



DEDICATED TRUCK LANES

FEASIBILITY STUDY



PHASE 2 REPORT EVALUATING THE RISKS 2011



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PREPARED BY:



TECHNICAL APPENDIX 12

EVALUATING THE RISKS

PURPOSE OF APPENDIX

The purpose for Technical Appendix 12 is to examine potential risks in moving the Dedicated Truck Lanes Project forward. It is recognized that the list below is not inclusive of all the risks associated with implementing the I-70 Dedicated Truck Lanes (DTLs). However, it does identify how risks can be avoided or mitigated as the project is developed.

Below is an abbreviated discussion of potential risks and potential mitigation opportunities. As the Coalition moves forward, all risks should be periodically re-examined and, if appropriate, expanded as additional details are developed.

FUTURE ORGANIZATIONAL STRUCTURE FOR COALITION

- **RISK** - What will be the assurance that the Coalition will stay united in the future and participate in DTLs?

MITIGATION - There are several types of institutional structures that could be utilized for the I-70 Coalition as it deals with the implementation, operations and maintenance issues. Currently a Memorandum of Understanding and a Corridor Development Agreement unite the four states in doing due diligence for the feasibility of the project. Other options are discussed in Technical Appendix 11, Exhibit 1. One option that is the most flexible for the States and the least binding is to have an informal commitment within the I-70 Coalition to enhance freight movements along the I-70 Corridor. The strongest institutional option for keeping the I-70 Coalition united is the Interstate Compact. However, an Interstate Compact is the most political sensitive and lengthy in terms of time to implement. Technical Appendix 11 discusses the potential application of the Interstate Compact.

POLICY RISKS/OBSTACLES

- *RISK* – In the future, States decide to withdraw from the Coalition and implement their own projects with DTL’s.

MITIGATION – Forming a multistate coalition or institution capable of staying united. There are a variety of tested options available for establishing a multistate coalition or institution that has worked in the past. It is important to review each option in depth and determine which is the best suited for the four participating states.

- *RISK* – The leadership at DOTs and other decision-making levels will change over during this project, including changes at the State and Federal level.

MITIGATION – State DOT leadership at the highest policy level - as well as other decision-making levels - is not static and will be subject to change throughout the life of this project. Therefore, it is important for future leaders to view I-70 as a valuable freight corridor for their state’s economy. Any major investment within the I-70 must withstand scrutiny from a variety of perspectives so that a potential new leader would view it as beneficial and affordable to their state. Also, having a strong, durable legal structure for the Coalition, such as an Interstate Compact, will minimize this risk.

- *RISK* – Currently, each state has its own separate legislative process and laws for bonding, Public-Private Project (P3) agreements, and tolling.

MITIGATION – Create uniform legislation across the four states (e.g., P3 and tolling) specific to the I-70 DTL projects to provide for more efficient operation of the Corridor. This will also be necessary for adopting and executing an Interstate Compact.

- *RISK* – DTLs have not been implemented anywhere else previously. What are the disadvantages of DTLs?

MITIGATION – Trucking and logistics companies may choose not to use DTL’s for a variety of reasons if DTL’s are optional. If required, trucking and logistic companies may oppose legislation or take legal action to oppose mandatory use. The consideration of DTLs has not been as necessary in the past as it has been in the past decade. Previously, as Interstates became more congested due to population increases, a growing economy and growth in the use of Just-In-Time (JIT) Delivery, capacity expansion was constructed to meet demand by the states using traditional Highway Trust Fund programs. This traditional funding has simply not kept pace with the highway needs

due to congestion and the aging infrastructure. While the concept of bonding and toll roads is not new, the use of ITS and GIS technology for toll collection is recent. As trucks become larger and automobiles become smaller, concerns have arisen regarding an increase in severity of crashes. Coupled with decreasing federal revenue, discussions of DTLs have become more prominent in recent years. The Coalition will need to work with representatives of all stakeholders, including trucking and logistics companies, if DTLs move forward.

FUNDING RISKS

- **RISK** – Individual states within the Corridor may not have the necessary funding.

MITIGATION – A federally required financial plan will be developed for this project as the project moves forward. Periodic updates will be required at certain milestones. An agreement among the states will be negotiated on how to fund any revenue shortfalls or project overruns and how to allocate any potential revenue sharing from tolling or P3 Revenues.

- **RISK** – In order to be considered as considered as an investment for federal funding, the benefits of the DTLs for I-70 must have support and buy-in from stakeholders and decision makers., In the event that federal funds are unavailable for the project, the Coalition can create a strategy where the construction of the I-70 DTL Projects is partially or fully funded outside of the Highway Trust Fund. This would require FHWA approval of tolling the I-70 (possibly as a Corridors of the Future pilot project) and possible use of P3 by the Coalition. A strategy for creating a P3 would need to be adopted by the I-70 Coalition if pursued.

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- **RISK** – In order to be considered as considered as an investment for state funding, the benefits of the DTLs for I-70 must have support and buy-in from stakeholders and decision makers., In the event that federal and state funds are unavailable for the project, the Coalition can create a strategy where the construction of the I-70 DTL Projects is partially or fully funded outside of the Highway Trust Fund and state transportation funds. This would require FHWA approval of tolling the I-70 and possible use of P3 by the Coalition. A strategy for creating a P3 would need to be adopted by the I-70 Coalition if pursued.

MITIGATION – The Coalition will review strategies where the construction for the I-70 DTL Projects can be funded outside of the State’s dedicated highway funding. This could include tolling, bonding and P3.

- **RISK** – How accurate are the costs to construct, operate and maintain DTLs?

MITIGATION – All costs developed for this phase are preliminary costs for the planning phase. As the project advances, these estimates will be further refined based on more detailed information that will be developed at each phase.

CONSTRUCTION RISKS

- **RISK** – Each community/region along the study area may want to begin construction at the same time which could strain a state’s financial resources, contractor resources in the region and increase traffic congestion within the corridor.

MITIGATION – The Coalition States will need to agree upon criteria for prioritization of construction sections and negotiate priorities along the DTLs as the project moves forward.

- **RISK** – Sections of I-70 within urban areas will not have the capacity to meet future demand 20 years from now.

MITIGATION – For the purpose of this study, it was assumed that either trucks exiting from two DTLs would merge into the general purpose lanes or a single DTL would be carried through the urban areas. Options in urban areas will need to be examined in more detail as this project evolves. Where congestion occurs in the future, the I-70 Coalition will address on a case-by-case basis.

- **RISK** – Costs for the “No-Build” Option and the “Build Options without DTLs” scenario is significantly lower than the “Build DTLs” Option. In an era of declining revenues, elected federal and/or state leaders will not be able to appropriate the necessary funding for more expensive DTLs scenarios.

MITIGATION – Document and clearly explain the benefits (e.g., increased safety, reduced fatalities, less congestion, reduction in vehicle operating costs, etc.) of the DTLs option. The return on investment will need to be greater than the costs.

- **RISK** – Procuring right of way for construction of DTLs within congested urban areas will be a challenge.

MITIGATION – In urban areas right of way may be unavailable or cost prohibitive. The problem of locating and obtaining available right of way in urban areas could be reduced by only having two lanes of DTLs through urban areas rather than four DTL lanes. Other options include the use of ITS or technologies to manage DTLs in urban areas or the use of bypass routes around urban areas, depending on the specific needs and desires of those communities. Four lane DTLs would be constructed in rural locations.

- **RISK** – DTLs will have significant environmental impacts.

MITIGATION – NEPA and other applicable environmental related federal, state and local laws will be followed during the implementation of the I-70 DTLs. Potential adverse impacts identified in the NEPA phase will be either avoided or mitigated. Where possible, early identification of environmental issues and potential solutions will be considered in future pre-NEPA phases of this project.

OPERATIONS RISKS

- **RISK** – The major disadvantage is that the use of dedicated truck lanes would not be accepted by the trucking industry, and trucks would avoid the I-70 route and divert to other parallel routes or use non-interstate highways. Thus, congestion and crash rates on these alternate routes would increase. Another concern is that economic activity within the I-70 corridor could decrease if DTL’s result in a substantial increase in transportation costs.

MITIGATION – To offset costs to the trucking industry (possible tols), carrier productivity could be enhanced through the use of technology, HPVs, LCVs, etc..

- **RISK** – Lack of compatibility of Intelligent Transportation System (ITS) technology and equipment within the corridor and with other routes in other areas may disrupt continuous truck traffic flow when entering an area with different technology.

MITIGATION – Create compatible and uniform ITS architecture along the corridor agreed upon by the four states, the U.S. Department of Transportation and the Federal Highway Administration.

- **RISK** – Advances in ITS technology occur frequently and ‘today’s technology’ becomes obsolete relatively quickly.

MITIGATION – The Coalition will develop a strategy on how to keep current with ITS technological advances and incorporating them along the corridor as prudent.

- **RISK** – There are concerns within the motor carrier industry that there will not be sufficient ingress/egress points within urban areas, thus, creating logistical hindrances for trucks getting to and from their destination.

MITIGATION – This study did not determine specific ingress/egress points for DTLs along I-70. As the project advances into the preliminary design and NEPA phase, input from the motor carrier industry regarding locations of ingress/egress points will be considered.

- **RISK** – Many communities have (or may place) restrictions for High Productivity Vehicle (HPV) truck routes into service areas beyond the entrance and exit points.

MITIGATION – Help clarify with shippers and carriers the need for HPVs along the corridor. Work with communities to understand the needs of HPVs for the freight and logistics stakeholders. Communicate issues for restrictions and infrastructure barriers to all stakeholders as necessary. Plan for providing HPV staging areas that are located outside of urban areas for coupling and decoupling of trailers.

- **RISK** – Will the Just-In-Time (JIT) model continue in the future as new technology develops?

MITIGATION – The demand for raw materials, consumer goods, and manufacturing materials are expected to increase as the population and the economy grows. Many businesses and manufacturers have eliminated their warehousing capabilities by using JIT delivery. It is unlikely that JIT will be curtailed as a result of technological advances. More businesses may use JIT delivery as transportation technology advances and JIT becomes increasingly reliable. Additionally, supply

chain managers will continue to minimize logistics costs to better compete in their markets.

- **RISK** – Shifts in global supply chains and consumer markets cause travel routes and mode changes.

MITIGATION – In the past two decades, China, India and Latin America have emerged as powerful economic centers and trading partners. Growth in these markets and other developing Asian countries is expected to continue. Because the I-70 Corridor is a major west-east Interstate and serves the heartland’s economic and population centers, I-70 is expected to continue as a major commercial corridor.

STANDARDIZATION RISK

- **RISK** – Federal adoption and subsequent standardization of DTLs would occur nationwide using incompatible technology or standards to I-70 DTLs.

MITIGATION – Coordinate with FHWA in the development of standards for architecture and technology for the I-70 DTL project to ensure compatibility with standards for architecture and technology for future DTL projects nationwide.

MAINTENANCE RISKS

- **RISK** – The concessionaire for a potential P3 on I-70 not abiding by the lease agreement.

MITIGATION – Select a concessionaire based not only on financial considerations, but also on previous performance on similar projects. Require performance bonds. Prepare a good contract with incentive and disincentive clauses and performance requirements. The coalition should hire an experienced P3 advisor, a competent legal counsel with a P3 background, and a trustworthy financial advisor.

- **RISK** – The concessionaire may not adequately maintain the facility or provide improvements in a timely manner.

MITIGATION – Establish performance specifications for rideability, pavement life, and level of service and document the life cycle costs associated with maintenance of the DTLs. Operation, maintenance, rehabilitation, and reconstruction costs have been included in the DTL life cycle construction cost estimate through 2100 in the I-70 DTL project costs.

OTHER RISKS

- **RISK** – Rising cost of motor fuel and uncertainties of the long-term availability of fuel supplies may result in shifting demands to rail and barge.

MITIGATION – DTLs would separate the automobiles and commercial truck traffic resulting in reduced recurring and non-recurring congestion on both the I-70 passenger lanes and the I-70 DTLs. This would save fuel and money for both automobiles and commercial truck traffic. These savings could be used to offset competitive pricing structures from barge and rail.

- **RISK** – The increase in truck size and weight may offset the economic justification for construction of DTLs along I-70. The retrofit due to the increase in truck weight could be as costly as the construction of the DTLs.

MITIGATION – The retrofit costs have been included in implementation costs for the project. All bridges and other weight-sensitive infrastructure would need to be retrofitted to accommodate HPVs. Separating automobiles and commercial truck would improve safety, reduce fatalities, and reduce congestion

- **RISK** – There is some concern expressed by motor carriers that allowing HPVs on the DTL might set a future precedent that HPVs will only be permitted on DTLs. Some motor carriers think that setting this type of precedent might limit opportunities for HPVs on non-DTLs.

MITIGATION – While DTLs would certainly be designed to accommodate HPVS, DTLs may demonstrate a strong case for the advantages of DTLs for the trucking, logistics and shipping companies. Laws for the operation of HPVs will be established after a public debate in Congress and state legislatures. After the Congress and the state legislatures take action, the USDOT and State DOTs will implement policies and regulations for the operation of HPVs.

- **RISK** – What are the impacts of DTLs on major logistics centers?

MITIGATION – Major logistics centers tend to locate close to interstate interchanges. DTLs would not have a significant change on the location and operation of major logistic centers. It is foreseeable that DTLs would require an increase in major logistics centers if HPV trucks are required to breakdown into smaller units prior to entering metropolitan areas or leaving the interstates.

- **RISK** – The DTLs will be mandatory for all commercial trucks using I-70 regardless of size or destination, not just High Productivity Vehicles (HPVs).

MITIGATION – This decision has not been made yet.

- **RISK** – The increase in truck size and weight on DTLs may prompt a modal shift from freight rail to truck.

MITIGATION – Freight, moving truck along the I-70 corridor moves less than 500 miles. This short-haul characteristic is not favorable to the rail road industry.

OBSTACLES TO IMPLEMENTATION

- **RISK** – Federal laws/policies regarding tolling of interstates and use of P3s will need to be modified.

MITIGATION – Tolling of interstates is already allowed as a pilot program and for construction and re-construction of bridges. USDOT has publicly indicated in various forums that they were receptive to tolling of interstates. Congressional leadership and the Administration have indicated that they favor increased spending on infrastructure while, at the same time, stating they are opposed to raising the user fees generated by the motor fuel taxes. Most financing options outside of the Highway Trust Fund will involve tolling. As a result the Congress and USDOT may be ready to allow tolling and P3 on the interstates or as pilot projects.

- **RISK** – Are there state laws that will be obstacles to implementation?

MITIGATION – Technical Appendix 11 documents legal obstacles to tolling, P3, and bonding in each state. Each Coalition state currently allows tolling, bonding, and P3s. While each state's laws are different for tolling, bonding, and P3s, ratification of the future organizational structure for the I-70 Coalition could bring these laws into alignment for implementation of this project. If an Interstate Compact is chosen as the organizational institution to move the project forward, legislation will need to be passed by each state for whatever requirements must be agreed upon by the four states to create the Interstate Compact.

- *RISK* – Technical Appendix Five described stakeholder ‘show stoppers’ for DTLs. How possible is it that these will stop the project?

MITIGATION – In this time of economic uncertainty, there are a number of ‘show-stoppers’ that will need to be dealt with as this project develops. The potential for stakeholder ‘show-stoppers’ will exist throughout this project. Depending on the issue, education, communication and collaboration may help to negate stakeholder ‘show-stoppers’. If stakeholders want improvement to the highways with additional highway capacity but oppose tolling, a compromise will need to be reached as this project advances. Congress and the Administration have publicly stated their opposition to higher motor fuel taxes and/or additional transfers from the General Fund for highway construction. Given these positions, the harsh reality is that there must be the ability to raise revenues outside the Highway Trust Fund. Tolling is the most probable source of that revenue. The opposition for the precedent that DTLs establish is a national policy question that will need to be debated and resolved as the I-70 project moves forward.

