

DRAFT

FRESNO FREIGHT RAIL REALIGNMENT STUDY

ADMINISTRATIVE DRAFT SUMMARY REPORT



January 2010

Prepared for
Council of Fresno County Governments



EXECUTIVE SUMMARY

ES.1 Project Description

This project is a study considering realignment of one or more freight railroads that currently pass directly through Fresno, California. The core of the project is the removal of freight train operations from the portion of the BNSF Railway (BNSF) alignment between the vicinity of Hammond Avenue in Fresno County and the vicinity of Avenue 9 in Madera County. The project also considers potential changes to other portions of the BNSF alignment in the vicinity of Fresno, changes to the Union Pacific Railroad (UP) alignment in Fresno, and potential new alignment alternatives that pass to the east or west of Fresno.

Fresno has long advocated realignment of the two major freight railroads (currently UP and BNSF) that traverse the city from north to south. The city is a regional hub for rail and roadway transportation of both freight and passengers, with four rail companies operating on alignments that pass through the city. These services generate a number of impacts due to train movements in the areas of Fresno through which they pass: realignment or relocation of the rights-of-way would help mitigate these impacts.

In 2006 Fresno County voters reauthorized Measure "C", creating funding expressly for freight realignment. More than \$100 million is now authorized, as a local match for other funding to complete this project.

After the passage in November 2008 of California Proposition 1A, planning and design are underway for the California High-Speed Train (HST) project. The preferred alignment identified in the program EIR/EIS for the HST system closely parallels the UP ROW through central Fresno. The UP alignment is the subject of a number of freight realignment alternatives, and this project must consider future conditions which include the HST system. Alternatives considered in this study may in fact enable HST solutions of lower complexity, impacts, and total combined costs for both projects than those that do not consider freight realignment. The HST project therefore presents both the opportunity and the imperative for Fresno to determine the means of accomplishing freight railroad realignment.

This study was originally scoped to examine options for freight rail realignment in conjunction with high speed rail alignment development. However the California High Speed Rail Authority directed that the HST alignment should be developed independently from freight realignment and the scope was revised so freight rail realignment and HST alignment alternatives would be developed separately. Thus, this report examines only the freight rail realignment options.

This study develops a set of feasible alternatives that can be further refined through design and evaluation; identifies potential environmental issues for future environmental assessment; and defines implementation and institutional considerations for accomplishing the project. Previous studies only considered consolidating the BNSF and UP through central Fresno, assuming that the two railroads would share rights-of-way and trackage rights. This study considered additional alternatives involving parallel alignments or realignments either through the city or on a bypass around the city.

This report documents the sequence of steps used to evaluate a range of feasible alternatives that attain the project's objective with the fewest environmental impacts:

- Development of project's purpose and need
- Development of a set of initial alternatives
- Level 1 (initial) screening of alternatives



- Level 2 (comprehensive) analysis of alternatives
- Identification of final list of alternatives for further detailed analysis.

This report is an Alternatives Analysis and is meant to be a precursor to an Environmental Impact Report (EIR) under the California Environmental Quality Act (CEQA), and possibly an Environmental Impact Statement (EIS) under the National Environmental Protection Act (NEPA).

Criteria and priorities for assessing freight rail realignment alternatives differ among the freight railroads themselves, the City, the Fresno COG, and other stakeholders. This study is not undertaken to improve the operation of the freight railroads, but is in the interests of Fresno residents affected by train movements, and of the Fresno COG, as custodian of funding dedicated to the project under Measure "C." However, the freight railroads are major stakeholders in this project, and have been consulted throughout the process.

ES.2 Project Purpose and Need

Freight rail realignment is needed to reduce or eliminate adverse community impacts caused by the presence of freight railroad alignments and the operation of trains through Fresno. The BNSF alignment passes through Fresno residential neighborhoods and both UP and BNSF intersect numerous local roads at-grade.

The purpose of this project is to realign freight railroad operations within Fresno to reduce impacts on the local community.

ES.2.1 Primary Project Objectives

The realignment of the BNSF and UP mainlines would eliminate many of the adverse community impacts associated with the presence of a heavily used freight line within central Fresno. The contribution of project alternatives to the achievement of the project purpose and need was the basis of the alternative screening methodology, and was based on the following primary project objectives:

- Improve pedestrian and vehicle safety;
- Reduce traffic congestion, delays, and air quality impacts; and
- Reduce or eliminate adverse community impacts such as noise, vibration and community division.

ES.2.2 Secondary Project Objectives

The project alternatives were also evaluated for their ability to meet secondary project objectives, which are not the rationale for the project, but are additional impetus for implementation:

- Potential capacity and/or operational improvements for the freight railways;
- Potential future economic development opportunities;
- Potential reuse of the BNSF corridor; and
- Potential future compatibility with high-speed train (HST).

ES.3 Evaluation Approach and Methodology

The study evaluation approach and methodology involved two primary levels of analysis as described below.



ES.3.1 Level 1 Screening

Initial (Level 1) screening focused on determining whether an alternative met the identified purpose and need. The evaluation considered each alternative in light of specific screening criteria developed from both the primary project objectives and the secondary project objectives.

Level 1 screening used a qualitative approach to assess the potential of the initial alternatives to meet the purpose and need. Alternatives that are determined to be responsive to the purpose and need are carried forward for the more detailed Level 2 analysis.

ES.3.2 Level 2 Analysis

Alternatives carried forward from the Level 1 screening were subjected to Level 2 analysis, based on a more in-depth look at technical details of the proposed project and their estimated impacts. Level 2 analysis focused on preliminary assessment and characterization based on identifying potential issues and impacts in three overall categories:

- Costs (construction and socioeconomic);
- Rail operations; and
- Environmental resources.

This analysis was a mix of quantitative and qualitative analyses. The analysis of environmental resources is based on Geographic Information Systems data that have been mapped and tabulated. These issues, along with railroad company ownership issues and implementation issues, informed the final evaluation of alternatives, with the goal of supporting future study and decision-making.

ES.4 Project Considerations

There are a number of regulatory and logistical factors affecting the potential relocation of freight service, based on both the existing service in the Fresno area and broader regional/national issues. These include:

- **Existing Rail Operations** – Fresno is a regional hub for rail and roadway transportation of both freight and passengers. Four rail companies operate on alignments that pass through the city: BNSF and UP (both Class 1 freight operations), San Joaquin Valley Railroad (SJV) (local freight), and Amtrak (passenger service).
- **Regulatory Issues** – The current rail operators must consider the preservation of service to their current customers, as well as the effects of abandoning trackage and/or relocating railroad interchange points.
- **Design Standards** – Any relocation of freight alignments must conform to the regulatory requirements of both the Federal Railroad Administration (FRA) and the California Public Utilities Commission (CPUC), as well as the internal standards of the rail operators that provide service in the Fresno area.
- **Ownership of Railroad Right of Way** – The relocation or modification of existing rights-of-way will need to take into account the rail companies' preferences regarding ownership of the rights-of-way on which they operate. This would need to be balanced against the most practical arrangements for alignment ownership via a public agency or a special-purpose authority that manages the multiple alignments.
- **Compatibility with High-Speed Train** – Any freight realignment would likely take into account the planned high-speed rail line through Fresno, with regard to potential

right-of-way conflicts, shared stations with HST and Amtrak, and maintenance facilities for freight and passenger service.

- **Yard Locations** – The existing railyards can continue to be used in some alternatives, or could be moved to new locations.
- **Potential Development Plans and Land Use Constraints** – There are existing land uses and development plans that could pose conflicts with some of the proposed realignment alternatives.

ES.5 Project Alternatives

The project alternatives were developed with local stakeholder input, using aerial-photo-based digital mapping and topographic data. Alignment geometrics were developed in accordance with standard design criteria and operating requirements for both freight rail and HST operations, and were intended to encompass a variety of potential methods of addressing the project purpose and need.

At the end of the alternatives development process, 20 initial alternatives were selected for screening, and were organized into the following six categories:

- Category 1 No realignment/no project
- Category 2 Realignment through central Fresno along existing UP alignment
- Category 3 Western bypass at freight geometry¹ for one or both of the railways
- Category 4 Western bypass at HST geometry² for one or both railways
- Category 5 Eastern bypass at freight geometry for one or both railways
- Category 6 Eastern bypass at HST geometry for one or both railways

ES.6 Alternatives Recommended for Further Development

Based on the Level 1 screening, 10 Alternatives were carried forward into a level 2 Screening, and based on the Level 2 Analysis; eight project alternatives were recommended to be carried forward for further study if HST is considered:

- Alternative 1A: No Project (baseline)
- Alternative 2C: BNSF and UP through central Fresno – reduced corridor width
- Alternative 3B: BNSF through central Fresno, UP on western bypass (freight geometry)
- Alternatives 3C1 and 3C2: BNSF and UP on western bypass (freight geometry)
- Alternative 4B: BNSF through central Fresno, UP on western bypass (HST geometry)
- Alternatives 4C1 and 4C2: BNSF and UP on western bypass (HST geometry)

The following project alternatives from the Level 2 analysis are also recommended if HST is not Considered:

- Alternative 2A: BNSF west of UP—due to the number of displacements and potential impacts to Roeding Park

¹ Geometry refers to the standard design requirements, particularly curve radii, for Freight operations (AREMA Class 4)

² For HST operations, Geometry refers to CHSRA design guidelines.



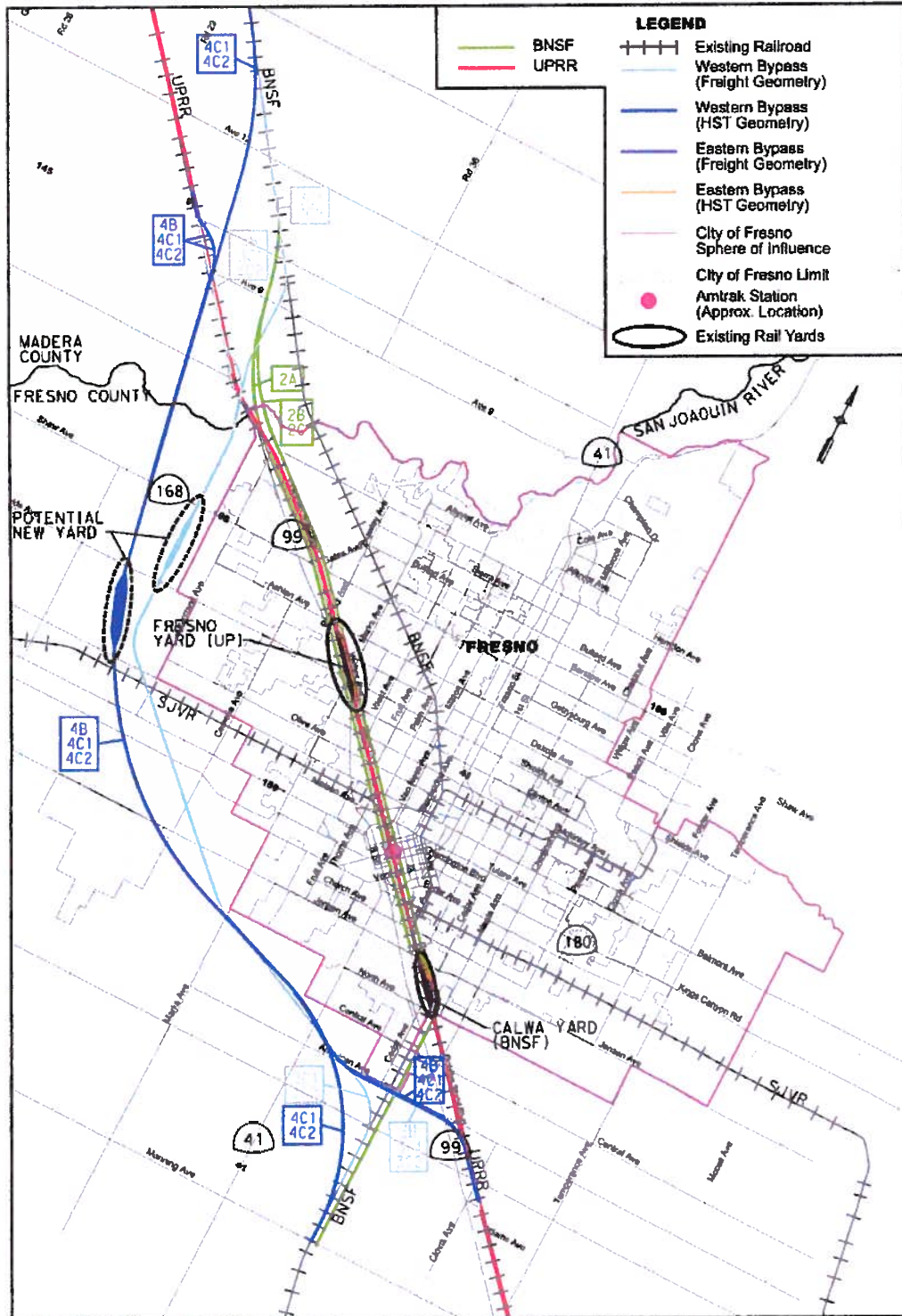
- Alternative 2B: BNSF east of UP—due to the number of displacements

These alternatives are shown graphically in Figure ES-1.

ES.7 Conclusions

The project is intended to alleviate the long-standing impacts of railroad alignment and operations through Fresno neighborhoods. It may be possible to accomplish the Freight Realignment Project at the same time as another major capital project (HST) in the same corridor. Although the criteria and priorities for this project differ from those of the High-Speed Train project EIR/EIS, this analysis has been laid out in a similar manner to allow for the merging of the two projects at a later date. Therefore, different conclusions may be drawn if the two projects are independent or if they are codependent. These are recorded below.

Figure ES-1 – Alternatives Carried Forward



12/10/09 via 1:CA/SP-FP-26Graphics-Fresno FreightDoc 2009-Fig 17 site carried forward 11x17.a

ES.7.1 Conclusions if High-Speed Train is Not Considered

Considering only the freight railroad issues, the alternatives that enable freight rail realignment within Fresno (Alternatives 2A, 2B, and 2C) appear to be less expensive to construct, and have fewer impacts on agricultural land and environmental elements, such as erodible soils, than the alternatives with a bypass. These alternatives impose more impacts on the community, however, including impacts to cultural resources and the taking of more urban land. If HST is not considered, there does not seem to be a benefit to moving the UP away from central Fresno and vacating the Fresno Yard.

The chief drawback of the alternatives that align all freight rail through central Fresno (Alternatives 2A, 2B, and 2C) is that if the freight railroads each require a separate 100-foot right-of-way as shown for Alternatives 2A and 2B, the right-of-way impact through central Fresno would increase from the current minimum 100-foot width to 200 feet, potentially requiring the removal of a number of structures. This could be mitigated by negotiation with the railroads for a narrower right-of-way in places, such as in Alternative 2C, that would still be within the CPUC clearance requirements.

If HST is not considered in the project, all of the institutional options related to railroad right-of-way ownership are open, except the involvement of the California High-Speed Rail Authority (CHSRA) as a partner in project implementation.

ES.7.2 Conclusions if High-Speed Train is Considered

The freight realignment and HST studies are both considering the same corridor through central Fresno. It is necessary to address the concurrent needs of both projects, and to seek opportunities to craft synergistic solutions that result in mutual advantages. For instance, the issue of right-of-way width noted above is more severe if HST is taken into consideration. If both freight railroads operate through central Fresno, and if HST right-of-way is added to that, the resulting railroad corridor would have a width of 330 to 335 feet. The impact of such a corridor on central Fresno could be substantial in terms of the amount of land that is now in urban use that would have to be dedicated to rail rights-of-way.

When HST alignment through central Fresno is considered, the alternatives that include a bypass for one or both freight railroads accommodate an HST right-of-way better than do the alternatives that align both railroads through central Fresno. In any of the alternatives, a secondary objective is to enable a downtown Fresno intermodal station serving both Amtrak and HST passengers. The current and long-time Amtrak contract is with BNSF, and UP has indicated that they do not intend to accommodate passenger trains on UP tracks in Fresno. Thus, either BNSF needs to be brought into the center of Fresno to augment or replace UP, or a public entity needs to acquire the right-of-way through central Fresno—potentially hosting Amtrak and/or BNSF. From this perspective, the alternatives that move the UP onto a bypass, with BNSF operating through central Fresno on the former UP right-of-way, are more desirable because they would facilitate the co-location of Amtrak and HST in the center, fulfilling a secondary purpose and need objective. In addition, BNSF has been willing to continue discussions with CHSRA and with Fresno concerning sharing their corridor with the HST system. If an agreement were to be reached, it could reduce the required footprint for combined freight and HST through the center of Fresno.

One drawback of Alternatives 3B or 4B, from BNSF's perspective, is that BNSF would acquire the UP's right-of-way, and with it the potential liability for environmental remediation on that alignment. From the railroads' perspectives, new rights-of-way on bypasses would be preferable from the point-of-view of not inheriting an environmental remediation issue.



The alternatives that move UP onto a bypass with an associated new yard (Alternatives 3B, 3C, 4B, and 4C) make available the current location of the UP Fresno Yard for reuse.

ES.7.3 Conclusions Common to Both Freight Realignment and High-Speed Train

For any of the alternatives, public agency participation is necessary to channel resources and to coordinate the project's implementation. This role could be played by an existing agency, or by an agency formed especially for this purpose. For some alternatives, such as Alternatives 2A, 2B, 2C, 3B, and 4B, the agency could be created just for project implementation, and then be dissolved after completion. For Alternatives 3C and 4C, it is assumed that the public agency would need to be permanent to retain ownership of the current UP alignment through the center of Fresno: both to facilitate Amtrak operation to a joint Amtrak/HST station in the city center, and to provide access for SJV to their various branches serving local shippers. A public agency owner of the central right-of-way may also facilitate co-location with the HST project.

Any railroads relocated to a bypass would need a new yard. Railroad operations would not be workable with mainline operations going around Fresno on a bypass and the yards remaining in their current locations, because this would require considerable backing movements and awkward logistics. Alternatives 3C and 4C include new yards for both railroads.

ES.8 Project Implementation Issues

In conjunction with the development and screening of alternatives, the study also considered issues that affect the feasibility of the overall project. These are relevant regardless of the specific alignment(s) studied, and identify issues that will need to be addressed by the Fresno COG, City, rail companies, and other stakeholders.

- **Potential Funding Sources for the Realignment Project** – Funding for the realignment project could come from a variety of sources. Freight rail projects with a strong public benefit, such as the Fresno Rail Realignment, are typically funded with a mixture of federal, state, and local funds.
- **Responsible Agency** – A responsible agency must be designated to lead the project through the environmental process, securing the project funding, and then designing and implementing the project. This is likely to be a public agency, but could also be a partnership between public and private entities. The following models for organizing the implementation of the project are reviewed, with the advantages and disadvantages of each:
 - Railroad (UP or BNSF)
 - City of Fresno
 - Fresno County
 - Fresno COG
 - Special Purpose Authority or District
 - Joint Powers Authority (JPA)
 - Inter-Agency Memorandum of Understanding
 - Caltrans (Division of Rail)
- **Environmental Process** – This report documents a feasibility analysis and preliminary environmental characterization similar to the HST Alternatives Analysis study for the Fresno-Bakersfield region and is anticipated to move forward into environmental studies under NEPA or CEQA as a stand alone project or combined with HST. The path which this project takes in the future in terms of environmental review will be determined largely by which agency is the responsible agency, and the



anticipated funding sources for project implementation. Projects of this magnitude are generally subject to the highest level of environmental review, which under NEPA is an EIS, and under CEQA is an EIR. It is highly likely that some of the funding required for this project will originate from federal sources. It is therefore prudent to anticipate the need to prepare a joint EIS/EIR document. Even if funds are not requested directly from a federal agency, because many of the funds distributed by the State through the California Transportation Commission originate as federal funds and are delegated to the State for allocation, they carry the federal requirements with them.

- **Relationship to High-Speed Train Project** – This project would realign freight railroads in a corridor that is also currently undergoing NEPA and CEQA analysis for the California HST project. In some cases, both projects are considering use of the same general alignments and rights-of-way for both the HST project and for the freight rail project through central Fresno. This raises the question of coordinating this project's environmental documentation with the High-Speed Train EIS/EIR that is now being prepared for the Fresno area as part of two sections (Fresno-Bakersfield and Merced-Fresno). The limited right-of-way width through central Fresno is a constraint which both projects need to consider. It is possible that the freight rail realignment project could facilitate the HST project by moving freight railroads out of central Fresno, making the UP alignment available for the HST system, and reducing the need to take large amounts of property.
- **Ownership Options for Railroad rights-of-way** - The simplest structure is to convey title for any replacement railroad right-of-way directly to the carrier for whom the facility is built. This approach minimizes administrative delay, is the result of a relatively straightforward negotiation, and does not require the creation of a new legal entity to own the right-of-way after the project is built. However it requires a public acceptance to fund a potentially expensive set of infrastructure improvements with public money, and then convey title to those assets to a private entity. Another option would entail a public entity owning some or all of the railroad improvements built as part of a realignment project. While a public entity could own the land under the right-of-way, the railroads would want complete control over operations and maintenance. That said, if one or both carriers are willing to consider public ownership, then several institutional options are available; Creation a Special Purpose Authority via State Legislation, Creation of a Joint Power Authority, and Execution of a memorandum of understanding.
- **Potential Reuse of BNSF Right-of-Way** – All alternatives (except "No Project") would result in discontinuing use of portions of the BNSF right-of-way. These portions could be re-used for transportation purposes or adapted for other uses.
- **Construction Phasing and Issues** – Some of the alternatives would require careful phasing, particularly with regard to existing over and underpasses and relocations of existing railroad customers. All of the surviving realignment alternatives would allow the new track and signals to be built and tested in isolation for the existing operation, before service is transferred to the new alignment.

