

AASHTO TECHNICAL COMMITTEE ON PROJECT
MANAGEMENT

PROJECT MANAGEMENT
RELATED PUBLICATION
REVIEW

SACRAMENTO, CA
APRIL 2017

COMMITTEE FORMATION AND PROGRESS

In 2015, the AASHTO Technical Committee on Project Management (Committee) was formed by merging AASHTO Technical committees on Value Engineering and Pre-Construction Engineering Management.

An early but important goal of the committee is to identify gaps in the publications in the area of Project Management. The committee did a somewhat exhaustive search of publications, primarily, AASHTO, NCHRP, PMI and TRB that are related to project management. The original publication list consisted of over 130 publications but further screening based on relevance brought the publication down to a more manageable size of 70 publications which were distributed to the committee members for review and summarization, limited to one page. Through this process committee realized that project management was intertwined with numerous other areas including project delivery, cost estimation, organizational structure, portfolio management, risk management, schedule estimation, scoping and value engineering. As such, many of the publications reviewed focus on these areas.

The Committee identified the following publications as very useful to States and organized them in a Project Management Publication Framework consisting of the following focus areas.

- Project Management Integration and Tools
 - FHWA Requirements for Major Projects
 - *Project Management Plan Guidance*
www.fhwa.dot.gov/majorprojects/pmp/guidance.cfm
 - *Financial Plans Major Project Financial Plan Guidance*
www.fhwa.dot.gov/majorprojects/financial_plans/guidance14.cfm
 - NCHRP
 - *NCHRP Project 20-68A, Scan 7-01 Best Practices in Project Delivery Management*
<http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=1570>
 - *NCHRP Document 137 or NCHRP 20-69 - Guidance for Transportation Project Management*
<http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=655>
- Scoping
 - *NCHRP 821, Effective Project Scoping Practices to Improve On-Time and On-Budget Delivery of Highway Projects*
<http://www.trb.org/Publications/Blurbs/173953.aspx>
 - *Caltrans Workplan Standards Guide*
https://projgmt.onramp.dot.ca.gov/downloads/projgmt/files/WSG/Workplan_Standards_Guide_2016_07_11.pdf
 - *Caltrans Capital Project Workplan Handbook*
https://projgmt.onramp.dot.ca.gov/downloads/projgmt/files/PM_Resources/Workplans/Capital_Project_Workplan_Handbook.pdf

- Cost Estimating
 - NCHRP Project 15-51 *Estimating Highway Preconstruction Services Costs*
<https://www.nap.edu/read/23627/chapter/1>
 - NCHRP Synthesis 450 - *Forecasting Highway Construction Staffing Requirements*
<http://www.trb.org/Publications/Blurbs/169458.aspx>
 - NCHRP Report 574 *Guidance for Cost Estimation and Management for Highway Project During Planning, Programming, and Preconstruction*
https://www.crab.wa.gov/LibraryData/RESEARCH_and_REFERENCE_MATERIAL/Road_Construction/070316NCHRP574CostEstimateGuide.pdf
 - AASHTO *Practical Guide to (Capital) Cost Estimating*
https://bookstore.transportation.org/collection_detail.aspx?ID=122
 - NCHRP Report 826 – *Estimating Highway Preconstruction Services Costs*
<http://www.trb.org/Publications/Blurbs/174756.aspx>
- Schedule Estimating – More research is needed
 - NCHRP Synthesis 502 *Practices for Establishing Contract Completion Dates for Highway Projects*
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_502.pdf
- Risk Management – More research is needed on monetizing risk.
 - SHRP2 Renewal Project R10 *Guide to Project Management Strategies for Complex projects*
https://www.fhwa.dot.gov/goshrp2/Solutions/Renewal/R10/Project_Management_Strategies_for_Complex_Projects
 - SHRP2 R09 *Guide for the Process of Managing Risk on Rapid Renewal Projects*
https://www.fhwa.dot.gov/goshrp2/Solutions/All/R09/Managing_Risk_in_Rapid_Renewal_Projects
 - NCHRP Report 658 *Guidebook on Risk Analysis Tools and Management Practices to Control Transportation Project Cost*
<http://www.trb.org/Publications/Blurbs/163722.aspx>
 - SHRP2_R10 *Project Management Studies for Complex Projects Case Study Report*
<http://www.trb.org/Publications/Blurbs/170530.aspx>
 - Caltrans *Project Risk Management Handbook: A Scalable Approach*
https://projmgmt.onramp.dot.ca.gov/downloads/projmgmt/files/Risk_Management/2012-06-30_Project_Risk_Management_Handbook.pdf
 - NCHRP 19-11 *Applying Risk Analysis, Value Engineering, and other Innovative Solutions for Project Delivery (TBD)*
<http://www.trb.org/Publications/Blurbs/176394.aspx>
 - *Washington Project Risk Management Guide*
<https://www.wsdot.wa.gov/publications/fulltext/cevp/ProjectRiskManagement.pdf>
 - *Risk Management for Design and Construction Book*
<https://www.brownntechical.org/products/risk-management-for-design-and-construction.html>
 - *Georgia Streamlining Project Delivery Through Risk Analysis*
<http://www.gti.gatech.edu/pi/streamlining-project-delivery-through-risk-analysis>

- Emergency and Accelerating Projects
 - *SHRP 2 (19) Expedited Planning and Environmental Review of Highway Projects*
<http://www.trb.org/Publications/Blurbs/165282.aspx>
 - *NCHRP Project 20-68A, Scan 07-02 Best Practices in Accelerated Construction Techniques*
http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-68A_07-02.pdf
- Value Engineering
 - *NCHRP Synthesis 352 Value Engineering Applications in Transportation*
<http://www.trb.org/Publications/Blurbs/156567.aspx>
 - *Value Engineering Publication (AASHTO)*
https://bookstore.transportation.org/item_details.aspx?ID=3738
- Organizational Structure
 - *NCHRP 20-07 (205) Project Delivery Workforce Management Review*
[http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/20-07\(205\)_FR.pdf](http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/20-07(205)_FR.pdf)
 - *Guide to Preconstruction Engineering Management (AASHTO)*
<http://sp.design.transportation.org/Documents/FinalAASHTOTCPEMMeetingMinutesApril2008Meeting.pdf>
 - *NCHRP Project 20-24 (83) Alternative DOT Organizational Models for Delivery Services*
[http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-24\(83\)_FR.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-24(83)_FR.pdf)
- Communication
 - Stakeholder Engagement
 - *From Community Involvement to the Final Product*
<https://www.fhwa.dot.gov/majorprojects/pmp/marketingplan.pdf>
 - *Caltrans Project Communication Handbook*
https://projmgmt.onramp.dot.ca.gov/downloads/projmgmt/files/PM_Manual/Guides/Project_Communication_Handbook.pdf
- Procurement
 - *Guide for Consultant Contracting (AASHTO)*
https://bookstore.transportation.org/Item_details.aspx?id=1196
- Portfolio Management
 - *Program Risk Management Approach to Reducing Cost Uncertainty in Highway Projects*
<http://docs.trb.org/prp/15-5267.pdf>
 - *NCHRP - 20-24 Executive Strategies for Risk Management by State DOT's*
<http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2888>
 - *Risk Based Transportation Asset Management Report 1*
<https://www.fhwa.dot.gov/asset/pubs/hif12035.pdf>