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Report to the Chairman, Subcommittee on Transportation, Committee on Appropriations, U.S. Senate

June 1999

TRANSPORTATION INFRASTRUCTURE

Advantages and Disadvantages of Wrap-Up Insurance for Large Construction Projects

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United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-281480

June 1, 1999

The Honorable Richard C. Shelby
Chairman, Subcommittee on Transportation,
Committee on Appropriations
United States Senate

Dear Mr. Chairman:

Traditionally, for large construction projects, project owners (such as state departments of transportation and transit agencies), contractors, and subcontractors have purchased insurance independently to protect themselves from financial losses. In contrast, with wrap-up insurance, the project owner can cover all the parties involved in the project—the owner, the construction manager, the general contractor, and the subcontractors. Over the past decade, wrap-up insurance has been used increasingly on large construction projects because of the potential for cost savings. In 1998, wrap-up insurance covered about 300 construction projects nationwide. However, wrap-up insurance has been used infrequently on highway construction projects because they often are too small. As part of your Committee's continuing oversight of federally funded transportation projects, you asked us to identify the advantages and the disadvantages of wrap-up insurance over traditional insurance and the factors that can affect the broader use of wrap-up insurance. As part of our methodology, we reviewed the justification for, the costs of, and the potential benefits or problems with wrap-up insurance on six federally funded highway and mass transit projects. These projects varied in cost, geographic location, and type of construction and included highway, bridge, tunnel, and rail transit construction. We also interviewed officials in the insurance and construction industry and reviewed reports and analyses of wrap-up insurance in order to gain an understanding of the broad issues in using wrap-up insurance.

Results in Brief

Owners of transportation projects, such as transit agencies and state departments of transportation, experience a number of advantages and disadvantages when they use wrap-up insurance. Major advantages include savings from buying insurance "in bulk," eliminating duplication in coverage, handling claims more efficiently, reducing potential litigation, and enhancing workplace safety. According to insurance industry officials, wrap-up insurance can save project owners up to 50 percent on the cost of traditional insurance, or from 1 to 3 percent of a project's construction

cost, depending on its size. The potential disadvantages of wrap-up insurance include requiring project owners to invest more time and resources in administration. Project owners must hire additional personnel or pay to contract out the management of the wrap-up insurance. In addition, project owners could also have to pay large premiums at the beginning of the project. However, transportation officials said these costs were reasonable.

A number of factors can affect the broader use of wrap-up insurance. Perhaps the most significant barriers are state systems for workers' compensation that, in some states, effectively prevent wrap-up insurance by greatly reducing its potential cost savings. Another limitation is that a project must be sufficiently large, or contain at least a sufficient amount of labor costs, to make wrap-up insurance financially viable. Finally, some contractors dislike wrap-up insurance because it reduces a contractor's profits from insurance rebates.

Background

Contractors and project owners purchase insurance to protect their business assets from potential claims and losses. Under both traditional and wrap-up insurance, the project owner and construction contractors must buy the same kinds of policies. The basic types of insurance for construction projects include workers' compensation, general liability, architects' and engineers' professional liability, builders' risk, excess liability, and pollution liability.[1] For some projects, more specialized insurance policies are needed. For example, construction projects on or near water must have longshoremen's and harborworkers' insurance, while projects on or near a railroad must have railroad protective liability insurance. Wrap-up insurance can provide all of these types of coverage but does not provide for automobile liability or insurance on the contractors' tools and equipment.

In general, a project owner may choose from two basic types of wrap-up insurance. The simplest form of coverage is the payment of a flat premium, also known as a guaranteed cost plan. With this plan, the premiums stay the same during the term of the policy, even if a high amount of claims is paid out. The guaranteed cost plan is the more common form of coverage for small to medium-sized businesses. With the second type of plan, known as a loss-sensitive plan, the premiums depend on the policyholder's claims that are actually paid, called "losses." A loss-sensitive plan generally returns a refund for low losses and charges additional premiums

[1]See app. I for a description of these types of policies.

for high losses, giving the owner an incentive to run a safe operation. In either a guaranteed cost or loss-sensitive plan, a policyholder can assume a deductible limit (as with automobile insurance) before the insurance carrier contributes to the claim settlement. Deductible limits make owners assume some of the insurance risk, which helps to lower insurance costs. Five of the six agencies we contacted chose loss-sensitive insurance plans; one used a guaranteed cost plan. All six agencies used deductible limits to lower their insurance costs.

Advantages and Disadvantages of Wrap-Up Insurance

Owners of construction projects have cited a number of advantages from using wrap-up insurance, including potential cost savings and enhanced workplace safety. The six projects we reviewed all claimed cost savings as a result of using wrap-up insurance. According to project owners, the fewer injuries resulting from centralized safety programs contributed to these savings. Two potential disadvantages include greater administrative costs to manage the wrap-up insurance and the potential for higher up-front insurance premiums. However, the project owners believe that these additional costs were reasonable.

Potential Cost Savings Are Available From Wrap-Up Insurance

According to insurance industry officials, wrap-up insurance can save project owners up to 50 percent on the cost of traditional insurance, or from 1 to 3 percent of a project's construction cost. Officials from the six transportation projects we reviewed estimated insurance savings of from $2.9 million to $265 million by using wrap-up insurance. Wrap-up insurance generates these savings by using bulk buying power, avoiding duplicate insurance coverage, using more efficient ways to process claims, and reducing litigation.

Purchasing Insurance in Bulk

Insurance industry officials we interviewed said that the initial savings from wrap-up insurance are due to an owner's bulk buying power and economies of scale. A project's owner can purchase coverage at a lower premium than the contractors would pay if they purchased insurance individually. The owner can obtain coverage designed for the specific needs of the project and provide primary coverage, such as that for general liability and workers' compensation, for all the contractors and subcontractors involved in the project. However, the size of the construction project will affect how much buying power the owner will have; insurance companies can provide a better rate for larger projects. Large labor-intensive projects with construction costs between $50 million

and $100 million would be in a better position to obtain wrap-up insurance.

Avoiding Duplication and Gaps in Coverage

As table 1 shows, under traditional insurance, every contractor and subcontractor buys separate insurance policies. The result can be duplication and overlap of coverage because the contractors and the subcontractors are insuring themselves against the same accidents, even though they all may not be liable for the resulting claims. This kind of duplication can also result in litigation between insurance companies over claims. Under wrap-up insurance, the project's owner can ensure that there are no gaps or duplication in coverage because only one insurance company is used. This is an important factor for the owner because contractors using different insurance companies could have variations in their policies or lower coverage than required, thereby exposing the owner to uninsured claims. By purchasing insurance directly, the owner can ensure sufficient coverage for the general liability and workers' compensation aspects of the policy as well as sufficient coverage for the general contractor and the subcontractors.[2]

Table 1: Traditional Insurance Coverage Compared to Wrap-Up Insurance

Traditional insurance	Wrap-up insurance
The project owner purchases policies to cover the following: workers' compensation, general liability, automotive liability, excess liability, and builders' risk insurance.	The project owner purchases insurance policies that cover the owner, the general contractor, and the subcontractors for the following: workers' compensation, general liability, excess liability, and builders' risk insurance.
The general contractor purchases policies to cover the following: workers' compensation, general liability, automotive liability, excess liability, and builders' risk insurance.	
The subcontractors purchase policies from multiple insurance companies to cover the following: workers' compensation, general liability, automotive liability, excess liability, and builders' risk insurance.	

More Efficient Claims Processing and Less Litigation

According to insurance brokers and project management officials, wrap-up insurance facilitates more efficient and simplified claims processing. A single insurer is the control point for reporting claims, conducting the investigations, and making payments. In addition, a single

[2]General liability insurance protects owners and contractors from the financial consequences of various risks such as accidents, hazardous operations, or accidents after work is completed. The policy pays for a variety of benefits including legal expenses, injuries to people, and damage to property.

insurer can prepare the loss data for the owner to identify current claims and costs. With one insurer, claim settlement procedures are more consistent.

Wrap-up insurance reduces potential litigation and disputes between insurance companies. For instance, the more insurers that are involved in a construction project, the greater the chance of lawsuits to settle accident and injury claims. This is especially true with traditional insurance because each contractor purchases policies through separate insurance companies. The subsequent disputes and litigation can be costly, as the various insurance companies seek to determine responsibility and reduce their liability. The liability and the litigation costs can be passed on to each policyholder in the form of higher premiums. Wrap-up insurance, on the other hand, can reduce the incidence of insurance companies' disputes and litigation and the associated costs because the policies are with a single carrier that is responsible for claims.

Projects' Estimated Cost Savings

To test the cost savings associated with wrap-up insurance, we reviewed six large transportation infrastructure projects that used this insurance. Table 2 shows the projects we reviewed, the projects' total costs, and the owners' estimated insurance costs for wrap-up insurance and traditional insurance. All the project owners provided estimates of their costs to use wrap-up or traditional insurance and their estimated savings. Estimated savings for these projects ranged from about $3 million to $265 million. On the basis of the owners' estimates, using wrap-up insurance could save between 1 and 3 percent of each project's total costs.

The estimated savings for these transportation projects are consistent with study results and industry estimates. In 1998, the Transit Construction Roundtable conducted a survey of its members and had similar findings.[3] Of the 18 members who responded to the survey, 14 had experience with wrap-up insurance, and all of them responded that wrap-up insurance costs less than traditional contractor-provided insurance. Thirteen of these project owners estimated that, on average, wrap-up insurance costs 28 percent less than traditional insurance. The six projects we reviewed provided similar findings. Data from these six show that, on average, their wrap-up insurance costs about 38 percent less than traditional insurance would have cost.

[3]The Transit Construction Roundtable is a partnership between the Federal Transit Administration and local public transportation agencies that was formed to share information and discuss issues related to the construction of mass transit systems.

Table 2: Transportation Projects Using Wrap-Up Insurance and Owners' Estimated Costs and Savings

Dollars in millions

Project name and location	Total project cost	Insurance costs		Insurance savings
		Traditional	Wrap-up	
Blue Water Bridge, Michigan	$97.2	$10	$7.1	$2.9
Boston Central Artery Tunnel, Massachusetts	$10,800	$1,030	$765	$265
I-15, Salt Lake City, Utah	$1,600	$52.2	$22.3	$29.9
CTA Green Line Rehabilitation, Chicago, Illinois	$408.7	$32.5	$21.0	$11.5
Hudson-Bergen Light Rail (initial segment)	$992	$20	$11	$9
Tri-Met, Westside Light Rail, Portland, Oregon	$952	$27.1	$17.2	$9.9

Note: We did not independently audit the accuracy of the project owners' cost estimates. In the process of choosing to use wrap-up insurance, each owner developed cost information by one of three methods: (1) obtaining two bids—one with insurance included and one with insurance excluded, (2) removing insurance costs from existing contracts, or (3) relying on brokers' estimates of traditional insurance.

Source: Various state highway and mass transit authorities.

Centralized Safety Programs Are Important to Achieving Savings

Much of the potential savings from wrap-up insurance derives from a well-managed centralized safety program that results in fewer injuries. Under traditional insurance, each contractor, along with its insurance broker and insurance company, may be involved in safety, but typically there is no single coordinated safety program. While some contractors budget for safety and make every effort to run a safe operation under traditional insurance, coordination can be difficult because there are many insurance companies and contractors, each with its own safety program. In contrast, wrap-up insurance can provide a greater emphasis on and level of control over safety because the project owner controls the safety program and can ensure that there is an effective, comprehensive safety program in place. Each of the six projects we reviewed had centralized safety programs and safety records that were better than the national average. Officials from each project stated that the project's safety program contributed to its actual or projected insurance savings.

Wrap-Up Insurance Facilitates Comprehensive Safety Programs

According to insurance industry officials, wrap-up insurance can improve safety because one safety team can oversee all aspects of safety at a job site. Project owners said that using wrap-up insuranceallowed for the development of a centralized safety program covering all the operations of the contractor and the subcontractors. Owners, insurance brokers, and insurance companies have a compelling financial interest to keep claims to a minimum. Owners can save by having to pay less in deductibles, while insurance brokers and companies pay out less when there are fewer claims. Therefore, the safety representatives of the project owner, the insurance broker, the insurance companies, and the contractors oversee the procedures outlined in the comprehensive safety plan. A project's safety team provides an ongoing on-site presence to improve safety and can provide innovative safety improvements. For example, in constructing the Blue Water Bridge in Michigan, the project's management team faced the problem of providing safety netting for its bridge workers to protect them from a fatal fall. Traditionally, safety netting is strung to an existing structure, and the workers that string the safety netting have to work without the protection that they are installing. Because of this emphasis on safety, the general contractor developed the idea of attaching the nets to the bridge before the sections were put in place, thus eliminating the need for the dangerous work involved in stringing the nets and reducing the risk of a fall.

In contrast, under traditional insurance, a coordinated approach to project safety is difficult because the contractors and the subcontractors oversee safety for only their segment of the work. In addition, there is some variability in how much emphasis individual contractors place on safety; while some contractors make every effort to achieve safety, others may not. Also, with traditional insurance, insurance brokers and companies with minimal involvement in a project cannot justify a continuous safety presence at the construction site. As a result, some contractors and subcontractors may not be closely monitored. Finally, lower insurance rates are a safety incentive for general contractors and subcontractors under traditional insurance. However, as one insurance industry official noted, other incentives, such as bonuses for early completion, can make completing a project within a certain time frame an overriding objective for them.

Project Owners Believe a Centralized Safety Program Saved Costs

Each of the six project owners we contacted emphasized the importance of a centralized safety program as the basis for the success of their wrap-up insurance. According to officials from the six transportation

projects, improved safety at a construction site has the positive effect of reducing general liability and workers' compensation claims, thus producing cost savings for the owner. All six project owners cited injury losses lower than the national average and lower than had been initially anticipated. For example, officials from the Boston Central Artery project identified reduced injuries as the main basis for cost savings on their project and cited a loss ratio of 23 percent compared to a historic national average of about 65 percent for that type of construction project.[4] Officials from the Michigan Blue Water Bridge project cited a loss ratio of 10 percent compared to a national average of 50 percent for that type of project. Moreover, project owners said that even without the cost reductions resulting from the lower claims, improving safety on large construction projects is a worthy goal in itself. In the case of the Portland Tri-Met project, the primary reason for using wrap-up insurance was not cost savings but improved safety, according to agency officials. They said that using wrap-up insurance allowed them to establish the type of well-controlled safety program they believed was essential to the project.

Project Owners Face Increased Administrative Costs With Wrap-Up Insurance

One of the disadvantages to using wrap-up insurance is the additional administrative and up-front insurance costs that the project owners can incur. Project owners are responsible for administering the wrap-up insurance and must either out source this function or assign additional administrative staff to plan and implement it. Depending on how it is structured, wrap-up insurance can also have large premium costs at the start of a construction project. In addition, wrap-up insurance presents project owners with greater risks than with traditional insurance. However, these increased risks can be mitigated somewhat by the type of insurance policies that owners purchase and by an effective safety program.

Wrap-up insurance can impose additional administrative burdens on project owners. They become responsible for supplying the resources to help design and implement its administration. Wrap-up insurance emphasizes job site safety, controlling losses, and effective claims management—activities that require additional resources for internal audits and risk management. For the projects we reviewed, some owners chose to out source some of these administrative functions to insurance brokers or agents, while others performed some or all of these functions with their staff. For example, the Chicago Transit Authority relied on its broker to administer the wrap-up insurance for the Green Line

[4]A loss ratio is the dollar amount paid out for claims as a percentage of premiums paid.

Reconstruction project. The Michigan Department of Transportation (MDOT) and the New Jersey Transit Corporation also delegated administrative responsibilities to their insurance agents and brokers. On the other hand, the Tri-County Metropolitan Transportation District of Oregon used its staff to administer the wrap-up insurance program for its Westside Light Rail project. Most owners hired safety engineers for their projects to supplement their insurance brokers' and general contractors' safety teams. However, all of the agencies we contacted relied on their insurance companies to investigate and settle claims.

Recognizing the increased interest in using wrap-up insurance for public construction projects, the Transit Construction Roundtable in 1998 surveyed transit agencies on their use of wrap-up insurance. The survey asked them whether a wrap-up insurance program added an additional administrative burden. All the respondents affirmed that wrap-up insurance added to their administrative workload but that the burden was reasonable.

In addition, some insurance companies may require owners to make large premium payments at the start of a construction project. The policies may require that owners establish a special reserve to ensure that funds are available to pay deductible requirements on claims. For example, the Chicago Transit Authority had to pay $21 million in premium costs at the beginning of the Green Line project. This was an additional burden to the owner because, under a traditional insurance arrangement, the owner would not have to make a lump sum payment. The owner would make payments to contractors, who would have to make premium payments and establish their own reserves for deductibles.

Factors Preventing the Broad Application of Wrap-Up Insurance

State insurance laws, minimum project size, and contractors' concerns may limit the broader use of wrap-up insurance. Some states specify that contractors must use the state fund for workers' compensation as the primary insurance vehicle for construction projects.[5] Because three-fourths of the total insurance cost on a construction project can be for workers' compensation, removing it from the project owner's control effectively eliminates most of the cost savings derived from wrap-up insurance. Projects must also have sufficiently high labor costs to produce the level of premium payments that insurance companies need to underwrite a wrap-up. This normally limits wrap-up programs to larger

[5]Workers' compensation insurance pays claimants in case of injury, disability, or death of employees resulting from work on the job.

construction projects or projects with high labor costs. Finally, some construction contractors dislike wrap-up insurance. Contractors view insurance rebates as a potential source of profits that they do not obtain with wrap-up insurance because with wrap-up insurance such rebates go to the project owner.

State Insurance Regulation

Wrap-up insurance may not be viable in at least five states because of the way the states structure their workers' compensation system. According to a 1997 General Services Administration study of wrap-up insurance,[6] five states—North Dakota, Ohio, Washington, West Virginia, and Wyoming—have a state workers' compensation fund into which all contractors pay. In these states, a project owner cannot obtain separate workers' compensation insurance coverage, so most of the insurance premiums for a project would be excluded from the owner's wrap-up insurance. This effectively eliminates the owner's financial benefit from wrap-up insurance because the bulk of insurance for a construction project—as much as 75 percent of the cost—is related to workers' compensation. Thus, wrap-up insurance without workers' compensation eliminates most of the owner's potential cost savings. Insurance regulation is generally a state function, and states have placed requirements on wrap-up insurance that may limit but do not necessarily prevent its use. For example, some states, such as Michigan and Oregon, have specific laws that limit wrap-up insurance. Both states require that an owner obtain prior approval for wrap-up insurance from the state insurance regulator. Michigan law also establishes a minimum project cost of $65 million to be eligible for wrap-up insurance. Oregon law sets a $100 million minimum project cost to be eligible for wrap-up insurance and prohibits rolling wrap-up insurance, that is, combining several different projects under one insurance program.

Project Size and Labor Costs

For an insurance company to issue policies for wrap-up insurance, a project must be large enough to generate enough premiums to make it worthwhile for the company. For this reason, wrap-up insurance generally has not been used on small projects. Most of the insurance premiums an owner pays under wrap-up insurance are to cover potential workers' compensation claims. The insurance premiums for workers' compensation are based on the project's estimated payroll costs multiplied by the workers' compensation rate set by the state. As the payroll costs for a project increase, the amount of workers' compensation premiums also

[6] Wrap-Up Insurance Study, General Services Administration, Dec., 1997.

increases. Likewise, if the state's workers' compensation rate increases, the amount of workers' compensation premiums increases. The General Services Administration's study of the use of wrap-up insurance for federal buildings concluded that insurers usually require at least $1.25 million in annual premiums before they will assume the risk associated with a wrap-up policy. However, because workers' compensation rates vary from state to state, the amount of payroll required to generate the required premiums also varies. For example, Indiana, which has a low workers' compensation rate, might require a project with $16.9 million in labor costs to reach the $1.25 million annual premium level. In contrast, a project in Minnesota, which has a high workers' compensation rate, would need only $3.2 million in labor costs to produce the same amount of premiums. Because of these variations among the states, an owner's decision to use wrap-up insurance should be made on a project-by-project basis, according to insurance industry officials.

For small construction projects that cannot achieve the $1.25 million premium threshold, some owners have used rolling wrap-up insurance that combines several projects under one insurance program. For example, on the basis of its positive experience with wrap-up insurance on the I-15 highway project, Utah established rolling wrap-up insurance for its entire state highway program. Utah officials stated that it was too early to assess performance of this insurance. However, one insurance industry official cautioned that combining multiple small projects that are spread over separate locations could greatly diminish the safety enhancements and the resulting cost savings that can come from wrap-up insurance. The official said it would be difficult to provide oversight and implement a comprehensive safety program for many small projects spread over separate locations. Therefore, one question to be answered is whether Utah can achieve the same safety program and results on a statewide basis as it did with the I-15 highway project.

Contractors' Views and Concerns About Wrap-Up Insurance

For several reasons, some construction contractors view the use of wrap-up insurance unfavorably. Under traditional insurance, contractors can derive profits from their insurance programs. The contractors' costs of insurance are included in the bids and thus are paid by the project owner. Contractors with good safety records can receive rebates on their premiums from their insurance carriers, thereby generating profits. In contrast, under wrap-up insurance the owner pays the premiums and receives the rebates on the basis of a project's good safety record. However, some project owners provide contractors with good safety

records with additional payments. For example, contractors for Portland's Tri-Met Westside Project received almost $1.3 million in safety incentives.

Under a traditional insurance approach, a contractor with a better safety record has a competitive advantage over a contractor with a safety record that is not as good. The safer contractor has lower insurance premiums, so this lower cost can be reflected in a lower bid. Under wrap-up insurance, this competitive advantage is lost because insurance is not part of a contractor's bid. On the other hand, as a risk management consultant we interviewed pointed out, many factors go into the bidding calculations of a construction contractor, and insurance premiums can be less important than other factors, such as labor productivity. In addition, officials from Portland Tri-Met and the Chicago Transit Authority stated that by eliminating insurance from bids, more disadvantaged businesses, minorities, and women contractors are able to bid on construction contracts. According to Chicago Transit Authority officials, using wrap-up insurance on the Green Line project enabled the agency to achieve its goal of having disadvantaged, minority, and women contractors represent 30 percent of the project's costs. Some disadvantaged businesses, minorities, and women contractors have difficulty obtaining sufficient insurance to bid on large infrastructure projects.

In addition, with wrap-up insurance, a contractor may bear additional record-keeping costs. For example, in reporting for workers' compensation purposes, a contractor must carefully segregate the payroll for a project using wrap-up insurance from the payrolls for other projects. When a project requires changes to the original specifications, the contractor has to remove insurance costs from the change order costs and again segregate the labor costs. Thus, the contractor incurs costs in a wrap-up insurance project that, under traditional insurance, would not be necessary. MDOT officials noted that to be fair to contractors, project owners need to make contractors aware of these added costs before contractors bid on a project.

Scope and Methodology

To obtain information on the advantages and the disadvantages and the factors affecting the broader use of wrap-up insurance, we reviewed related publications and contacted trade associations, insurance brokers, representatives of insurance companies, contractors' representatives, and a risk-management consultant. In addition, we interviewed officials from the Department of Transportation's Federal Highway Administration and Federal Transit Administration about the extent to which wrap-up

insurance has been used on federally funded highway and transit construction projects. For further review, we selected six transportation projects that had recent or ongoing experience with wrap-up insurance. We contacted managers and reviewed project documents for three highway projects: the Michigan Department of Transportation's Blue Water Bridge Reconstruction, the Utah Department of Transportation's I-15 Reconstruction, and the Massachusetts Turnpike Authority's Boston Central Artery/Tunnel. We also reviewed three transit projects: the Chicago Transit Authority's Green Line Reconstruction, the New Jersey Transit Corporation's Hudson-Bergen Line, and the Oregon Tri-County Metropolitan Transportation District's Westside Line. The projects we selected provided variations in project cost, type of construction (tunnel, bridge, highway, light rail, and heavy rail), and state insurance regulatory environment and included design-build and traditional construction approaches.

We performed our review from September 1998 through April 1999 in accordance with generally accepted government auditing standards.

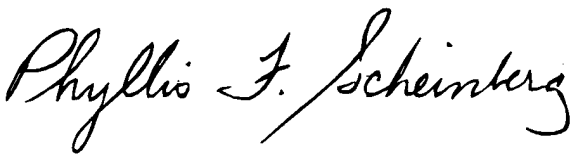
Agency Comments

We provided a draft of this report to the Department of Transportation for review and comment. We discussed the Department's comments with officials from the Office of the Secretary and the Federal Highway Administration. The Department agreed with the information presented, and the Federal Highway Administration provided several technical comments that we incorporated into the report, as appropriate.

We will send copies of this report to cognizant congressional committees; Rodney E. Slater, Secretary of Transportation; Kenneth R. Wykle, Administrator, Federal Highway Administration; Gordon J. Linton, Administrator, Federal Transit Administration; and other interested parties. We will make copies available to others upon request. Please call

me at (202) 512-2834 if you or your staff have any questions. Major contributors to this report were Joseph Christoff, Robert Ciszewski, Alexander Lawrence, and Frank Taliaferro.

Sincerely yours,



Phyllis F. Scheinberg
Associate Director,
Transportation Issues

Contents

Letter		1
Appendix I Types of Construction Insurance		18
Appendix II Transit and Highway Construction Projects Using Wrap-Up Insurance		20
	Tri-Met Westside Light Rail Line	20
	New Jersey Transit Corporation Hudson-Bergen Rail Line	22
	Chicago Transit Authority Green Line Rehabilitation Project	24
	Utah Department of Transportation Interstate 15 (I-15) Reconstruction Project	26
	Boston Central Artery/Tunnel Project	28
	Michigan Department of Transportation Blue Water Bridge Project	30
Tables	Table 1: Traditional Insurance Coverage Compared to Wrap-Up Insurance	4
	Table 2: Transportation Projects Using Wrap-Up Insurance and Owners' Estimated Costs and Savings	6

Abbreviations

CA/T	Central Artery/Tunnel
CTA	Chicago Transit Authority
FHWA	Federal Highway Administration
GAO	General Accounting Office
MDOT	Michigan Department of Transportation
UDOT	Utah Department of Transportation

Types of Construction Insurance

The following is a brief description of the various types of insurance coverage used for construction projects.

Workers' Compensation	Pays claimant in case of injury, disability, or death of employees resulting from work on the job.
General Liability	Protects the owners and the contractors from the financial consequences of various risks, such as accidents, hazardous operations, or accidents, after work is completed. The policy pays for a variety of benefits, including legal defense expenses, injuries to people, and damage to property.
Builders' Risk	Pays for damages and losses to a project that occur while it is being built.
Excess Liability	An umbrella policy that pays for losses that exceed primary policies, such as general liability.
Pollution Liability	Pays for environmental losses associated with accidental chemical spills and the leakage or disbursement of dangerous vapors.
Professional Liability	Pays for architects' and engineers' professional liability for errors and omissions. This coverage is usually purchased by the architectural and engineering firms but could be included under wrap-up insurance for a design-build project.
Railroad Protective	Liability insurance coverage for railroads, purchased by those who conduct operations (construction) on or adjacent to railroad property.
Longshoremen/Maritime	Liability insurance similar to workers' compensation that provides coverage for workers, including construction workers, on the water (working on barges) or those working over water.
Automobile Liability	Pays for damage to one or more vehicles that occurs while they are used in the course of business. Also pays medical costs of persons injured in or by an automobile. This insurance is typically not included in wrap-up insurance because vehicles are operated outside the confines of the project.
Tools and Equipment	Pays when a contractor's tools, equipment, field offices, or other property are destroyed, damaged, or stolen. This insurance is not included in wrap-up insurance because these items are considered mobile and

therefore difficult to manage. In addition, the premium costs for these policies are not significant and would be difficult to isolate from bids.

Transit and Highway Construction Projects Using Wrap-Up Insurance

Tri-Met Westside Light Rail Line

Project Description

The Westside Light Rail line is an 18-mile extension of the existing light rail line and runs west from downtown Portland to Hillsboro, Oregon. The project included a 3-mile double tunnel, a station 260 feet below the surface, and 19 other stations. In addition to the tunnel, project engineers encountered other difficulties in building the line, including obtaining rights-of-way through some heavily populated areas of central Portland. Construction started in July 1993 and was completed in September 1998. The project's total estimated cost was about $952 million, as of February 1999. The project's construction costs included purchasing 36 low-floor, light rail cars and building a 74,000-square-foot maintenance facility.

Wrap-Up Insurance Coverage

Johnson and Higgins, Marsh and McLennan was the insurance broker for this project. Marsh and McLennan hired the brokerage firm of DH Lloyd to provide administrative support for the workers' compensation portion of the wrap-up insurance. However, according to Tri-Met officials, Oregon law prohibits the use of deductibles for workers' compensation insurance. The officials said they could have saved more money if they had been able to purchase a workers' compensation policy that had deductibles.

Rationale for Using Wrap-Up Insurance

Tri-Met officials stated that they used wrap-up insurance to increase their control over the project, enhance safety, and improve efficiency with which claims are settled. Officials noted that wrap-up insurance is particularly suitable for large, complex projects like the Westside Light Rail line and that they would use it again on another large project.

Oregon passed specific legislation to allow wrap-up insurance. Prior approval by the state director of insurance is required, but wrap-up insurance can be used only for a construction project costing over $100 million and scheduled to be completed in 5 years. Project owners also have to demonstrate that wrap-up insurance would substantially improve safety and claims handling. The state prohibits wrap-up insurance to be used for unrelated projects that are combined only to meet the $100 million requirement. In addition, the broker handling the wrap-up insurance is required to protect small insurance agents who could suffer

from the loss of income that threatens to put them out of business. This protection took the form of a special fund of $25,000 for every $100 million in project costs to be deposited with the state of Oregon.

Savings Experience

Tri-Met officials estimated savings of about $10 million from using wrap-up insurance. Tri-Met officials estimated that traditional insurance would cost about $27.1 million, whereas their final wrap-up insurance costs, including reserves, were about $17.2 million. Tri-Met officials required bidders to remove insurance from their bids, but directed them to include an estimate for traditional insurance should the agency decide not to use wrap-up insurance. Bidders were also directed to include an estimate of subcontractors' insurance. Tri-Met provided contractors with safety incentives totaling about $1.3 million.

Safety Program

Overall, Tri-Met officials were pleased with the results of the project's safety program. However, they had to adjust the program midway through the project. To improve safety, Tri-Met officials began monthly safety meetings, added more safety engineers, and authorized safety engineers to halt construction when they observed unsafe conditions. The safety program was difficult to administer, in part, because it was spread over a wide area. Agency officials said that compared to the federal average for all construction, the project had a good safety record because it included a twin-tunnel, which involved greater risk than other types of construction. Tri-Met officials had a target loss ratio of 40 percent and finished the project with a loss ratio of 36.7 percent. Three fatalities on the project contributed to the loss ratio.

New Jersey Transit Corporation Hudson-Bergen Rail Line

Project Description

According to the New Jersey Transit Corporation, the Hudson-Bergen Light Rail Transit System will alleviate traffic congestion and pollution and allow people to move more efficiently between densely populated areas of northern New Jersey. The initial 9.6-mile segment will have 16 stations and will run along the Hudson River from Hoboken to Bayonne. When completed, the entire 20-mile project will connect to ferries and other rail lines to take passengers to New York City. Construction began in December 1996, and the initial 9.6-mile segment is scheduled to open for service in March 2000. New Jersey Transit estimates the segment will cost $992 million, including the low-floor, light-rail cars and a new maintenance facility.

Wrap-Up Insurance Coverage

Johnson and Higgins, Marsh and McLennan were the insurance brokers for this project. The Hudson-Bergen line's construction is being done under a design, build, operate, and maintain contract. Because one construction firm is responsible for all of these functions, additional insurance was needed to cover the design, operations, and maintenance activities that would not normally be included under wrap-up insurance. As a result, in addition to the workers' compensation, general and excess liability policies, the wrap-up insurance includes a professional liability policy to cover engineering errors and omissions, an environmental liability policy, and builders' risk coverage.

Rationale for Using Wrap-Up Insurance

New Jersey Transit officials decided to use wrap-up insurance for several reasons, including cost savings and improved safety. Wrap-up insurance also ensured that all contractors and subcontractors had the same type and limits of coverage. Furthermore, New Jersey Transit officials said that covering every contractor with one insurance carrier eliminated lawsuits among insurance carriers. New Jersey Transit staff and the insurance broker were also able to reduce the administrative costs associated with receiving, documenting, and verifying separate insurance certificates for each contractor and subcontractor. New Jersey Transit officials also said

that using wrap-up insurance helped disadvantaged and minority business enterprises because under traditional insurance, high insurance costs or requirements might preclude their participation.

New Jersey Transit officials stated that, because of their positive experience with wrap-up insurance, they may use it for other planned construction projects. They noted that no state laws limit the use of wrap-up insurance and they are currently using it on another transit project. New Jersey Transit officials said that $20 million is the lowest amount in labor costs that a project needs for wrap-up insurance to be cost-effective.

Savings Experience

New Jersey Transit officials estimated that they saved $9 million using wrap-up insurance on the Hudson-Bergen project. They budgeted $11 million for wrap-up insurance for the project but estimated that traditional insurance would have cost $20 million. Prior to implementing wrap-up insurance, they solicited proposals from various insurance companies to estimate the costs of traditional insurance.

Safety Program

According to New Jersey Transit officials, by using wrap-up insurance, they planned, organized, and implemented a common set of safety procedures under a centralized safety program. Officials said that the insurance broker, New Jersey Transit, and the contractors all have representatives in the field to help ensure that safety is maintained. In addition, the insurance broker processes and monitors claims and identifies lapses in safety. As a result of their safety program, the officials noted that the project received safety awards from one of the insurance carriers.

Chicago Transit Authority Green Line Rehabilitation Project

Project Description

In February 1994, the Chicago Transit Authority (CTA) began rehabilitating its 100-year-old Green Line system at a cost of about $409 million. Over the prior 20 years, the line's physical condition had deteriorated, causing CTA to increase the amount of time and resources to maintain it. The deterioration resulted in longer travel times because of the number of "slow zones" established for repairs and safe usage. The travel time from one end of the line to the other was 73 minutes, compared to the original design time of 45 minutes. Renovation included making stations accessible to the disabled, shoring up steel structures, and replacing all bridge ties and track. Construction began in February 1994 and was substantially completed as of April 1999.

Wrap-Up Insurance Coverage

Near North Insurance Brokerage, Inc., designed and administered the wrap-up insurance. Several carriers provided insurance coverage for the project. CTA used a loss sensitive plan for its workers' compensation and general liability coverage, and included umbrella and excess liability, builders' risk and lead abatement liability insurance. Total wrap-up insurance costs were about $23.6 million.

Rationale for Using Wrap-Up Insurance

CTA officials said the agency had never used wrap-up insurance before but used it on this project because of its size, the potential for large losses, a desire to save money, and most importantly, to enhance safety through a combined and coordinated safety program. Wrap-up insurance allowed the agency to avoid gaps in and inadequate levels of coverage among the contractors as well as expired coverage. Officials also stated this type of insurance program would minimize disputes among insurance carriers and guarantee effective claims management by using one primary insurance carrier for claims reporting, investigation, and payment. In addition, CTA was able to help minority and disadvantaged business enterprises participate in a construction project they normally would not be able to afford. According to agency officials, minority and disadvantaged business participation in this rehabilitation project was about 30 percent.

Savings Experience

The insurance broker estimated that premium costs for workers' compensation and general liability under a traditional insurance plan would have cost CTA about $32.5 million. Under wrap-up insurance, the cost for these two lines of coverage is $21 million, an estimated savings of about $11.5 million. However, CTA did not obtain estimates of other types of insurance, including builders' risk, railroad protective liability, and lead abatement. These items added about $2.6 million to the wrap-up insurance, raising the total wrap-up insurance cost to about $23.6 million. According to CTA officials, because all claims have not been finalized, as of March 1999, they do not know the full amount of savings.

Safety Program

CTA relied on its construction program manager and insurance company staff to manage the operations of the project's safety program. The project had a safety incentive program that provided cash awards for the prime contractor and the subcontractors. The actual cash award will be based on the specific loss experience for each individual contractor and subcontractor as well as the overall project loss. According to the agency's broker, as of February 1999, about $2.9 million remains in the loss fund account. If no additional workers' compensation or general liability claims are made, CTA will share this money with the contractors on a 70-percent/30-percent basis in the form of safety incentive awards.

Utah Department of Transportation Interstate 15 (I-15) Reconstruction Project

Project Description

The Interstate 15 (I-15) project in Salt Lake City, Utah, is the largest "design-build" highway project ever undertaken in the United States.[7] The Utah Department of Transportation (UDOT) is reconstructing 17 miles of interstate highway in and around Salt Lake City, Utah; replacing all existing pavement; widening the road from 6 to 12 lanes; reconstructing several major interstate highway junctions; and replacing about 140 bridges and other structures. The project is part of the state's 10-year, $2.6 billion plan for constructing and reconstructing highways throughout Utah. According to state and Federal Highway Administration (FHWA) officials, the project is critical to both the transportation infrastructure of the Salt Lake City area and the city's and state's ability to host the Winter Olympic Games in 2002. Construction began in April 1997 and is scheduled for completion in July 2001 at an estimated cost of $1.6 billion. As of April 1999, the project was 60-percent complete.

Wrap-Up Insurance Coverage

UDOT, with the assistance of Willis Corroon, insurance brokers for the project, designed and implemented the wrap-up insurance. The project uses a guaranteed plan with a $9.8 million UDOT deductible. The total cost of the wrap-up insurance is about $22.3 million and includes the following coverage: workers' compensation and general liability, umbrella liability, professional liability, contractors' pollution liability, railroad protective liability, and builders' risk.

Rationale for Using Wrap-Up Insurance

According to a UDOT official, using wrap-up insurance will save the state money. The state views these potential savings as significant, particularly for the general liability and the workers' compensation coverage. UDOT considers the administrative demands of implementing the safety program to be manageable. Officials began using wrap-up insurance for Utah's highway construction projects on a statewide basis in 1999. UDOT expects

[7]A design-build contract combines, rather than separates, responsibility for the design and construction phases of a project.

to realize economies of scale by using rolling wrap-up insurance on all its highway programs. Nevertheless, the state acknowledges that using rolling wrap-up insurance will take more administrative effort because of the larger number of contractors involved.

Savings Experience

UDOT officials estimated that the agency saved about $30 million over the cost of using a traditional form of insurance coverage for I-15 reconstruction. Traditional coverage would have cost them as much as $52.2 million compared to the maximum estimated wrap-up insurance cost of $22.3 million. Because the project is 60-percent complete and out-of-pocket claims paid to date are about $900,000, the state expects the final claims to be no more than $4 million. This will allow the state to save an additional $4 million in insurance costs.

Safety Program

Safety oversight is a shared responsibility between the state, the insurance company, and the contractors. UDOT provides two to three staff persons to the project to review safety procedures and to ensure that contractors perform weekly site safety inspections. UDOT has developed a Safety Incentive Program for the project that provides the contractor with monetary incentives for the successful completion of the project's safety program. Furthermore, these incentives are specifically tied to loss-time accident rates. According to UDOT, the safety program has resulted in a loss-time accident rate of 0.8 that is well below the national average of 5.0. There has been one fatality on the project, according to a UDOT official.

Boston Central Artery/Tunnel Project

Project Description

The Central Artery/Tunnel (CA/T) project comprises building or reconstructing about 7.5 miles of urban highways—about half of them underground. The project is designed to reduce traffic congestion in downtown Boston through the construction of an 8- to 10-lane underground Central Artery, a four-lane underwater tunnel that crosses Boston Harbor, and a commercial traffic bypass road through South Boston. The project entails numerous and complex construction challenges in tunneling under densely populated downtown Boston and close to buildings and subway tunnels. The current cost estimate for the project is $10.8 billion.[8] Construction, which began in 1991, is about 50-percent complete and is scheduled for completion in 2004.

Wrap-Up Insurance Coverage

According to project officials, the total wrap-up insurance cost is $764.9 million. This covers general and excess liability and accidental pollution ($234 million); workers' compensation ($481.5 million); architects' and engineers' professional liability ($11 million); builders' risk ($22.1 million); railroad protective liability ($4.5 million); and airport contractors' liability for Logan Airport ($11.8 million). Coverage for general liability, workers' compensation and airport contractors' liability is under a loss-sensitive plan while coverage for professional liability, builders' risk, and railroad protective liability is under a fixed-price plan.

Rationale for Using Wrap-Up Insurance

Massachusetts had past experience with other wrap-up insurance when the CA/T project began. The state chose wrap-up insurance because it would facilitate coordinated claims processing, improve overall program administration, centralize data collection, and facilitate efficient financial reporting and audits of the program and its participants. Wrap-up insurance also ensures that coverage for all the contractors and the subcontractors is in effect and has not lapsed or changed. The project changed from traditional to wrap-up insurance after the bidding of some initial contracts. The contractors had to go back and remove insurance costs from their bids, which project officials found to be a difficult and

[8]See Surface Infrastructure: Costs, Financing, and Schedules for Large-Dollar Transportation Projects (GAO/RCED-98-64, Feb. 12, 1998).

cumbersome process. Subsequent contracts have been let with instructions indicating that the owner would provide insurance.

Savings Experience

Officials said that if the project had used traditional insurance, they estimated insurance costs at about $1.03 billion. Wrap-up insurance has reduced their costs to $765 million—a $265 million savings. Massachusetts Turnpike Authority officials said they used wrap-up insurance because it would save the agency $200 million alone in general liability and workers' compensation coverage due to higher limits and broader coverage. Project officials said wrap-up insurance has already achieved savings due to coordinated loss control, consolidated claims handling, and an integrated safety program, and they expect savings to increase as the project continues.

Safety Program

The CA/T project has monetary incentives for improving safety. Since May 1998, over $2.7 million has been paid to the contractors. Twenty percent of the savings generated from the wrap-up insurance will go to contractors in the form of safety incentive awards. The project's safety program and safety incentives were meant to reduce loss ratios, produce zero accidents, reward contractors with good records, lower the budgeted safety (loss ratio) number, and help individual contractors. Officials said that because of a better-than-expected safety record, strong claims handling, and good claims investigations, their safety program has resulted in lower-than-expected loss ratios—the dollar amount of losses paid out as a percentage of paid-in premiums. In 1997, project officials estimated a 50 percent loss ratio for financial forecasting. As of February 1999, actual losses for workers' compensation and general liability were running at 23 percent and 15 percent, respectively. The largest claim against the project's general liability coverage was a $2 million claim resulting from a heavy rain that caused flooding into an active subway line at the North Station. Also, the project had a fatality last March 1998 that exposed it to other potential liabilities.

Michigan Department of Transportation Blue Water Bridge Project

Project Description

The Blue Water Bridge construction project rehabilitated the original bridge, built in 1938, and built a second bridge over the St. Clair River at Port Huron, Michigan, and Point Edward, Ontario. Because ownership is divided between Michigan and Ontario, the construction project is a joint venture between the Ontario Blue Water Bridge Authority and the Michigan Department of Transportation (MDOT). Michigan's total cost of the project will be $97.2 million. The new bridge was finished in July 1997, and the rehabilitation of the existing bridge will be completed in August 1999.

Wrap-Up Insurance Coverage

MDOT contracted with Johnson and Higgins, Marsh and McLennon, an insurance agent, to administer the wrap-up insurance. The agent obtained quotes and selected a combination of carriers on the basis of their qualifications, services offered, and cost. While no work was actually done on the water and no barges were used for construction, because the project is a bridge, MDOT officials decided to purchase insurance coverage for longshoremen and harbor workers.

Rationale for Using Wrap-Up Insurance

MDOT officials had no prior experience with wrap-up insurance, but used it for the Blue Water Bridge project because the site was confined to one area that managers could easily control. They also projected cost savings and saw wrap-up insurance as an opportunity to obtain additional coverage, such as excess liability insurance, and to process claims more efficiently with only one insurance carrier. However, MDOT officials said that wrap-up insurance increased their administrative costs and that it exposed the project to greater losses in the event of a catastrophic loss of lives or serious injuries. MDOT officials sought to lower that risk and achieve additional cost savings by improving safety at the construction site. MDOT officials said they are using wrap-up insurance again but added that it cannot be used on every construction project. Michigan has a statutory minimum of $65 million on the size of projects using wrap-up insurance. However, MDOT officials do not see the legislative limit as an

impediment because an analysis by the insurance industry indicated that savings from wrap-up insurance might come when a project's total costs are at least $65 million to $70 million.

Savings Experience

Using wrap-up insurance, MDOT saved about $3 million over traditional methods of insurance. MDOT officials estimated that using small, contractor-purchased policies would have cost about $10 million. Wrap-up insurance for the Blue Water Bridge cost $7.1 million, including premiums, deductibles, and the administrative costs charged by the insurance agent. MDOT officials noted that the one drawback of wrap-up insurance was that MDOT had to pay all of the premiums for liability insurance, and $828,000 in premiums for workers' compensation, at the start of the project. MDOT officials said they will save on deductibles if losses from claims are better than expected and will get some of the premiums back from the agent.

Safety Program

MDOT officials found a greater emphasis on safety during the construction of the Blue Water Bridge than other transportation projects. The safety plan was site-specific to the bridge, with a full-time, on-site safety director at Blue Water Bridge, and a comprehensive safety program that applied to all contractors. The insurance agent's risk management program tracked all of the claims, grouped them by type of injury, and looked for trends. If losses or claims were too high in an area, the agent examined the safety program with the safety engineer to address the problem. According to project officials, this has resulted in a better safety record than that for most projects despite the inherent risks in bridge construction. Workers' compensation is the largest component of insurance cost and the industry average for premiums paid out in claims in Michigan is from 50 percent to 65 percent. The national average for projects under wrap-up insurance is 35 percent, but for Blue Water Bridge, less than 10 percent of workers' compensation premiums had been paid out as of April 1999.