WisDOT Research & Library Program

4802 Sheboygan Avenue, Room 104
PO Box 7915, Madison, WI 53707

research@dot.wi.gov
www.wisdotresearch.wi.gov

Transportation Literature Search & Synthesis Report

Research and state DOT practice on construction cost indices

Authors: JonAnne Walters, Daniel Yeh
DBM, Research & Communication Services Section

Requester: Christine Krall
DTSD, Bureau of Project Development

Date completed: January 18, 2012

Description of topic: WisDOT currently calculates a Construction Cost Index (CCI) quarterly to provide planners with a tool for estimating the cost of future highway improvement projects. FHWA and WisDOT established the methodology and base year for the tool around 1990. Staff in the Bureau of Project Development (BPD) are seeking to update the tool to more accurately reflect current materials, quantities, specifications and construction activities.

This TSR is meant to provide BPD with two key sets of information: a literature review of research and documentation of practice from relevant national and international publications; and a synthesis of current practice examining how FHWA and certain state DOTs are using construction cost indices.

Findings from literature search

The literature review identifies completed research and other authoritative information in an area of interest. The citations below are representative, rather than exhaustive, of available English-language studies on the topic. Primary online resources for the literature searches are OCLC's WorldCat and TLCat, U.S. DOT's TRIS Online, the National Transportation Library (NTL), TRB's Research in Progress (RiP) database, and other academic, engineering and scientific databases as appropriate.

The keywords used for this literature review were as follows:

- Construction industry
- Construction industry – costs
- Price indexes
- Cost estimates

Results are listed chronologically, with the most recent citations shown first. The tables provide links to online copies of cited literature when available. Contact the WisDOT Library to obtain hard copies of any citations.

Title:	**A new methodology for developing cost indexes for highway construction**
Author:	Awad S. Hanna, Gary C. Whited, Jera J. Pashouwer & Rayyan M. Alsamadani
Source/Publisher:	TRB 90th Annual Meeting Compendium of Papers/TRB

Pages/Description:	11 p.
Date:	2011
Format/Filename:	PDF available by request
Abstract:	An essential part of planning for highway improvements is determining the purchasing power of the construction dollar. To do this, a technique must be used to update historical project costs to reflect their costs in the current market. Generally, a Construction Cost Index (CCI) is used as a multiplier that converts costs from past projects into the estimated cost of performing the same project today. The Federal Highway Administration (FHWA) was the first to publish a CCI for highway construction projects. The FHWA used a fixed-base system that specified a base year upon which all calculations were centered. Most state highway agencies (SHAs) followed the techniques used by the FHWA in calculating cost indexes but incorporated their own historical data to improve the accuracy of the index within the more defined region in which the agency operates. Because of the way the fixed-based system is structured, the base year must be updated regularly to reflect changes in the material quantities used and types of construction performed over time. This paper discusses a new methodology for calculating cost indexes that follows the same trends as the current fixed-base index but provides and easier calculation. The ease of calculating is important because it allows updates to occur more frequently translating to more current information being used to calculate the index. This paper discusses a new approach to calculating CCIs as developed for the Wisconsin Department of Transportation (WisDOT**)** to be more reactive to changes in the type of highway construction currently performed on Wisconsin's state roadway projects. Other SHAs can apply this same methodology by incorporating their own historical cost data.

Title:	**Time series models for forecasting construction costs using time series indexes**
Author:	Seokyon Hwang
Source/Publisher:	Journal of Construction Engineering & Management/ASCE
Pages/Description:	p. 656-662/v.137 issue 9
Date:	2011
Format/Filename:	PDF available by request

Abstract:	Construction often involves considerable time gaps between cost estimation and on-site operations. In addition, many operations are performed over a considerable period of time. Accordingly, estimating construction costs must consider the trend of costs in the market, where construction costs normally change over time. Insight into the trend of construction costs in the market, therefore, is beneficial, even critical, to the effective cost management of construction projects. In an effort to support such insight development, two time series models were built by analyzing time series index data and comparing them with existing methods in the present study. The developed time series models accurately predict construction cost indexes. In particular, the models respond sensitively and swiftly to a quick, large change of costs, which allows for accurate forecasting over short and long term periods. Overall, the models are effective for understanding the trend of construction costs.
Title:	**Price indexing in transportation construction contracts**
Author:	Jonathan Skolnik
Source/Publisher:	NCHRP project 20-07 (274)
Pages/Description:	133 p.
Date:	2011
Format/Filename:	http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07(274)_FR.pdf
Abstract:	When market prices of cement, steel, or other commodities used in transportation infrastructure construction are increasing, state departments of transportation (DOTs) will typically be faced with demands from their contractors that price indexing or cost escalation clauses be incorporated in construction contracts. Such demands have most recently been spurred by sharply rising petroleum prices and consequently increased costs of fuel and asphalt products. Price indexing and cost escalation clauses shift business risk from the contractor to the DOT. While this shifting of risk may benefit the agency through contractors' willingness to submit lower bids, the agency faces greater uncertainty in budgeting and managing the final costs of a project. There is little information available on how an agency's use of such clauses may affect construction-market competition or commodity prices within a regional market. There is also little information on how the use of particular price indices may influence the outcome of the agency's use of indexing, and how general economic conditions may affect these outcomes. Agency decision makers seek guidance for judging if consideration of indexing and escalation clauses is warranted, whether the benefits an agency may gain using such clauses outweigh the costs and how best to implement indexing. The objectives of this project are to describe the current state of DOT practice in using price indexing or cost escalation clauses in construction contracts and to provide guidance for DOT staff making decisions about whether and how such clauses should be used. The project will primarily review the experiences of those DOTS that have used price indexing or cost escalation clauses, but will also consider any other available data that illustrates effectiveness or ineffectiveness.

Title:	**New cost estimating tool**
Author:	Karen White & Ralph Erickson
Source/Publisher:	Public Roads/FHWA
Pages/Description:	Pg.2/v. 75 no.1
Date:	July/Aug 2011
Format/Filename:	PDF available by request
Abstract:	The article reports that the Bid Price Index (BPI) has replaced by the National Highway Construction Cost Index (NHCCI) as the national barometer for analyzing road-building price movements in the U.S. It discusses the project cost estimates and funding resources required in the planning for future highway construction. It details how the U.S. Federal Highway Administration (FHWA) previously used the BPI. It highlights the concerns about the BPI and the advantages offered by the NHCCI.
Title:	**Construction cost estimating guide**
Author:	New Jersey Department of Transportation
Source/Publisher:	NJ DOT/Trns*port Support Group
Pages/Description:	215 p.
Date:	2006 (**Revised 2010**)
Format/Filename:	http://www.nj.gov/transportation/business/trnsport/pdf/CCEG.pdf
Abstract:	The Trns•port Cost Estimation System (CES®) is part of AASHTO's Trns•port suite of applications and is NJDOT's primary tool for construction cost estimation. CES provides a full range of cost estimating capabilities at any given engineering phase from conceptual estimation to the final engineer's estimate required for award approval. It may be used to produce long-range and detailed estimates, using cost-based and bid-based pricing methods. The long-range estimate includes the estimate prepared for the Division of Project Planning and Development (DPPD), as well as the Preliminary Design Submission. The detailed estimate begins at the point where item level information is added to the estimate. It is also referred to as the Engineer's Estimate or the Final Design Submission. Use of CES is part of an agency initiative to produce more accurate and consistent cost estimates earlier in the engineering phase. The system is useful for designers and cost estimators in developing construction cost estimates for the NJDOT capital projects at preliminary engineering (PE). PE estimates are based on the project's type, length, pavement type, and types of bridges. They are used for the 5-year Program which involve the Metropolitan Planning Organizations and the Transportation Improvement Program. The Cost Estimating Unit has been placed outside of the rest of the production units in order to provide independent estimates used in the financial programming. This guide details the functionality of CES and how to use the application for creating long-range estimates and detailed estimates according to NJDOT policy.

Title:	**Forecasting construction cost index in the United States**
Author:	Baabak Ashuri & Jian Lu
Source/Publisher:	COBRA 2010/RICS International Research Conference
Pages/Description:	22 p.
Date:	2010
Format/Filename:	http://www.rics.org/site/download_feed.aspx?fileID=7814&fileExtension=PDF
Abstract:	Every month, Engineering News-Record (ENR) publishes the Construction Cost Index (CCI), which is a weighted aggregate index of the 20-city average prices of construction activities. Although CCI is increasing in the long term, it is subject to considerable short term variations, which make it problematic for cost estimators to prepare accurate bids for contractors or engineering estimates for owner organizations. The ability to predict construction cost trends can result in more accurate bids. This paper summarizes and compares the applicability and predictability of various time series approaches for in-sample and out-of-sample forecasting of CCI. In addition, the predictability of the developed time models will be compared to ENR's annual CCI forecasts to explore whether it provides more accurate prediction than ENR experts' forecasts. Cost estimators can benefit from CCI forecasting by incorporating predicted price variations in their estimates and preparing more accurate bids for contractors and budgets for owners. Owners and contractors can use CCI forecasting to reduce construction costs by better-timed project execution.

Title:	**Synthesis on construction unit cost development: technical report**
Author:	Stuart Anderson, Ivan Damnjanovic, Ali Nejat & Sushanth Ramesh
Source/Publisher:	Texas Transportation Institute
Pages/Description:	142 p.
Date:	2009
Format/Filename:	http://tti.tamu.edu/documents/0-6023-1.pdf
Abstract:	Availability of historical unit cost data is an important factor in developing accurate project cost estimates. State highway agencies (SHAs) collect data on historical bids and/or production rates, crew sizes and mixes, material costs, and equipment costs, including contractor overhead and profit. The goal of this synthesis is to identify how SHAs develop unit prices for construction and maintenance projects. The synthesis approach consists of a comprehensive online survey, covering every aspect of unit cost development, to identify the state of practice in SHAs. The study followed with interviews with several representative SHAs to gain a better understanding of the practices for unit cost development. This study finds that even though SHAs collect and store historical cost data, they do not have a formal and documented process for adjusting unit costs for project characteristics and market conditions.

Title:	**Louisiana highway construction cost trend after hurricanes Katrina and Rita**

Author:	Guangxiang Cheng & Chester G. Wilmot
Source/Publisher:	Journal of Construction Engineering and Management/ASCE
Pages/Description:	8 p.
Date:	July 2009
Format/Filename:	PDF available by request
Abstract:	The objective of this study was to reveal the trend in highway construction costs following Hurricanes Katrina and Rita in Louisiana. The means of measuring highway construction cost was the Louisiana Highway Construction Index, an index made up of the cost of labor, equipment, and six major materials used in highway construction. Data from projects let by the Louisiana Department of Transportation and Development from the second quarter of 2003 to the second quarter of 2007 were used to track the change in construction costs. Index values from hurricane-impacted areas _GO Zones_ were compared with those in Non-GO Zones. The indices revealed that two quarters after Hurricanes Katrina and Rita, the highway construction cost jumped about 20% statewide and 51% in GO Zone. Two years after the hurricanes, the cost has stabilized to around 30% increase over the pre-Katrina and Rita period. This study provides valuable information for the state agency to estimate cost escalation in ongoing projects and to estimate highway construction costs in future disaster situations.

Title:	**Ohio Department of Transportation business plan: 2008-2009**
Author:	Ohio Department of Transportation business plan
Source/Publisher:	Ted Strickland & James G. Beasley/Ohio DOT
Pages/Description:	44 p.
Date:	2007
Format/Filename:	http://www.stateinnovation.org/Events/Event-Listing/Ohio-Strategy-Academy-on-Transportation/ohio-reading-06.aspx
Abstract:	The ODOT Business Plan, required every two years under Ohio law, details the department's mission, goals, and priorities in how we will conduct business over the biennium and into the future. It is also a forecasting tool, giving the department and its transportation partners a better perspective on the state's long-term capital improvement program. The 2008-2009 Ohio Business Plan addresses forecasting construction costs.

Title:	**Comparison of States' highway construction costs**
Author:	U.S. General Accounting Office
Source/Publisher:	U.S. GAO
Pages/Description:	27 p.
Date:	2003

Format/Filename:	http://www.gao.gov/new.items/d04113r.pdf
Abstract:	This is a General Accounting Office (GAO) correspondence report to Congress on whether Federal Highway Administration (FHWA) data can help transportation stakeholders understand how states' costs to build, reconstruct, and maintain federally financed highways, roads, and bridges (termed "constructing highways" for this report) compare. During their review, GAO became aware of significant issues regarding the quality of the data that FHWA collects and reports, a topic also discussed in this report. Costs are tracked by state, according to an index value that is assigned quarterly. Each state received an index value of 100 for the base year (1987). If one state's costs in the base year were twice those of another state, both would have an index value of 100 for that year, and the difference in those costs would not be shown, thus preventing a comparison. In addition, FHWA officials told GAO that the bid price data do not contain details to determine why costs appear to differ either between states or within a state. They told GAO that the installed cost of materials could vary significantly, for example, because the quality of the materials or the installation specification (e.g., smoothness of the surface) could be very different. FHWA's bid price data do not contain this information. FHWA is considering whether to discontinue collecting bid price data because of the (1) apparent limited use of the data, and (2) level of effort to collect data that apparently is not extensively used. In commenting on a draft of this report, FHWA noted that it hired a consultant to evaluate the usefulness of the data to stakeholders and to explore potential alternative approaches to gathering information that could be used within FHWA. FHWA also commented that it recently partnered with the American Association of State Highway Transportation Officials to survey all state departments of transportation on the extent of use of the published price trend data and alternative ways that FHWA could gather these data (such as using data that are being collected by states for their internal use). GAO contacted 12 states, the Bureau of Transportation Statistics, and several industry associations about the usefulness of the bid price data. Generally, they told GAO they do not use the data. For example, a few states told GAO that they maintain more complete data, and FHWA's data are not compatible with their own. FHWA estimated that it takes states, in total, about 975 hours annually to report the bid price data (based on reporting by 37 states), or an average of about 6.5 hours per state per quarterly report.

Synthesis of current practice among selected state DOTs

This synthesis report is derived from a review of FHWA and selected state DOTs. The process included Web site review and follow-up phone calls to determine the construct of the index, the base year and any recent or upcoming updates.

Most of the state DOTs that were investigated and contacted for this synthesis report were identified by the AASHTO Technical Committee on Cost Estimating (TCCE). The TCCE is authorized by the Subcommittee on Design to recommend policy and identify best practices for how to develop estimates. The ultimate goal for the technical committee is to prepare written policies / guidelines for cost estimating at all stages of project development.

Key findings

- Most indices are very similar and were constructed around the same time (1987-1990) when FHWA developed an index. There are also subtle differences relating to materials used (or not used) in states due to supply or political considerations.

- Several states' indices also date to the same approximate timeframe of Wisconsin, and many states are looking to the new changes to the FHWA National Highway Construction Cost Index for guidance to update their own indices.

- Most states have not substantially altered the weight given to the components in the index, instead finding that the weights have remained largely stable in the long term.

- There is no clear pattern for how often states calculate the index. Within this sampling, the updates include monthly, quarterly, semi-annually and annually.

- Some states separately track fuel price indices but do not include them as part of the composite construction cost index.

---

1. AASHTO Technical Committee on Cost Estimating
http://design.transportation.org/Pages/CostEstimating.aspx

Chair: Lesly Tribelhorn, Montana DOT
406-444-6242, ltribelhorn@mt.gov

Staff: Keith Platte, AASHTO
202-624-7830, kplatte@aashto.org

Notes: The TCCE's annual meeting minutes from October 2010 include a discussion of the FHWA's National Highway Construction Cost Index and references to other state DOT indices.
http://design.transportation.org/Documents/TCCE%202010%20ANNUAL%20MEETING.pdf

---

2. Federal Highway Administration, Office of Highway Policy Information
www.fhwa.dot.gov/policyinformation/nhcci.cfm

Contact: Karen White
202-366-9474, karen.white@dot.gov

Notes: The National Highway Construction Cost Index (NHCCI) provides a price index that can be used both to track price changes associated with highway construction costs and to convert current dollar expenditures on highway construction to real or constant dollar expenditures. The National Highway Construction Cost Index (NHCCI) is intended to replace the Federal Highway Administration's (FHWA) Bid-Price Index (BPI) in the future and also to be compared with BPI for historical purposes.

FHWA's next step would be to develop sub-indices for key commodities. The SAS data used in the new index may be able to support state-by-state or regional indices, but this is not a priority for FHWA. (Note: Ralph Erickson at FHWA, who was instrumental in this effort, is retiring at the end of January 2012.)

This report presents a description of the research to develop the new price index using Oman Systems, Inc.
www.fhwa.dot.gov/ohim/nhcci/desc.cfm

This document specifies the methodology which serves as the basis for the development of the National Highway Construction Cost Index, (NHCCI).
www.fhwa.dot.gov/ohim/nhcci/math.cfm

---

3. California DOT
www.dot.ca.gov/hq/esc/oe/contract_progress/index.html

Contact: Zairen Luo
916-227-5784, zairen_luo@dot.ca.gov

Notes: Caltrans maintains a price index for selected highway construction items using the Fisher formula and base year 2007. The composite index is calculated based on the bid prices and quantities of selected highway construction items from seven groups:

- Roadway excavation
- Aggregate base
- Asphalt pavement
- Portland cement concrete pavement
- Portland cement concrete structural
- Bar reinforcing steel
- Structural steel

CalTrans has used the Fisher formula since the third quarter of 2010. Historical reports are available at www.dot.ca.gov/hq/esc/oe/cost_index/historical_reports/. The previous

Laspeyres formula based index varied significantly depending on the base year used, while the Fisher formula based index is more consistent. CalTrans also maintains a separate bridge construction cost index.

---

4. Colorado DOT
www.coloradodot.info/business/eema/construction-cost-index

Contact: Shawn Yu, Manager
Engineering Estimates and Market Analysis Unit
303-757-9293, shawn.yu@dot.state.co.us

Notes: The Colorado Construction Cost Index is composed of six indicator items and based on bid prices relative to the unit prices of 1987 (unit index=100). The index varies due to type and location of projects in addition to overall economic conditions. Colorado's indicator items include the following:

- Earthwork (excavation and embankment)
- Hot mix asphalt
- Concrete pavement
- Structural steel
- Structural concrete
- Reinforcing steel

Colorado DOT is awaiting the final results of the FHWA National Highway Cost Construction Index before examining its own index. Colorado attempts to calculate the index quarterly but sometimes has to omit certain items from the calculation if there were not significant quantities in a given time period.

---

5. Florida DOT
www.dot.state.fl.us/specificationsoffice/Estimates/Trends/

Contact: Phillip "Greg" Davis, State Estimates Engineer
850-414-4170, greg.davis@dot.state.fl.us

Notes: Florida DOT publishes price trend reports with a base year of 2003 that calculate individual, category and composite cost indices for the following weighted components:

- Earthwork
- Pavements – bituminous and Portland cement
- Structures – Reinforcing, structural steel, and other structures component

Florida DOT also publishes a separate fuel and bituminous price index
www.dot.state.fl.us/Construction/fuel&bit/fuel&bit.shtm

Florida DOT is not planning on taking any specific action to adjust its model in reaction to the FHWA NHCCI update.

---

6. Iowa DOT
(index not published on-line)

Contact: Ed Kasper, Assistant Contracts Engineer
515-239-1414, edward.kasper@dot.iowa.gov

Notes: Iowa DOT uses six indicator items based on awarded contracts with a base year of 1987 for its construction cost index:

- Roadway excavation
- HMA pavement
- PCC pavement
- Reinforcing steel
- Structural steel
- Structural concrete

Iowa publishes an annual and a three-quarter moving index for each of its indicators and a composite total.

---

7. New Hampshire DOT
www.nh.gov/dot/org/projectdevelopment/construction/documents.htm

Contact: Dennis Herrick, Chief of Engineering Audit
603-271-3463, dherrick@dot.state.nh.us

Notes: New Hampshire DOT's construction cost index uses a base year of 2000 and is computed from the following components and weights:

- Hot mix asphalt – 42%
- Crushed material – 16%
- Roadway excavation – 14%
- Steel – 13%
- Structural concrete – 11%
- Bar reinforcing steel – 4%

NHDOT does evaluate the weights annually but they have not changed much since 2000. New Hampshire also tracks fuel and liquid asphalt prices although they are not a part of the index. New Hampshire does not use concrete pavement.

---

8. Ohio DOT
www.dot.state.oh.us/Divisions/Planning/Estimating/Pages/BART.aspx (see "monthly trends")

Contact: Tim Pritchard
Office of Estimating
614-644-0128, timothy.pritchard@dot.state.oh.us

Notes: Ohio DOT calculates a "market basket" of items that constitute the largest part of the program. The cost index is represented as a program cost index with a base year of 2004 and is published monthly. It is based on ten weighted components:

- Aggregate base – 3%
- Asphalt pavement – 26%
- Asphalt base – 4%
- Drainage – 7%
- Earthwork – 11%
- Guardrail – 3%
- Maintenance of traffic – 9%
- Pavement marking – 3%
- Portland cement concrete pavement – 5%
- Structures (including maintenance) – 29%

Ohio does some minor adjustments each year but has not made any major changes to the index. Ohio DOT also uses price calculators to estimate prices at the mid-point of a project (www.dot.state.oh.us/Divisions/ConstructionMgt/Admin/Pages/PriceIndexes.aspx).

---

9. Oregon DOT
www.oregon.gov/odot/hwy/estimating/cost_trends.shtml

Contact: John Riedl
Office of Project Letting
503-986-3886, john.j.riedl@odot.state.or.us

Notes: Oregon DOT's cost trend reports have been discontinued in favor of monitoring the development of the new FHWA National Highway Construction Cost Index. The reason for discontinuation is that Oregon DOT believed the output and construct of AASHTO Ware Trns*port software did not support a true cost index system, but instead responded solely to bid behaviors that might not truly reflect actual costs.

Oregon last calculated its previous index for the second quarter of 2010 with a base year of 1987. The index drew on six components:

- Excavation
- Base aggregates
- Asphalt pavement
- Portland cement concrete in structures
- Bar reinforcing steel
- Structural steel

Oregon DOT does not use concrete pavement.

---

10. South Dakota DOT
www.sddot.com/pe/projdev/bidlet_contractor.asp

Contact: Chris Ott, Senior Financial Analyst
Division of Finance & Management
605-773-4114, chris.ott@state.sd.us

Notes: South Dakota's highway construction cost index has a base year of 1987 and draws on eight different components:

- Unclassified excavation
- Liquid asphalt
- Asphalt concrete
- Gravel cushion (sub-base and base)
- Portland cement concrete pavement
- Class A concrete (structures)
- Reinforcing steel
- Structural steel

South Dakota has not made any changes to the components or weights. SDDOT also tracks fuel price indices for diesel, unleaded and propane, but these do not factor into the construction cost index (www.sddot.com/bus_contractor_fuel.asp).

---

11. Texas DOT
http://ftp.dot.state.tx.us/pub/txdot-info/cst/hci_binder.pdf

Contact: The Texas DOT web site did not list a specific contact for the index.

Notes: The Texas DOT highway cost index calculates four main categories against a base year of 1997. The four main categories are computed through fifteen individual elements. The index also include individual indices for each main category:

- Earthwork
- Structure
- Subgrade and base course
- Surfacing

---

12. Utah DOT
www.udot.utah.gov/main/f?p=100:pg:0:::1:T,V:1400

Contact: Stacy Frandsen, Manager

Contracts, Estimates, Agreements
801-965-4344, sfrandsen@utah.gov

Notes: The Utah Construction Cost Index is composed of seven indicator items and it is based on the total quantities used during 1987. The index is reviewed annually to clarify if additional bid items need to be included. These items are currently used to indicate the price trend for roadway excavations, surfacing and structures:

- Roadway excavation
- Bituminous surface mix
- Bitumen
- Portland cement concrete pavement
- Reinforcing steel
- Structural steel
- Structural concrete

UDOT's intent is to start comparing alongside FHWA's new NHCCI as UDOT had done in the past with the FHWA bid price index.

---

13. Washington State DOT
www.wsdot.wa.gov/biz/construction/constructioncosts.cfm

Contact: Dave Erickson, Construction Engineer
Roadway Construction Office
360-705-7829, ericksd@wsdot.wa.gov

Notes: Washington State DOT has developed a construction cost index (CCI) from the bid data collected from construction projects. The data, beginning in 1990, is graphed with an accompanying trend line that provides insight into the relative changes in the cost of a material. The CCI is calculated based on historical use of the seven bid items and are tracked to show the trend in highway material costs.

- Crushed surfacing
- Concrete pavement
- Structural concrete
- Hot mix asphalt
- Roadway excavation
- Steel reinforcing bar
- Structural steel

WsDOT attempts to calculate the index quarterly but sometimes has to omit certain items from the calculation if there were not significant quantities in a given time period. WsDOT has no immediate plans to formally review the construct of the index. WsDOT also uses Global Insight in its design and pre-advertisement phases to calculate estimated costs at the mid-point of a project.