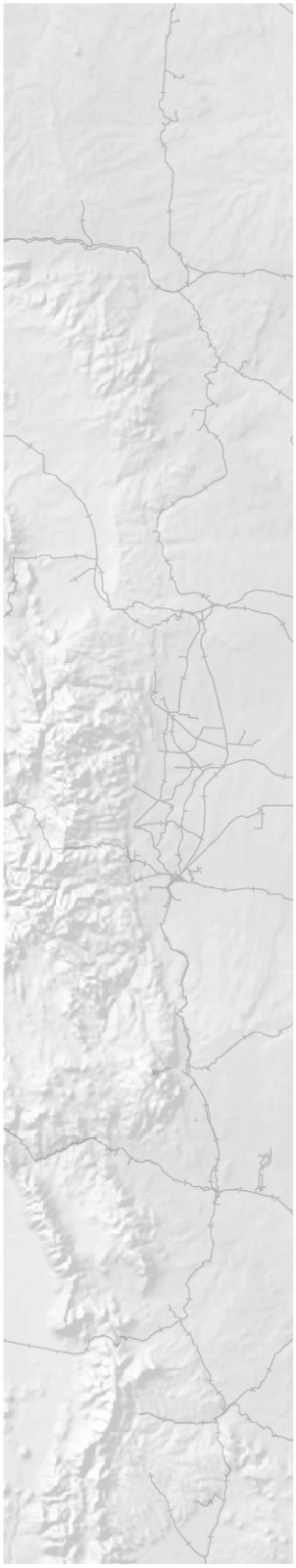

Technical Memorandum No. 6

Project No. C SWOO-242

Additional Railroad Project Impacts

May 18, 2005

DOT DEPARTMENT OF TRANSPORTATION | DMJM HARRIS AN AECOM COMPANY | HDR

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All information and assessments contained herein are the sole responsibility of the Consultant. Although many other parties contributed substantially to the report, they shall not be held accountable for its accuracy.

The purpose of this Technical Memorandum is to address a number of study issues that are related, but not dependent upon meeting the basic scope of services of the study. These issues are a collection of opportunities and challenges facing CDOT in its role as public sector freight service coordinator in Colorado.

CKP's Towner Line

CDOT acquired the Towner Line in 1998 and is currently leasing the line to the Colorado, Kansas and Pacific Railroad (CKP). The UPRR had intended to abandon this line but the state felt it was too important to keep the ROW intact because "If they aren't preserved for future use, you can never get them back again." (Dan Hopkins, transportation department spokesman at the time).

Benefits along this 121-mile Towner line would increase due to the proposed Build Option. This is due to the fact that the new 60-mile segment (Item J in Appendix A of the Proposed BNSF/UP Front Range Railroad Infrastructure Rationalization Project) between Aroya and Las Animas would cross the CKP at or near Haswell. A wye connection at Haswell could help to attract business along the Towner line that could be served by either the UPRR or the BNSF running trains on the new line between Aroya and Las Animas. The CKP could offer an alternative route to the UPRR's east/west movement as demonstrated visually in Figure 1.

The Royal Gorge route that connects Dotsero to Pueblo via the Tennessee Pass was closed in 1998. The closure occurred due to mergers that allowed the UPRR to run east/west traffic on the Moffat Tunnel Subdivision that is less expensive to operate. Also, UPRR routed all other rail traffic through Wyoming on their Central Corridor, including loads that couldn't fit through the Moffat Tunnel. Consideration has been given to purchasing this stretch of rail as it provides a route that does not restrict the use of hi-cube double stack container trains restricted by the vertical clearance of the Moffat Tunnel. The Towner line combined with the reopening of the Tennessee Pass route could expand the use of the Central Corridor for transcontinental traffic.

In discussions with the UPRR, little hope was given into the reopening of Tennessee Pass. According to these sources, the train handling characteristics of this mountain pass route were too difficult to realistically consider reopening the pass. The route is known for having the steepest grades (3%) and the highest point (EL 10,221). The UPRR would prefer to invest any discretionary funds on their transcontinental route through Wyoming and BNSF on their transcontinental route through New Mexico, as it appears that these would be a better financial investment.

Shortline Impacts

The Build Option may impact several shortlines in the state. In addition to the potential impacts to the CKP (described above), the most obvious shortline impacted would be the presently out of service Denver Rock Island (DRI) Line whose alignment is being sought by UPRR for their straight-on connection to Sandown. This connection would vastly improve the UPRR operations by removing awkward movements, allowing trains to head straight out to the east (see Figure 2).

Others may be affected by the rerouting of freight trains out of the Denver Metropolitan area. For example OmniTRAX operates the shortlines in the region north of Denver, running between Longmont, Loveland and Eaton. It is not likely that the Build Option will affect this operation. Coordination between the surplus mainlines and the regional shortlines will continue to be very important. With the movement of coal trains out of the Front Range, the train traffic in the Denver area may only be serving local customers. Subsidiaries of BNSF and UPRR might be created to provide service to existing rail-served customers in the metro-Denver area.

Figure 1 Alternative Route to the UPRR's East/West Movement

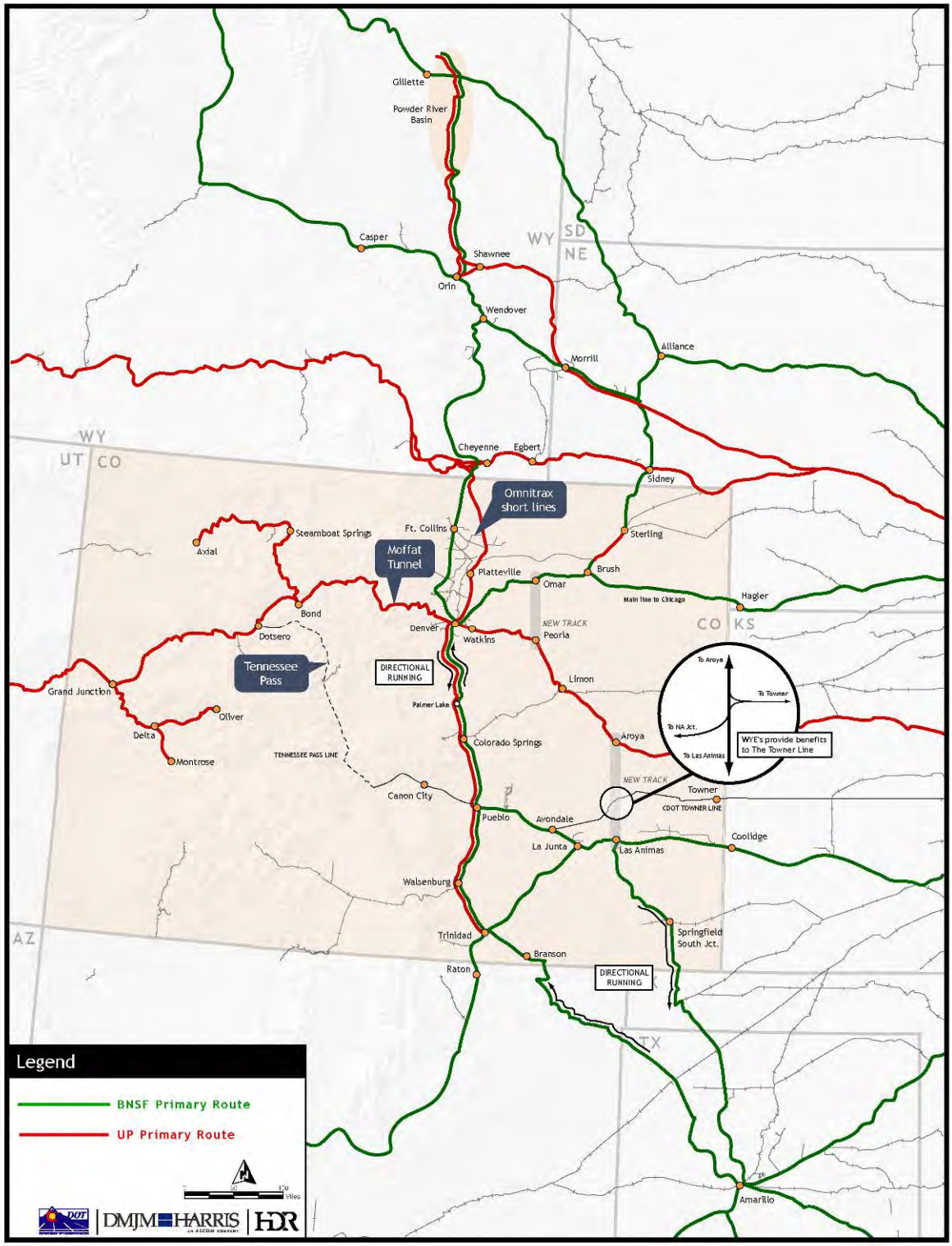
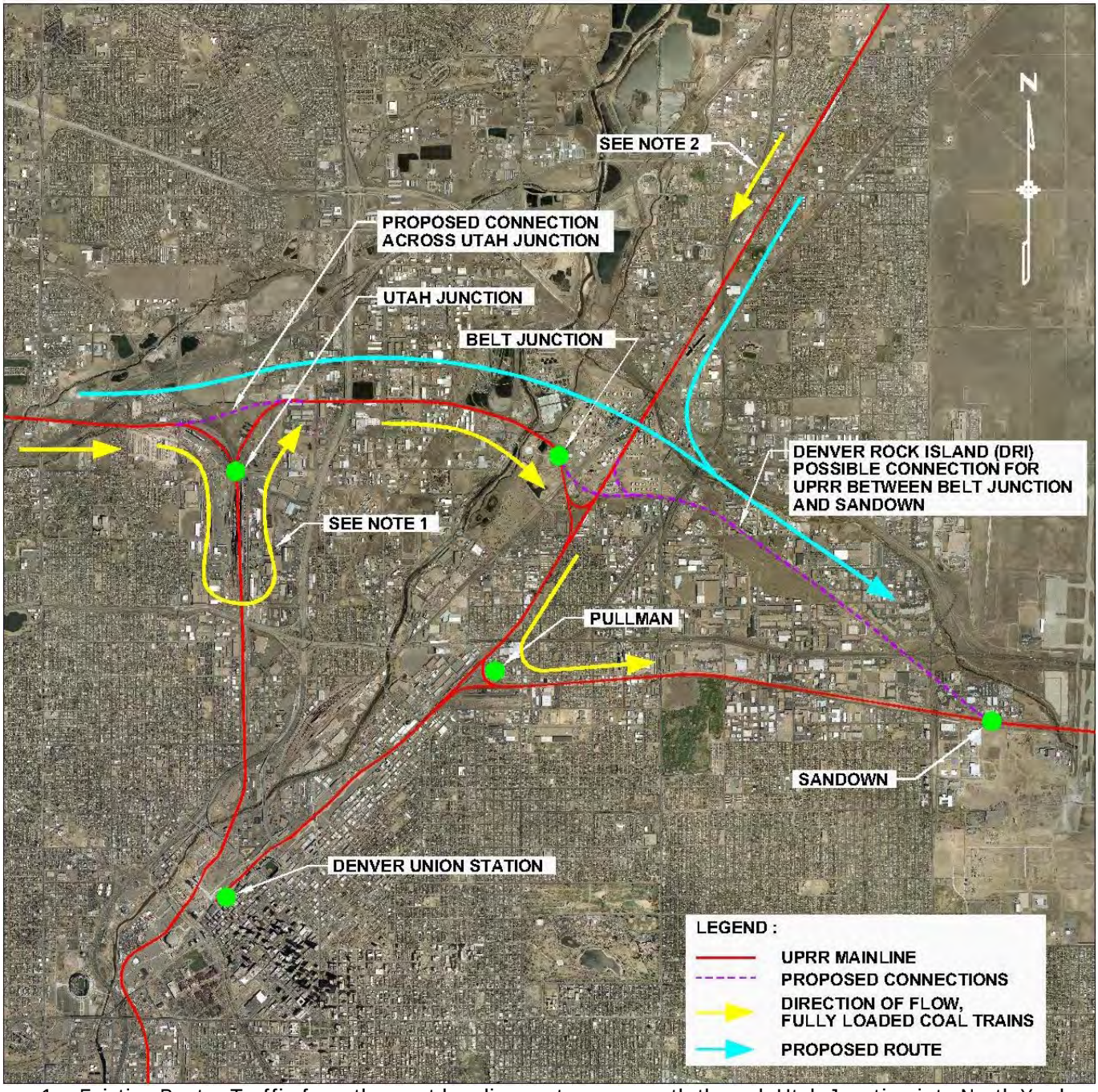


Figure 2 UPRR Train Flow



1. Existing Route. Traffic from the west heading east passes south through Utah Junction into North Yard, moves power to the back of the train, heads north turning east across the Belt Line to Belt Junction, south into Pullman, and heads east toward Sandown.
2. Existing Route. Traffic from the north goes south into Pullman Junction, and turns east toward Sandown.

These shortlines could be managed by CDOT, providing the present local shipping service and future commuter service.

It would be important to craft these shortline agreements with this possibility in mind. Recent experience in Salt Lake City, Utah is a model to learn from. In that case, the Salt Lake City Southern wished to expand service to their nine on-line rail-served customers but was limited in their ability to do so by the Light Rail Transit operating plan agreed upon by the Utah Transit Authority (UTA). The situation is complicated in this Salt Lake example by the fact that the UTA transit vehicles are non-FRA compatible which requires that a temporal separation be observed thereby keeping the shortline freight trains and the LRT vehicles from sharing the same track at the same time. This would not be the case along the shortlines that would be created along the Front Range.

Impacts to the Existing Class 1 Infrastructure within the State

It is hard to imagine that the vertical clearance through the Moffat Tunnel would ever be cleared to accommodate hi-cube double stack equipment. Consequently, although neither Class 1 currently supports this scenario, one possibility to avoid the constrictions of Moffat Tunnel is to run east/west transcontinental traffic over Tennessee Pass. Opening the route across Tennessee Pass would require improvements to the infrastructure along the alignment. BNSF would have to be granted trackage rights on the route if they were to participate in this re-opening.

East of Denver, it is likely that the land adjacent to the new corridors where both railroads would operate jointly will be opened to industry that could be served by both Class 1 railroads. Rail shippers who are seeking a competitive rate structure from these carriers might be attracted to these new sites.

The consolidation of the two mainlines through Castle Rock was studied several years ago. The Build Option has the potential to finally realize the benefits identified in that analysis. With reduced train traffic running on these north/south lines, freight traffic could be limited to just the BNSF line opening the UPRR line for commuter traffic. The line between Littleton and Pueblo could accommodate passenger rail with the Build Option. Additional sidings may have to be constructed to accommodate this traffic flow and help maintain fluidity on the line. The location of the UPRR line through Castle Rocks central business district makes it an ideal candidate to serve Castle Rock commuters. This route would be desirable for a commuter network between Castle Rock and Denver and potentially beyond to Colorado Springs and Pueblo.

BNSF and UPRR recently began directional running between Amarillo and Pueblo. They run loaded coal trains through Pueblo then south through Las Animas and return empty coal trains north through Trinidad. Once the Build Option has been completed, BNSF could construct a connection at Trinidad allowing continuous flow from Amarillo, through Trinidad and northeast into La Junta. This connection is not identified as part of the Build but would certainly be advantageous to both railroads. The existing BNSF line between Trinidad and La Junta and the line from La Junta to Las Animas could carry the empty coal trains that now operate along the Front Range Sub through Pueblo, Colorado Springs and Denver. This route is also the route of the Southwest Chief, Amtrak's Chicago to Los Angeles passenger train. Consideration would have to be given to the potential impacts of the 10-12 additional empty coal trains that will be diverted onto this route by the Build Option.

Both BNSF and UPRR could consider the impacts to their existing mainlines if the Build Option does indeed increase north/south (in the case of BNSF) and east/west (in the case of UPRR) rail business as a result of lowered operating costs precipitated by the Build Option.

Competitive Balance between Class 1's

It is too early to speculate on the impacts that the Build Option might have on competitive balance between the Class 1 railroads involved in this study. *It is the intent of both railroads to consider and maintain a competitive balance for The Railroad Project.* If for some reason the balance between the two railroads becomes unbalanced, it might be necessary to look at interactions between UPRR and BNSF outside the State of Colorado to achieve equality. Looking at the significance of the regional impact on a national level might then balance out any inequalities that are the result of the Build Option.

Motor Carrier Industry and the Railroads

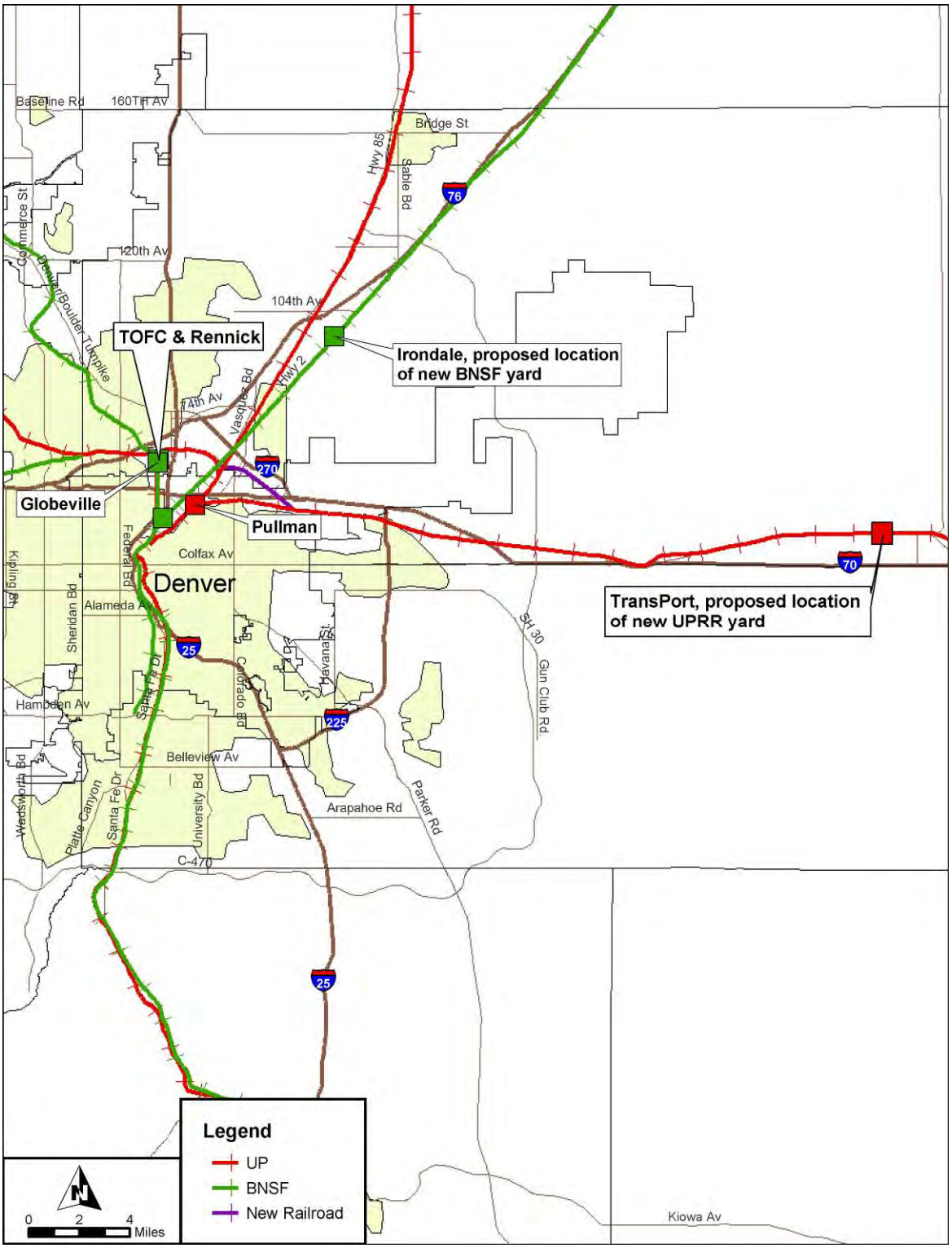
This issue is likely to be contentious in that the motor carrier industry may balk at the expenditure of public funds for private enterprise, namely the two Class 1 railroads. It is incumbent upon CDOT and the DMJM/HDR team to clearly spell out the benefits of this study to the public. The benefits must be realized before public funds are used for the infrastructure improvements identified by both railroads. This understanding has been reached in Chicago where the Chicago Regional Environmental and Transportation Efficiency project (CREATE), a blend of private railroad investment with public funds, is moving forward. The Motor Carrier Industry is seen as benefiting greatly as a result of the CREATE project.

Relocating each intermodal yard to locations adjacent to the interstate highway system should be viewed as a benefit by the motor carrier industry. Figure 3 shows the present and proposed locations for both BNSF's and UPRR's intermodal yards. BNSF's existing yards, Globeville, TOFC and Rennick, are northeast and northwest of the I-70/I-25 interchange. This interchange is known locally as *the mousetrap* due to its ability to trap an unwary motorist. The BNSF's current plan is to relocate operations from all of these yards to a new site adjacent to I-76 near Irondale. UPRR's existing Pullman yard, located near 40th Avenue and 40th Street in Denver, just east of the mousetrap, would be relocated to a new site east of Watkins. Both locations would have improved vehicular access (by I-76, I-70 and by E-470), as they are not in an area of high congestion. It is important to work with DRCOG and the City of Denver as well as CDOT to fully appreciate the impacts to the region's highways by redirecting all truck movements from the existing intermodal yard locations to these new sites.

Impacts to Colorado Coal

Transportation costs associated with the movement of coal are an incredibly low margin business. Consequently, any increase in operating costs hauling coal along a particular routing makes it that much less desirable from a total cost point of view. Due to the existing rail infrastructure along the UPRR, coal that originates from the western slope is un-necessarily handled several times in the Denver area both while under load and the empties returning to the mine. This is due to the fact that the routing is a composite of the former mainlines of two different railroads (see Figure 2). The infrastructure improvements identified under the Build Option would greatly improve the fluidity (and decrease their operating costs) of the east-west movement of Colorado coal along the UPRR.

Figure 3 Denver-area Rail Yards



Changes in Truck Movements in the Denver Area

Relocating the flowing facilities: UPRR's 36th & 40th Street Yards, UPRR's Rolla Auto Ramp and BNSF's Globeville, Rennick and Denver Intermodal to locations outside Denver's city center will greatly affect the flow of truck traffic within the Denver Metropolitan area, especially for truck movements to and from the intermodal yards (see Figure 3). This analysis is critical to gaining understanding of the net difference in truck miles traveled between the existing and proposed intermodal yard locations. According to the recent Texas Transportation Institute study, truck delay has been calculated at $50.00/hour. If the analysis demonstrates that 500 truck-hours save 1 hour daily, then over $9 million could be saved locally each year.

Impacts to Neighboring States

Kansas could benefit by increased level of overhead traffic on the CKP. A north/south mainline railroad east of Denver could realize the benefits anticipated in the Ports to Plains analysis that is presently under study. Grain from Kansas could especially benefit by the north/south rail corridor as grain shipments to Pacific Northwest export facilities would more readily access the rail routes to the PNW.

However, the entire area benefits as a region under the Build Option in that improved rail transportation would shift the economic "watershed" in favor of regional shippers. Many other locations are embarking on improving their rail infrastructure. Colorado must act to improve its rail network or risk falling even further behind. The Front Range presents a barrier to the rail industry. It is important to improve the region's rail network so that Colorado and all neighboring states benefit. The CREATE project benefits Chicago, all its suburbs, the states of Illinois, Wisconsin and Indiana by improved rail flow, improved air quality, and in turn the community and the nation benefits.