ride lot could cause an increased demand on already limited on-street parking in the area. The potential for illegal parking could occur if demand greatly exceeds supply.</p>	<p>Potentially Significant Impact</p>	<p><b>MCOM-1:</b> A parking management program will address overflow and potential illegal parking issues at stations with and without Park-and-Rides. The management program will include measures such as assisting residents with their requests for obtaining residential parking permits and metered parking from the City of Sacramento to discourage Park-and-Ride users from day-long on-street parking. In addition, RT will establish a community outreach plan that will involve charrettes to gather input on the design of stations and Park-and-Rides.</p>	<p>Less than Significant Impact</p>
<p><b>COM-2</b> Construction activities would last up to three years with substantial work to the roads in the Richards neighborhood and the Alkali Flat neighborhood. This would temporarily cause a direct access disturbance to the Richards neighborhood and an indirect access disturbance to the Alkali Flat neighborhood.</p>	<p>Potentially Significant Impact</p>	<p><b>MCOM-2:</b> Access management plans will be prepared to address access concerns during construction for neighborhood and business access, and bicyclist and pedestrian circulation. Alternative routes will be identified to maintain safe and continued access. All plans must be reviewed by affected entities such as the City, County, and Caltrans when constructing within their right-of-way. The plan will include at a minimum the following components: signage for advance notice of construction activities and detour routes, communications list, communication methods and frequency, and coordination with business and residential task forces within the Corridor.</p>	<p>Significant Impact</p>

**Table ES 6 (Cont'd)**  
**Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>COM-3</b> The station at San Juan Road is expected to be located on the Natomas High School grounds or the median of Truxel Road. Either location will require property from the High School. The baseball fields at the school could be relocated by the station.</p>	Potentially Significant Impact	<p><b>MCOM-3:</b> The station at San Juan Road is expected to be located on the Natomas High School grounds or the median of Truxel Road. Either position will require property from the High School. During preliminary engineering, further design refinement will investigate how to avoid the High School baseball fields. If the impact can not be avoided, the baseball fields affected by the project would be relocated to replace the existing facility.</p>	Less than Significant Impact
<b>4.5 Socioeconomic and Fiscal Impacts</b>			
<p><b>SOC-1</b> The DNA project could result in the loss from the public tax rolls of up to \$138,698 per year.</p>	Less than Significant Impact	No mitigation is required.	Less than Significant Impact
<p><b>SOC-3</b> Implementation of the DNA project could require up to 20 business relocations. These businesses are estimated to represent up to as many as 165 relocated jobs.</p>	Less than Significant Impact	No mitigation is required.	Less than Significant Impact
<p><b>SOC-3</b> Construction of the DNA project would have direct effects on local businesses. With implementation of the project, RT would be required to provide access to local businesses during construction. However, the presence of construction activities would temporarily inconvenience shoppers and affect businesses along the alignments.</p>	Potentially Significant Impact	<p><b>MSOC-1:</b> Mitigation for business access issues will include the following:</p> <ul style="list-style-type: none"> <li>• Develop an Access Management Plan during construction</li> <li>• Provide signage to direct business patrons during construction</li> <li>• Conduct night construction to accelerate construction in critical areas</li> <li>• Provide temporary access during normal business hours</li> </ul>	Less than Significant Impact
<b>4.6 Property Acquisition and Displacement</b>			
<p><b>PROP-1</b> Partial property acquisitions would be required for additional right-of-way in the Richards Boulevard area.</p>	Less than Significant Impact	No mitigation is required beyond those listed below for full acquisitions.	Less than Significant Impact

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>PROP-2</b> Full property acquisitions would be required for the additional right of way associated with the bridge crossing and the Park-and-Ride lot at West El Camino Avenue and Truxel Road. Implementation of the DNA project north of the American River could require up to 23 business relocations and up to 3 residential relocations.</p>	<p>Potentially Significant Impact</p>	<p>MPROP-2: In addition to compliance with federal (Uniform Relocation Act), state, and RT policies, RT will adhere to the following mitigation measures:</p> <ul style="list-style-type: none"> <li>RT shall minimize the time between right-of-way acquisition and project construction. If right-of-way acquisition precedes project construction by more than two years, RT shall prepare and implement a vegetation management plan that prescribes a mowing schedule that minimizes fire risk and nuisance use of the property and allows for interim use of the property (e.g., for parking or community gardens) subject to specific approval by the RT Board of Directors.</li> <li>RT will provide relocation assistance counseling, advertising to assist with redirecting business clientele, and assistance in redirecting employment opportunities.</li> </ul>	<p>Less than Significant Impact</p>
<p><b>PROP-3</b> Construction of a maintenance facility within the industrial zone at Metro Air Park is being considered and would require acquisition of 15.5-acres of private property.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required.</p>	<p>Less than Significant Impact</p>
<p><b>4.7 Environmental Justice</b></p>			
<p><b>EJ-1</b> All 20 business relocations required for the DNA project north of the American River serve neighborhoods that are greater than 50 percent minority. Because 100 percent of the business relocations are within, or service, a minority community, this is considered a disproportionate direct impact.</p>	<p>Potentially Significant Impact</p>	<p>For a discussion of mitigation measures applicable to property acquisition and relocation refer to Section 4.6, Property Acquisition and Relocation.</p>	<p>Less than Significant Impact</p>
<p><b>4.8 Cultural Resources</b></p>			
<p><b>CUL-1</b> Indirect effects on the Sacramento Valley Station</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required.</p>	<p>Less than Significant Impact</p>

**Table ES 6 (Cont'd)**  
**Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>CUL-2</b> Indirect effects on the Southern Pacific Railyards Historic District	Less than Significant Impact	No mitigation is required.	Less than Significant Impact
<b>CUL-3</b> Indirect effects on the Alkali Flat (West)	Less than Significant Impact	No mitigation is required.	Less than Significant Impact
<b>CUL-4</b> Change in setting for historic Alkali Flat properties on 7th Street	Less than Significant Impact	No mitigation is required.	Less than Significant Impact
<b>CUL-5</b> Construction of the Richards Boulevard station may require the removal of a portion of the Bercut-Richards Cannery, which is listed in the Sacramento Register of Historic Places.	Potentially Significant Impact	<b>MCUL-5:</b> Mitigation would be required for the removal of a portion of the Bercut-Richards Cannery. Mitigation shall include Historic American Buildings Survey (HABS) Level II documentation on the Cannery complex, the loft building, the original machinery used to circulate cans, as well as the other auxiliary buildings associated with the canning operation. The completed HABS documentation will be housed at Sacramento Development Services Department, Sacramento Public Library and the California State Library. Mitigation measures for demolition of the Cannery shall be coordinated with the local preservation office and the SHPO. These measures shall be carried out in accordance with a Programmatic Agreement to be adopted by all parties.	Less than Significant Impact

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>CUL-6</b> Construction of the DNA project would require disturbance of soils. Because unknown Native American and historical cultural resources may be present within subsurface soils, construction activities could cause the disturbance of these resources.</p>	<p>Potentially Significant Impact</p>	<p><b>MCUL-6:</b> RT shall require the construction contractor to adhere to the following requirement by placing this text in the project’s construction specifications: “If archeological or cultural resources are discovered during the work, the contractor shall cease all construction operations in the vicinity of the discovery until a qualified archeologist can assess the value of these resources and make recommendations to the State Historic Preservation Officer.”</p> <p>Archeological and cultural resources include artifacts; large amounts of bone, shell, or flaked stone; and other evidence of human activity. If the State Historic Preservation Officer directs that work be temporarily ceased at the location of an archeological or cultural find, the contractor shall temporarily suspend work at the location. All remedial actions recommended by the archeologist following a discovery will be followed.</p>	<p>Less than Significant Impact</p>
<p><b>CUL-7</b> Construction of the Truxel Road river crossing has the potential to impact prehistoric site CA-SAC-26; the project right-of-way would pass near the site boundary.</p>	<p>Potentially Significant Impact</p>	<p><b>MCUL-7:</b> RT shall implement the following mitigation measures:</p> <ul style="list-style-type: none"> <li>• Monitoring by a qualified archaeologist during construction activity affecting previously undisturbed soils.</li> <li>• Coordination with the Native American community for construction monitoring in sensitive areas.</li> <li>• Installation of proper fencing, signage, and site security to prevent adverse effects or vandalism to sensitive areas.</li> </ul>	<p>Less than Significant Impact</p>
<p><b>CUL-8</b> The DNA study area lies in part within the boundaries of the RD 1000 RHL D and would cross several identified RHL D features (e.g., San Juan Road, East Drainage Canal).</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required.</p>	<p>Less than Significant Impact</p>

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>4.9 Parklands</b>			
<p><b>PARK-1</b> Construction of the river crossing for the DNA project would bisect the American River Parkway and directly affect Discovery Park. Construction of the American River Crossing would affect approximately 10-acres of park property. It is assumed that the contractor would access the site from the Garden Highway and through Discovery Park. Park users would be temporarily affected by construction activities, including the movement of heavy equipment on park roads, restricted access, and temporary closure of some park properties, noise, dust, and other inconveniences. The construction activities also would degrade the visual character of the park and disrupt passive activities such as bird watching, hiking, jogging, and use of the archery range. Joggers, walkers, and bicyclists would need to be rerouted safely around the construction site.</p>	<p>Potentially Significant Impact</p>	<p><b>MPARK-1:</b> Mitigation of construction impacts on the American River Parkway and Discovery Park shall include:</p> <p>Design Phase</p> <ul style="list-style-type: none"> <li>• Sponsor public design workshops with affected stakeholders and interested members of the public during preliminary engineering (PE) to encourage context-sensitive bridge and transit station area design.                             <ul style="list-style-type: none"> <li>– Define the alignment during PE with the goal of minimizing impacts on sensitive areas and limiting allowable construction easements.</li> <li>– Coordinate with resource agencies to identify and provide protection of important habitats.</li> <li>– Develop a Master Planting Plan to minimize the visual impacts of the alternative.</li> </ul> </li> </ul> <p>Temporary/Construction Phase</p> <ul style="list-style-type: none"> <li>• In coordination with Sacramento County Department of Regional Parks, Recreation, and Open Space personnel, prepare a plan defining public safety measures to be implemented during project construction activities within Discovery Park. The plan should include, at a minimum, the following provisions or should provide measures that would accomplish the objectives of the following provisions:                             <ul style="list-style-type: none"> <li>– Secure project construction sites e.g., installing security fencing surrounding the staging area, jacking pit areas and open trenches) to prohibit public access at the end of each workday</li> <li>– Provide security personnel to prohibit public access to the construction areas within the park when the park is open to the public</li> </ul> </li> </ul>	<p>Less than Significant Impact</p>

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>PARK-1 (cont'd)</b></p>		<ul style="list-style-type: none"> <li>- Provide security lighting at staging areas, open trenches, and other excavations during non-daylight hours</li> <li>- Store all fuels, chemicals, solvents, or other fluids used during project construction within the secured construction areas</li> <li>- Contain and properly dispose of any spilled materials; prohibit public access to areas contaminated by spilled materials that may pose a potential health hazard.</li> <li>- Post warning signs in suitable locations within the park, at the staging area, and at the jacking pit areas to alert park users</li> <li>- Install public information sign(s) at suitable locations describing the project and its purpose, upcoming project construction activities, and the expected duration of construction activities</li> <li>- Distribute a public information sheet that describes the project and construction activities to all park users as they enter the park from Garden Highway</li> <li>• In coordination with Sacramento County Department of Regional Parks, Recreation, and Open Space personnel, prepare a traffic and access management plan that includes the following provisions:             <ul style="list-style-type: none"> <li>- Provide at least one open lane for traffic passing through the construction sites or provide a posted detour route around the project construction site</li> <li>- Provide personnel to direct traffic along the park roadways that are used jointly by construction crews and the public, along open roadways adjacent to the jacking pit areas, and at the staging area</li> <li>- Implement traffic protocols and travel routes for all project construction trucks, vehicles, and equipment, including measures for ingress, egress, turning, and back-up movements</li> <li>- Limit construction-related travel through the park to a minimum number of designated park roadways</li> <li>- Post signs along the designated park roadways indicating their use as construction routes</li> </ul> </li> </ul>	

**Table ES 6 (Cont'd)**  
**Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>PARK-1 (cont'd)</b>		<ul style="list-style-type: none"> <li>- Maintain public access to Discovery Park from Garden Highway, consistent with current park policies</li> <li>- Post construction vehicle speed limit signs on roadways at suitable locations within the park</li> <li>- Maintain temporary access for bicycle and pedestrian trails throughout the duration of construction</li> <li>• Implement best management practices during construction to control erosion (refer to Section 4.18, Water Resources), protect cultural resources (refer to Section 4.8, Cultural Resources), minimize visual degradation (refer to Section 4.11, Visual and Aesthetic Resources), and assure prompt revegetation (refer to Section 4.14, Biological Resources)</li> </ul>	
<b>PARK-2</b> The operation of the DNA project would require that 1.8-acres of parkland be dedicated as permanent transit right-of-way.	Potentially Significant Impact	<b>MPARK-2:</b> The permanent parkland acquired for transit uses shall be replaced by recreation property of equal or greater value and usefulness.	Less than Significant Impact
<b>PARK-3</b> The proposed station at the South Natomas Community Center may impact 0.05-acre of landscaping at the community center and 0.05-acre of landscaping from six residences along Truxel Road.	Potentially Significant Impact	<b>MPARK-3:</b> The 0.05 acres of parkland acquired for the proposed station shall be replaced by recreation property of equal or greater value and usefulness.	Less than Significant Impact
<b>PARK-4</b> Construction effect (noise, dust, etc.) on the users of the future High School park site.	Less than Significant Impact	No mitigation is required.	Less than Significant Impact
<b>PARK-5</b> Construction effect (noise, dust, etc) on the users of the North Natomas Regional Park site.	Less than Significant Impact	No mitigation is required.	Less than Significant Impact
<b>PARK-6</b> Construction effect (noise, dust, etc) on the users of the 8A park site.	Less than Significant Impact	No mitigation is required.	Less than Significant Impact

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>4.10 Public Safety and Security</b>			
<p><b>SS-1</b> Implementation of the DNA project south of the American River would require construction of four light rail stations. Passengers would congregate at station platforms and at any parking area provided near the end-of-line station at Richards Boulevard, providing an opportunity for crime</p>	<p>Less than Significant Impact</p>	<p><b>MSS-1:</b> RT shall continue to evaluate transit police staffing needs and hire proportionate to the increase in transit service. RT will continue to include police and safety management personnel as participants in the design of the light rail stations.</p> <p>To increase public safety and security, RT will implement applicable guidelines from the American Public Transit Association <i>Rail Safety Audit Program Manual</i> (1990) and the federal <i>Public Transportation System Security and Emergency Preparedness Planning Guide</i> (2003).</p>	<p>Less than Significant Impact</p>
<p><b>SS-2</b> The addition of at-grade crossings increases the risk of accidents between light rail vehicles and automobiles. As configured, the DNA project includes 39 at-grade crossings, which represent an increased potential for accidents.</p> <p>A second potential accident risk is represented by mixed-flow operation where the LRT would operate in the same travel lane as automobiles for approximately 2 miles on Truxel Road.</p>	<p>Potentially Significant Impact</p>	<p><b>MSS-2:</b> RT will implement traffic control measures, such as</p> <ul style="list-style-type: none"> <li>• Monitoring Traffic signal coordination</li> <li>• Improved sight distances</li> <li>• “No left turn” warning devices</li> <li>• Advance warning signs</li> <li>• Four-quadrant gate system</li> <li>• Adequate gate arm length</li> </ul>	<p>Significant Impact</p>
<p><b>SS-3</b> The DNA project would pass near or at Natomas High School and Inderkum High School. The design, per CPUC regulations, will include protective fencing and security personnel that would prevent children from accessing station locations near schools in an unsafe manner, or from entering maintenance facilities and construction sites. The project would not disproportionately expose children to health and safety risks</p>	<p>Potentially Significant Impact</p>	<p><b>MSS-3:</b> RT shall implement the following:</p> <ul style="list-style-type: none"> <li>• RT will involve the Natomas Unified School District with respect to station design and pedestrian crossings anyplace that children will have to cross the rail line to get to school.</li> <li>• RT will participate with the Natomas Unified School District to provide school crossing guards as deemed necessary around at-grade crossings within school zones.</li> <li>• RT will work with the Natomas Unified School District to provide safety education for school children.</li> </ul>	<p>Less than Significant Impact</p>

**Table ES 6 (Cont'd)**  
**Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>4.11 Visual and Aesthetic Resources</b>			
<b>VIS-1</b> Visual intrusion into historic areas	Potentially Significant Impact	<b>MVIS-1:</b> RT shall consult with the City of Sacramento's Historic Preservation Specialist so that light rail, which is included at the Sacramento Valley Station, reflects the historic integrity of the building and its uses.	Less than Significant Impact
<b>VIS-2</b> Impacts to visual and aesthetic resources that would result from overhead catenary	Potentially Significant Impact	<b>MVIS-2:</b> Where possible, overhead catenary systems shall be designed to be compatible with the adjacent community appearance.	Significant Impact
<b>VIS-3</b> Impacts to visual and aesthetic resources that would result from aerial flyovers and grade separations	Potentially Significant Impact	<b>MVIS-3:</b> Aerials located at the American River, I-80, and SR 99 shall match existing bridge profiles, employ graffiti-resistant surfaces, and incorporate plantings, where possible, to soften the structure.	Significant Impact
<b>VIS-4</b> Impacts to visual and aesthetic resources that would result from street widening or sections of new right-of-way	Potentially Significant Impact	<b>MVIS-4:</b> Where the alignment results in residential or business property relocations and widening of the "street footprint," and when portions of the property acquisition allow, a tree-lined walkway shall be incorporated to provide additional visual enhancement for pedestrians accessing the station and nearby destinations. This treatment shall emphasize the replacement of any landscaping that was removed in order to soften urban structures and blend in with the local community. Design input may address the use of sound walls, tree and ground cover, and/or short shrub vegetation where appropriate.	Less than Significant Impact
<b>VIS-5</b> Impacts to visual and aesthetic resources that would result from station locations and new Park-and-Ride lots	Potentially Significant Impact	<b>MVIS-5:</b> Stations and Park-and-Ride lots shall be designed to integrate into the landscape and be consistent with site-specific design guidelines. If the Park-and-Ride stations cannot be shared with other existing or planned facilities, then the parking lots shall adhere to local parking ordinances regarding shade, landscaping, lighting, and visibility. Lights at the stations and lots shall be directional and shielded to reduce offsite light scatter and glare.	Less than Significant Impact

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>VIS-6</b> Impacts to visual and aesthetic resources that would result from maintenance and train storage facilities/substations</p>	<p>Potentially Significant Impact</p>	<p><b>MVIS-6:</b> The maintenance and train storage facilities/substations shall be screened from view with architecturally appropriate fencing, depending on the adjacent land use. Lights shall be directional and shielded, and timers and sensors shall be used to minimize the time that lights are on in areas where lighting is not normally needed for safety, security, or operation. Landscaping, including fast-growing species, shall be planted for further screening. Architecture shall reflect a rural or suburban commercial style where appropriate.</p>	<p>Less than Significant Impact</p>
<p><b>VIS-7</b> Impacts to visual and aesthetic resources that would result from construction activities and staging areas</p>	<p>Potentially Significant Impact</p>	<p><b>MVIS-7:</b> Construction material staging areas shall be fenced and screened. After project construction, the ground surfaces shall be restored to their original condition, and any vegetation that had been removed during the construction process shall be replaced with like-kind vegetation.</p>	<p>Less than Significant Impact</p>
<p><b>4.12 Air Quality</b></p>			
<p><b>AQ-1</b> Construction of the DNA project could be expected to result in air quality degradation due to fugitive dust and emissions from construction equipment.</p>	<p>Potentially Significant Impact</p>	<p><b>MAQ-1:</b> The project shall provide a plan to the SMAQMD demonstrating that the heavy-duty (&gt;50 horsepower) off-road vehicles to be used in the construction project will achieve a project-wide fleet average 20 percent NO<sub>x</sub> reduction and 45 percent particulate reduction compared to the most recent ARB fleet average at time of construction.</p> <p>The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour.</p> <ul style="list-style-type: none"> <li>• The project shall ensure that active grading and parking areas are watered at least twice daily.</li> <li>• The project shall ensure that exposed stockpiles are enclosed, covered, watered twice daily.</li> <li>• The project shall ensure that all trucks hauling dirt, sand, silt, or other loose materials are covered or maintain at least two feet of freeboard.</li> </ul>	<p>Less than Significant Impact</p>

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
AQ-1 (cont'd)		<p>In addition to the SMAQMD recommendations, the following mitigation measures will also mitigate the short-term impacts from construction equipment exhaust:</p> <p><b>Equipment</b></p> <p>The project shall include the following as part of the construction mitigation measures:</p> <ul style="list-style-type: none"> <li>• Use ultra-low sulfur fuel (<math>\leq 15</math> ppm) at an incremental cost of \$0.20 to \$0.50 per gallon. Locations where this fuel is available in California are available at: <a href="http://ecdiesel.com/business/locator">http://ecdiesel.com/business/locator</a>.</li> <li>• Establish idling limit (e.g., 5 minutes per hour).</li> <li>• The equipment will be tuned to manufacturers' specifications at the manufacturers' recommended frequency.</li> <li>• Any tampering with engines will be prohibited and continuing adherence to manufacturer's recommendations will be required.</li> </ul> <p><b>Work Limitations</b></p> <ul style="list-style-type: none"> <li>• No more than two pieces of equipment will be used simultaneously near or upwind from sensitive receptors.</li> <li>• Additional emissions limits will be established within 1,000 feet of any K-12 school, based on ARB proposals.</li> <li>• Notification will be provided to all schools within 1,000 feet of a construction site.</li> <li>• Truck trips will be reduced and/or hours of driving will be restricted through residential communities.</li> </ul> <p><b>Administrative</b></p> <ul style="list-style-type: none"> <li>• Receipts of ultra-low sulfur fuel purchase and equipment tuning/repair will be kept and made available upon request.</li> <li>• The Contractor's Project Manager will conduct spot checks for compliance with committed measures.</li> </ul>	

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>AQ-2</b> Local air quality impacts due to operation – particulates	Less than Significant Impact	No mitigation is required.	Less than Significant Impact
<b>AQ-3</b> Local air quality impacts due to operation – carbon monoxide	Less than Significant Impact	No mitigation is required.	Less than Significant Impact
<b>4.13 Noise and Vibration</b>			
<b>NO-1</b> No residences would be affected by operational noise above threshold levels with implementation of the DNA project south of the American River.	Less than Significant Impact	<p><b>MNO-1:</b> Despite the finding that noise impacts would be limited to some areas within the American River Parkway, the following noise control measures will be implemented to ensure that noise levels during operation will not exceed the calculated levels:</p> <ul style="list-style-type: none"> <li>• At locations where the project would include an aerial guideway, the use of side-walls is an example of a technique that may be used to effectively mitigate the noise effects of the project.</li> <li>• At locations along the alignment where there are tight-turn radii in the tracks, wheel squeal may become a source of noise complaints. To avoid wheel squeals, it is recommended that the track turn radius be kept above 1,000 feet at all locations. If this is not possible, then rail lubrication on sharp turns will reduce or minimize squeals.</li> <li>• As rails wear, both noise levels may increase. Grind down or replace worn rail to maintain initial operating levels of noise and vibration. Also, wheel truing, the grinding down of flat spots on the rails' wheels that occur due to braking, will reduce noise and vibration effects. Overall vehicle maintenance will help reduce the likelihood of increased noise and vibration.</li> </ul> <p>Details of noise control measures will be evaluated during the final design stage of the project.</p>	Less than Significant Impact

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>NO-2</b> Construction would result in temporary noise impacts along developed portions of the DNA Corridor.</p>	<p>Potentially Significant Impact</p>	<p><b>MNO-2:</b> Mitigation during construction will include the following:</p> <ul style="list-style-type: none"> <li>• Use noise control devices, such as equipment mufflers, enclosures, and barriers. Natural and artificial barriers such as ground elevation and existing buildings can shield construction noise. Staging areas should be kept as far from sensitive noise receptors as possible. Construct noise barriers, such as temporary walls or piles of excavated material, between noisy activities and noise-sensitive receivers.</li> <li>• Avoid residential areas when planning haul truck routes.</li> <li>• Replace noisy equipment with quieter equipment, such as a vibratory pile driver instead of a conventional pile driver, enclosed air compressors, and mufflers on all engines.</li> <li>• Adjust construction timing or sequence to stage to avoid sensitive times of the day. Combine noisy operations so they occur in the same time period. The total noise level produced will not be significantly greater than the level produced if the operations were performed separately.</li> <li>• Prepare a Noise Control Plan that outlines allowable day and nighttime uses, projected noise levels and locations and types of noise abatement measures that may be required to meet specified noise limits.</li> <li>• Avoid impact pile driving where possible in noise-sensitive areas. Drilled piles or the use of a sonic or vibratory pile driver are more quiet alternatives where the geological conditions permit their use.</li> <li>• Select more quiet demolition methods, where possible. For example, sawing bridge decks into sections that can be loaded onto trucks results in lower cumulative noise levels than impact demolition by pavement breakers.</li> </ul>	<p>Significant Impact</p>

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>VB-1</b> Vibration resulting from the implementation of the DNA project south of the American River would not affect sensitive land uses in Downtown or along Richards Boulevard; all predicted vibration levels are below the impact criteria.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required for any alternative.</p>	<p>Less than Significant Impact</p>
<p><b>VB-2</b> Construction of the DNA project is anticipated to result in temporary vibration impacts in developed areas along the alignment. This would affect residents along 7th Street, in South Natomas and in North Natomas. The 2,600 residents located within 100 feet of the alignment would potentially be the most affected.</p>	<p>Potentially Significant Impact</p>	<p><b>MVB-2:</b> Construction mitigation for vibration is similar to mitigation for noise impacts. Construction vibration mitigation will be evaluated and refined during the preliminary engineering phase. The following are general approaches to mitigating vibration during construction:</p> <ul style="list-style-type: none"> <li>• Emphasis on avoiding vibration-intensive equipment such as pile driving, where possible, in vibration-sensitive areas. Drilled piles or the use of sonic or vibratory pile drivers cause lower vibration levels where the geological conditions permit their use.</li> <li>• Demolition methods that do not involve impacts should be selected where possible. For example, sawing bridge decks into sections that can be loaded onto trucks results in lower vibration levels than impact demolition by pavement breakers, and milling generates lower vibration levels than excavation using clam shell or chisel drops.</li> </ul> <p>Construction vibration mitigation will be better defined at preliminary engineering.</p>	<p>Significant Impact</p>

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>4.14 Biological Resources</b>			
<p><b>BIO-1</b> Riparian vegetation would be adversely affected by direct removal of vegetation and by inhibition of tree regeneration due to shading and obstruction by the elevated guideway.</p>	<p>Potentially Significant Impact</p>	<p><b>MBIO-1:</b> To minimize impacts associated with the loss of riparian forest and willow-cottonwood scrub, including habitat fragmentation, RT shall implement the following measures:</p> <ul style="list-style-type: none"> <li>• Route the DNA project to avoid as much riparian forest and willow-cottonwood scrub as possible. Staging areas shall be sited in previously disturbed areas of the parkway. During construction, equipment and vehicles shall remain away from tree drip-lines and be restricted to as small an area as necessary to complete the work. As directed by the biological monitor, the construction limits shall be fenced to minimize damage to riparian vegetation.</li> <li>• Minimize the width of the maintenance right-of-way under the guideway.</li> <li>• Compensate for the permanent loss of riparian forest within the LRT right-of-way through restoration of riparian forest at a suitable site within the American River Parkway. The mitigation goal will be to restore the functional values, habitat connectivity, and density of mature, riparian forest in the Lower American River to that of current conditions. Several areas are available for this restoration effort, but a specific site has not been identified at this time. Candidate sites include: (1) the Urrutia property – 120-acres in total - which could be acquired with funding support from RT, and (2) other nearby sites designated as “Category 2” restoration sites (suitable for riparian habitat restoration) in the Lower American River Task Force’s Lower American River Corridor Management Plan.</li> <li>• Replant riparian tree species, such as Valley Oak, Fremont Cottonwood, and Oregon Ash within the construction zone as close as feasible to the elevated guideway.</li> <li>• Restore willow-cottonwood habitat adjacent to the right-of-way in areas where it is disturbed by construction activities.</li> </ul>	<p>Significant Impact</p>

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>BIO-1 (cont'd)</b>		<ul style="list-style-type: none"> <li>All plantings and subsequent monitoring shall be designed by a riparian ecologist experienced in riparian habitat restoration as part of the management and monitoring plan.</li> </ul>	
<b>BIO-2</b> The temporary disturbance of about 2-acres of ruderal/grassland habitats along the American River Crossing would reduce the amount of foraging habitat for Swainson's hawk and other raptors during construction.	Less than Significant Impact	No mitigation is required.	Less than Significant Impact
<b>BIO-3</b> Construction activities during the nesting season could disturb nesting Swainson's hawks, causing them to abandon occupied nests.	Potentially Significant Impact	<b>MBIO-3:</b> Construction near raptor nests shall be avoided during the raptor nesting season in accordance with the following guidelines or in accordance with other applicable guidelines published by CDFG. If breeding Swainson's hawks (e.g., individuals exhibiting nest building or nesting behavior) are identified, no new disturbance (e.g., heavy equipment operation associated with construction) shall occur within 0.5 mile of an active nest site between March 15 and September 15 or until a qualified biologist, with concurrence of the CDFG, has determined that the young have fledged or that the nest is no longer occupied. If construction or other project-related activities that could cause nest abandonment or forced fledging are proposed within the buffer zone, monitoring (funded by the project sponsor) by a CDFG-approved raptor biologist will be required.	Less than Significant Impact

**Table ES 6 (Cont'd)**  
**Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>BIO-4</b>            The study area does not include designated critical habitat for the beetle, but elderberry bushes may be adversely affected by the American River Crossing. The loss of elderberry shrubs is considered a “take” of valley elderberry longhorn beetles under the federal Endangered Species Act.</p>	<p>Potentially Significant Impact</p>	<p><b>MBIO-4:</b> The loss of elderberry shrubs is considered a “take” of the Valley Elderberry Longhorn Beetle under the Federal Endangered Species Act. RT shall implement the following mitigation measures to avoid and minimize impacts to VELB:</p> <ul style="list-style-type: none"> <li>• To the maximum extent practicable, the project shall be designed to avoid stands of elderberry shrubs and to avoid isolation of elderberry plants.</li> <li>• Pre-construction surveys at the construction site shall be conducted to assess the need for mitigation and compliance with the conditions of the USFWS <i>Conservation Guidelines for the Valley Elderberry Longhorn Beetle</i> (USFWS, 1999).</li> <li>• Compensatory habitat will be created in the American River Parkway to mitigate for take of valley elderberry longhorn beetles resulting from unavoidable loss of elderberry shrubs. A suitable site will be identified during early consultation with the USFWS.</li> </ul>	<p>Less than Significant Impact</p>
<p><b>BIO-5</b>            Potentially suitable habitat for the giant garter snake is present in and along Bannon Slough. Loss or degradation of habitat used by the giant garter snake for foraging, basking, or winter burrows could result in take of the species.</p>	<p>Potentially Significant Impact</p>	<p><b>MBIO-5:</b> To avoid and minimize the loss of potential Giant Garter Snake habitat associated with Bannon Slough and rice fields, canals/drains and adjacent uplands associated with undeveloped land in North Natomas, RT shall implement the following mitigation measures:</p> <ul style="list-style-type: none"> <li>• To the maximum extent possible, guideway piers shall not be placed in Bannon Slough or immediately adjacent to Bannon Slough to avoid potential snake foraging, basking, and winter burrowing habitat.</li> <li>• To the extent appropriate, the project proponent shall petition for inclusion in the Natomas Basin HCP and Metro Air Park HCP and mitigate project impacts pursuant to the guidelines and standards established in these HCPs.</li> </ul>	<p>Less than Significant Impact</p>

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>BIO-5 (cont'd)</b></p>		<ul style="list-style-type: none"> <li>• For areas not included in the above-mentioned HCPs (e.g., American River Parkway and Greenbriar), the project proponent shall enter into consultation with the USFWS to develop a separate mitigation plan that will be consistent with the conservation goals established in the Natomas Basin HCP, Metro Air Park HCP, and The <i>Programmatic Formal Consultation for U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California</i> (USFWS, 1997).</li> <li>• Guideway piers shall be placed outside of canals.</li> <li>• The American River Crossing guideway shall be elevated above canals or culverts provided.</li> <li>• If construction of a culvert is necessary, a qualified herpetologist familiar with the habitat requirements of the giant garter snake shall assist in the culvert design.</li> <li>• All construction activity involving disturbance of habitat, such as site preparation and initial grading, will be restricted to the period between May 1 and September 30. This is the active period for giant garter snake and direct mortality is lessened, because snakes are expected to actively move to avoid danger. Pre-construction surveys for giant garter snake will be conducted by a qualified biologist approved by USFWS. If giant garter snake habitat is found within a specific site, the following additional measures will be implemented to minimize disturbance of habitat and harassment of giant garter snake, unless the project is specifically exempted by USFWS:                         <ul style="list-style-type: none"> <li>– Between April 15 and September 30, all irrigation ditches, canals, or other aquatic habitat shall be completely dewatered for at least 15 consecutive days prior to the excavation or filling of the dewatered habitat.</li> </ul> </li> </ul>	

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>BIO-5 (cont'd)</b></p>		<ul style="list-style-type: none"> <li>- For sites that contain giant garter snake habitat, the project area shall be surveyed for the presence of giant garter snake no more than 24 hours prior to the start of construction activities. If construction activities stop on the site for a period of two weeks or more, a new giant garter snake survey shall be completed no more than 24 hours prior to the re-start of construction activities.</li> <li>- Clearing shall be confined to the minimum area necessary to facilitate construction activities. Giant garter snake habitat within or adjacent to the project shall be flagged and designated as Environmentally Sensitive Areas and avoided by all construction personnel.</li> <li>- Construction personnel completing site preparation and grading operations shall receive USFWS approved environmental awareness training. This training instructs workers on how to identify giant garter snakes and their habitats, and what to do if a giant garter snake is encountered during construction activities. An on-site biological monitor shall be designated during training.</li> <li>- If a live giant garter snake is found during construction activities, the biological monitor and USFWS shall be notified immediately and all construction in the vicinity of the snake shall stop to allow the snake to leave on its own. The snake shall be monitored for the remainder of the work day to make sure the snake is not harmed or if it leaves the site, does not return. If a giant garter snake does not leave on its own within one working day, further consultation with USFWS is required. Notification to the Service's Division of Law Enforcement or the Sacramento Fish and Wildlife Office must be made within one working day of locating dead, injured, or sick giant garter snakes. Written notification to both offices must be made within three calendar days and must include the date, time, and location of the finding of a specimen and any other pertinent information.</li> </ul>	

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>BIO-5 (cont'd)</b>		<ul style="list-style-type: none"> <li>Upon completion of construction activities, all temporary fill and/or construction debris shall be removed from the site. If this material is located near undisturbed giant garter snake habitat and is to be removed between October 1 and April 30, it shall be inspected by a qualified biologist to assure that giant garter snakes are not using it as winter habitat.</li> </ul>	
<p><b>BIO-6</b> Construction of the DNA project would require the placement of an estimated two piers in the American River. The cofferdam placement and pile driving required for pier construction could impact salmon and steelhead populations during construction.</p>	Potentially Significant Impact	<p><b>MBIO-6:</b> To mitigate the impacts from cofferdam construction and dewatering on anadromous salmonids and other fishes, RT shall implement the following measures:</p> <ul style="list-style-type: none"> <li>Cofferdams shall be constructed by the sequential placement of sheetpiles from the upstream to the downstream end of the portion of structure to be enclosed by the cofferdam. Prior to completion of the cofferdam, seining with a small-mesh seine shall be conducted within the cofferdam to remove as many fish as possible. Exclusionary nets shall be placed in the river to prevent fish from entering the cofferdam during the final stages of cofferdam placement.</li> <li>A qualified biologist shall be on site to examine the cofferdams prior to dewatering, and a fish rescue/salvage program shall be conducted prior to complete dewatering of the cofferdam interior.</li> <li>Only low-flow pumps with screened intakes shall be used during dewatering operations. If fish are still present after partial dewatering of the cofferdam and further seining cannot rescue all individuals of listed species, then electrofishing shall be used to capture any remaining fish. Rescued fish shall be immediately transferred to an oxygenated holding tank and transported to an appropriate downstream release site.</li> </ul>	Less than Significant Impact

**Table ES 6 (Cont'd)**  
**Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>BIO-6 (cont'd)</b>		<ul style="list-style-type: none"> <li>• All pumped water shall be routed to either: (1) a sedimentation pond located on a flat stable area above the ordinary high water mark that prevents silt-laden runoff from entering the river or (2) a sedimentation tank/holding facility that allows only clear water to return to the river and includes disposal of settled solids at an appropriate off-site location.</li> <li>• No guideway piers shall be placed in Bannon Slough.</li> </ul> <p>Construction of the American River Crossing will require issuance of a Streambed Alteration Agreement from CDFG. One of the conditions of the agreement is likely to be a "work window" for construction activities. There is a "default" work window of April 15 through October 15, which can "open" or "close" depending on the type of work and its proximity to the river (e.g., dependent on whether it is in the water or on the bench). Construction of the American River Crossing will be limited to the work window specified in the Streambed Alteration Agreement.</p>	
<p><b>BIO-7</b>  Approximately 100 linear feet of riparian habitat would be disturbed along the banks of the Lower American River and Bannon Slough in association with construction of the new river crossing.</p>	Potentially Significant Impact	<p><b>MBIO-7:</b> To mitigate the impact on aquatic habitat, RT shall implement the following measures:</p> <ul style="list-style-type: none"> <li>• Implement mitigation measures proposed above for the replacement of riparian forest and willow-cottonwood scrub.</li> <li>• The project sponsor shall enter into consultation with the National Oceanic and Atmospheric Administration to determine if additional mitigation measures may be necessary for authorization under the Endangered Species Act.</li> <li>• The project sponsor shall enter into consultation with CDFG to determine if additional mitigation measures may be necessary for issuance of a Streambed Alteration Agreement permit.</li> </ul> <p>The loss of riverbed and streamside vegetation resulting from project construction is not expected to jeopardize the survival and recovery of listed fish species or adversely modify critical habitat for these species.</p>	Less than Significant Impact

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>BIO-8</b> The loss of riverbed and streamside vegetation resulting from project construction is not expected to jeopardize the survival and recovery of listed fish species or adversely modify critical habitat for these species.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required.</p>	<p>Less than Significant Impact</p>
<p><b>BIO-9</b> The loss of approximately 7.4-acres of agricultural land within Greenbriar (associated with the DNA project right-of-way) would affect the amount of foraging habitat for special-status species that use alfalfa, grain crops, fallowed fields, or flooded fields for foraging.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required.</p>	<p>Less than Significant Impact</p>
<p><b>BIO-10</b> Impacts to giant garter snakes could result from the conversion of approximately 7.4-acres of potential habitat on undeveloped land in Greenbriar.</p>	<p>Potentially Significant Impact</p>	<p>Implement Mitigation Measure MBIO-5, above.</p>	<p>Less than Significant Impact</p>
<p><b>BIO-11</b> Construction activities adjacent to agricultural drainage or irrigation canals could disturb nesting burrowing owls or destroy potential nesting habitat for burrowing owls.</p>	<p>Potentially Significant Impact</p>	<p><b>MBIO-11:</b> Pre-construction surveys for burrowing owls shall be conducted prior to the initiation of grading or earth-disturbing activities to determine if any burrowing owls are using the site for nesting or foraging. Surveys will be conducted by a qualified biologist. If nest sites are found, the CDFG will be contacted regarding suitable mitigation measures, which may include a 300-foot buffer around the nest site during the breeding season (February 1 through August 31) or a relocation effort for burrowing owls.</p>	<p>Less than Significant Impact</p>

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>4.15 Hazardous Materials</b>			
<p><b>HM-1</b> The assessment performed in 2002 revealed 10 potential hazardous substances sites or conditions (e.g., residual and persistent pesticide use) that could be encountered during construction of the DNA project south of the American River.</p> <p>Construction of the DNA project in South Natomas could involve the same general concerns as described above. Further north, the ESA indicated the probable presence of residual pesticide-contaminated soils and groundwater that could be encountered during construction of the DNA project. Additionally, there is the potential for hazardous wastes associated with the wastewater ponds located to the immediate south of the Airport and contaminated groundwater associated with the storage of petroleum products on Airport property.</p>	<p>Potentially Significant Impact</p>	<p><b>MHM-1:</b> As required by DTSC, RT will perform a Phase II Environmental Site Assessment to determine the presence and extent of contamination at properties to be purchased or condemned within the DNA project, at stations, and at the maintenance facility site. However, because of the potential to discover undocumented hazardous substance releases or cause spills during construction, RT also will prepare a Soil and Groundwater Management Plan prior to commencement of construction to handle site contingency planning. This plan will include the following requirements:</p> <ul style="list-style-type: none"> <li>• A registered geologist or engineer onsite or on-call to monitor construction activities, and with the authority to halt work or move work temporarily to another location if contamination is encountered during construction.</li> <li>• A Health and Safety Specialist onsite or on-call to monitor suspect areas during construction (e.g., near hazardous substance release sites).</li> <li>• An Environmental Compliance Manager onsite or on-call to supervise hazardous material use and storage during construction.</li> <li>• A plan to contact the applicable landowner (if the land is not owned by RT) in the event hazardous substances are encountered.</li> <li>• Meetings with applicable state and local agencies concerning undocumented contamination encountered.</li> <li>• An asbestos and lead-based paint survey of all structures to be demolished that were initially constructed during an era when these materials were commonly used in construction.</li> </ul>	<p>Less than Significant Impact</p>

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
HM-1 (cont'd)		<ul style="list-style-type: none"> <li>• Coordination with Underground Service Alert prior to construction, especially in locations where pipeline markers are displayed or as-built plans indicate the possibility of a subsurface utility line(s). In addition, pipeline companies (e.g., PG&amp;E) should be contacted to mark the location of pipelines so that they may be avoided.</li> <li>• A well survey completed prior to commencement of construction activities to evaluate the status (e.g., active, decommissioned, decommission in progress) of the monitoring wells along the DNA Corridor. Wells within the proposed construction zone should be decommissioned prior to the start of construction activity.</li> <li>• Coordination with Sacramento Municipal Utility District (SMUD) if transformers are to be moved or removed.</li> <li>• Coordination with the RWQCB regarding the status of the wastewater pond closure near the Airport.</li> <li>• Implementation of construction best management practices (BMPs) in accordance with a Stormwater Pollution Prevention Plan. BMPs may include providing secondary containment areas for refueling construction equipment, berms or ponds to control runoff, and a monitoring program to test stormwater for contaminants prior to discharge from the construction site.</li> <li>• Compliance with OSHA requirements for construction workers who may be exposed to hazardous materials, including preparation of health and safety and emergency response plans, air monitoring (if necessary), and provision of personal protective equipment.</li> <li>• Once a Phase II site assessment is completed, a Remedial Action Work Plan will be developed in coordination with the California Department of Toxic Substances Control. This plan will contain specifics on the remediation for the hazardous materials encountered during the construction of the project.</li> </ul>	

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>4.16 Utilities</b>			
<p><b>UTIL-1</b> Implementation of the DNA project south of the American River would involve construction on 7th Street, which would create longitudinal conflicts with several existing utilities.</p> <p>As a result of the American River crossing, there would be 2,100 feet of utilities that parallel the track alignment that may require relocation and 16 crossing locations that may require encasement or reinforcement on intersections along Richards Boulevard.</p> <p>Various utilities situated along a total length of 7,050 feet of track alignment parallel to Truxel Road would require potential relocation, and 20 crossing locations may require encasement or reinforcement. Various utilities may require encasement or reinforcement at 31 crossing locations.</p>	Potentially Significant Impact	<p><b>MUTIL-1:</b> If relocation of a particular utility is necessary, as determined by the utility company or agency, the design and the actual relocation construction can proceed in a number of ways. For many of the public utilities (water, storm drainage, and sanitary sewer), the engineer for the project will design the relocation (subject to review and approval of the utility/agency) and the contractor will construct the relocation. For franchised utilities (PG&amp;E, SBC, and so forth), the utility companies will generally design and relocate their facilities prior to construction. These relocation costs, in many cases, would be charged to the DNA project.</p> <p>The following mitigation measures will be implemented to minimize utility impacts:</p> <ul style="list-style-type: none"> <li>• Prior to construction, the implementing agency or contractor will identify the locations of existing utility lines and all known utility lines will be avoided during construction.</li> <li>• Community outreach will notify affected residents and businesses of temporary disruption of services.</li> <li>• Where the alignment crosses over utilities and damage to the utility is possible, the utility line will be encased in reinforced concrete.</li> </ul>	Less than Significant Impact
<b>4.17 Energy Resources and Greenhouse Gas Emissions</b>			
<p><b>ENG-1</b> Construction of the DNA project is estimated to consume 708,500 million BTUs.</p>	Less than Significant Impact	No mitigation is required.	Less than Significant Impact

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>4.18 Water Resources</b>			
<p><b>WR-1</b> Changes in local drainage patterns in the Alkali Flat/Railyards/Richards Boulevard area would be limited to the increase in impervious surfaces associated with project improvements. The guideway and parking facilities would add up to 11-acres of new impervious surface to the area. Construction of the guideway, parking lots, and a potential maintenance facility in North Natomas would add up to about 30-acres of new impervious surface to the area, but it would not change local drainage patterns. Construction of the guideway, parking lots, and a potential maintenance facility in the Sacramento County portion of the project area would add up to about 25-acres of impervious surface to the area.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required. Existing storm water ordinances require the mitigation of runoff to be consistent with historic, undeveloped levels, offsetting any impacts.</p>	<p>Less than Significant Impact</p>
<p><b>WR-2</b> The DNA project south of the American River would not affect the river's hydrology or otherwise interfere with flood management efforts in this area.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required.</p>	<p>Less than Significant Impact</p>

**Table ES 6 (Cont'd)**  
**Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>WR-3</b> Construction of transit improvements north of the American River would affect the American River Parkway. The degree of impact on the American River, including water surface elevations during flood conditions, was analyzed using HEC-RAS, a hydrologic software program, showing that all bridge crossings would result in changes to the water surface elevation of less than 0.1 feet, which is the criterion recommended by SAFCA.</p>	<p>Less than Significant Impact</p>	<p><b>MWR-3:</b> Changes in water surface elevation in the American River would be less than the criteria recommended by SAFCA. The technical report prepared in support of the analysis recommends that additional analysis take place during the PE phase using more sophisticated tools. Because of this recommendation, the following mitigation measure is recommended:</p> <ul style="list-style-type: none"> <li>• A two-dimensional hydraulic model should be run for the final bridge configuration and location to ensure a higher level of accuracy for use in calculating final water surface elevations, pier scour potential, and possible bank protection needs.</li> <li>• As discussed above, construction areas within the American River Parkway are subject to periodic inundation from high water conditions. CDFG maintains a standard work window of between April 1 and October 31. Work outside of this window could only occur with the authorization of the CDFG, and will be allowed only if the contractor had the ability to quickly shut down and stabilize the site.</li> </ul>	<p>Less than Significant Impact</p>
<p><b>WR-4</b> Most of the guideway area would be located in areas that are already developed or would be developed during the 2027 planning horizon, and therefore drainage patterns would remain approximately the same.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required.</p>	<p>Less than Significant Impact</p>
<p><b>WR-5</b> Substantial excavation is not expected; as such, there is likely to be no need for dewatering and disposal of potentially contaminated groundwater.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required. Erosion and runoff from the construction sites will be controlled by the City's Grading ordinance and the Central Valley Regional Water Quality Control Board NPDES construction program, which require the preparation of erosion and sediment control plans prior to construction.</p>	<p>Less than Significant Impact</p>

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<p><b>WR-6</b> This construction activity is not expected to contribute to water quality impacts in receiving waters because the extent of soil disturbance would be minor (e.g., relative to site grading) and limited to a narrow linear corridor.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required beyond compliance with local storm water ordinances and the City's Standard Specifications for Public Works Construction (2006) and the County's Standard <i>Construction Specifications</i> (2004).</p>	<p>Less than Significant Impact</p>
<p><b>WR-7</b> Long-term water quality effects of the DNA project (related to operation of light rail in perpetuity) would be associated with the release of pollutants (oil and grease, brake dust) from trains and from vehicles at parking lots.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required. Erosion and runoff from the construction sites will be controlled by the City's Grading ordinance and the Central Valley Regional Water Quality Control Board NPDES construction program, which require the preparation of erosion and sediment control plans prior to construction. In addition, standard best management practices, such as the use of control measures such as silt curtains and treatment of water pumped from cofferdams, will be implemented.</p>	<p>Less than Significant Impact</p>
<p><b>WR-8</b> With regard to the planned crossing of the American River, trains could directly contribute pollutants to the American River.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required. Erosion and runoff from the construction sites will be controlled by the City's Grading ordinance and the Central Valley Regional Water Quality Control Board NPDES construction program, which require the preparation of erosion and sediment control plans prior to construction. In addition, standard best management practices, such as the use of control measures such as silt curtains and treatment of water pumped from cofferdams, will be implemented.</p>	<p>Less than Significant Impact</p>
<p><b>WR-9</b> Construction of piers in the American River could mobilize sediment, including sediment containing mercury and other contaminants, and therefore efforts should be implemented to contain sediment mobilized by construction activity.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required beyond compliance with local storm water ordinances and the City's Standard Specifications for Public Works Construction (2006) and the County's Standard <i>Construction Specifications</i> (2004).</p>	<p>Less than Significant Impact</p>
<p><b>WR-10</b> Navigability is expected to be maintained at current levels because the American River crossing is expected to match or exceed the elevation of the existing I-5 Bridge, and therefore it would not present a new barrier to navigation.</p>	<p>Less than Significant Impact</p>	<p>No mitigation is required.</p>	<p>Less than Significant Impact</p>

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>4.19 Wetland Resources</b>			
<p><b>WET-1</b> The river crossing would involve the placement of two permanent bridge piers within the active channel of the American River and several piers in the adjacent riparian/floodplain habitat. Wetland resources in these areas could be adversely affected by alterations to wetland vegetation as a result of the new river crossing structure (e.g., by construction activities, shading, or on-going vegetation clearance requirements). Construction of the crossing would result in the long-term loss of approximately 1.75-acres of riparian habitat in the American River Parkway. Temporary and permanent wetland impacts would be 0.619 acres and 1.948 acres, respectively.</p>	<p>Potentially Significant Impact</p>	<p><b>MWET-1:</b> Mitigation for temporary and long-term impacts to wetlands will include the following:</p> <ul style="list-style-type: none"> <li>Minimizing the extent of disturbance to the maximum extent practicable, implementing compensatory mitigation for the loss of wetland habitat functions and values, and revegetating all temporarily disturbed areas.</li> <li>For compensatory mitigation, RT will pay in-lieu fees or purchase credits at one of many nearby mitigation banks. Once a delineation has been conducted, the amount of wetland impact area will be refined.</li> <li>A wetland mitigation and monitoring plan will be developed in cooperation with the USACE.</li> </ul>	<p>Significant Impact</p>

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>4.20 Summary of Construction Impacts</b>			
<p>The construction of the DNA project south of the American River would be disruptive to downtown Sacramento and Alkali Flats. These impacts would include noise, dust, and traffic congestion due to disruption of local streets, utility relocation and visual degradation for the duration of construction. Impacts from implementation of the DNA project north of the American River would be similar.</p> <p>Viewed in total, the construction of the DNA project would disrupt approximately 150 acres including the alignment, parking facilities and the maintenance facility. The impact of construction would be greatest to the 3,639 persons estimated to live within 300 feet of the alignment. As many as 23 businesses would be acquired for the DNA project north of the American River. Fourteen to fifteen acres of parkland would be disturbed in the American River Parkway for implementation of the DNA project.</p> <p>The construction duration for MOS-1 is estimated at 25-27 months and the DNA project north of the American River, including the river crossing, would take 36 months for construction.</p>	<p>Significance levels are presented for each environmental resource in Sections 4.2 through 4.19.</p>	<p>Implement the following mitigation measures:</p> <p>Construction mitigation measures include the use of best practices and, more importantly, avoidance of impacts to the extent possible through well-designed options. Construction mitigation measures for all environmental resources are presented individually in Sections 4.2 through 4.19. Other measures shall include:</p> <p>A Construction Mitigation Plan will be developed that will be a key measure for off-setting the construction impacts referenced above. This plan will be developed within the first month of receiving Notice to Proceed with construction. The plan will be developed in cooperation with the City of Sacramento, South Natomas and North Natomas. The Construction Mitigation Plan will include the following key elements:</p> <ul style="list-style-type: none"> <li>• Communications Plan</li> <li>• Construction Operation Agreement</li> <li>• Waste Management Plan (also see Section 4.15, Hazardous Materials)</li> <li>• Storm Water Management (also see Section 4.18, Water Resources and 4.19, Wetland Resources)</li> <li>• Traffic Circulation Plan</li> <li>• Construction Dust and Emissions Control Plan (also see Section 4.12, Air Quality)</li> <li>• Construction Noise Plan (also see Section 4.13, Noise and Vibration)</li> </ul>	<p>Significance levels after mitigation are presented for each environmental resource in Sections 4.2 through 4.19.</p>

**Table ES 6 (Cont'd)  
Summary of Impacts and Proposed Mitigation for the DNA Project**

Impact	Significance	Mitigation	Significance after Mitigation
<b>4.22 Cumulative and Growth-Inducing Impacts</b>			
<p>The analysis of cumulative effects includes those projects evaluated in the 2006 MTP. Construction-phase mitigation measures have been included to the effects of the DNA project together with other projects in the American River area, including the construction of HOV lanes on I-5.</p>		<p>The following mitigation measures will be implemented:</p> <ul style="list-style-type: none"> <li>• RT shall work with Caltrans to coordinate the planning for construction improvements so that construction-related conflicts (e.g., disruption of recreation users, visual impacts, habitat and species impacts, traffic impacts) can be minimized. This will be achieved through joint project management, joint offsite habitat restoration, coordinated public information, and other means, as appropriate.</li> <li>• For projects in the lower reaches of the American River with the potential to substantially affect the water surface elevation in the American River (e.g., by placing new piers or berms in the floodplain), hydrologic studies shall be conducted to address potential changes in a quantitative manner. Project proponents shall conduct these studies in consultation with SAFCA, the Reclamation Board, and other appropriate flood control officials.</li> </ul>	