



# Project Scoping and Project Management at MnDOT

Capacity Building Workshop  
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Jean Wallace  
MnDOT Office of Project Scope & Cost Management

*Your Destination...Our Priority*





# Overview

- MnDOT's Scoping Process
  - Lessons Learned and Moving Forward
- Project Management
  - National DOT trends and perspectives
  - Peer Review Process and Results
  - Construction Industry Perspective
  - Next Steps





# MnDOT's Scoping Process

- Initiated prior to the CE/CM effort
- Began in 2006 by the Preconstruction Managers Group (PCMG - Assistant District Engineers in the MnDOT's districts)
  - Developed a process
  - Developed a manual
  - Provided training ahead of implementation
- Implemented in early 2008



# MnDOT's Scoping Process

- Objective of the scoping process:
  - Early
  - Comprehensive
  - Documented
  - Formalized Change Process





# Benefits of Good Scoping

- Early identification of what a project is and isn't
- Early identification of risks and potential conflict points
- Presents a critical path for project managers
- Alignment with our performance goals
- Improved cost estimates and schedules
- Improved coordination with partners
- Greater public trust



# Scoping Process – Goal of Each Phase

- **Project Planning**
- Analyze performance gaps
- Determine potential projects' performance-based Need & Purpose
- Determine which to scope

## Project Scoping

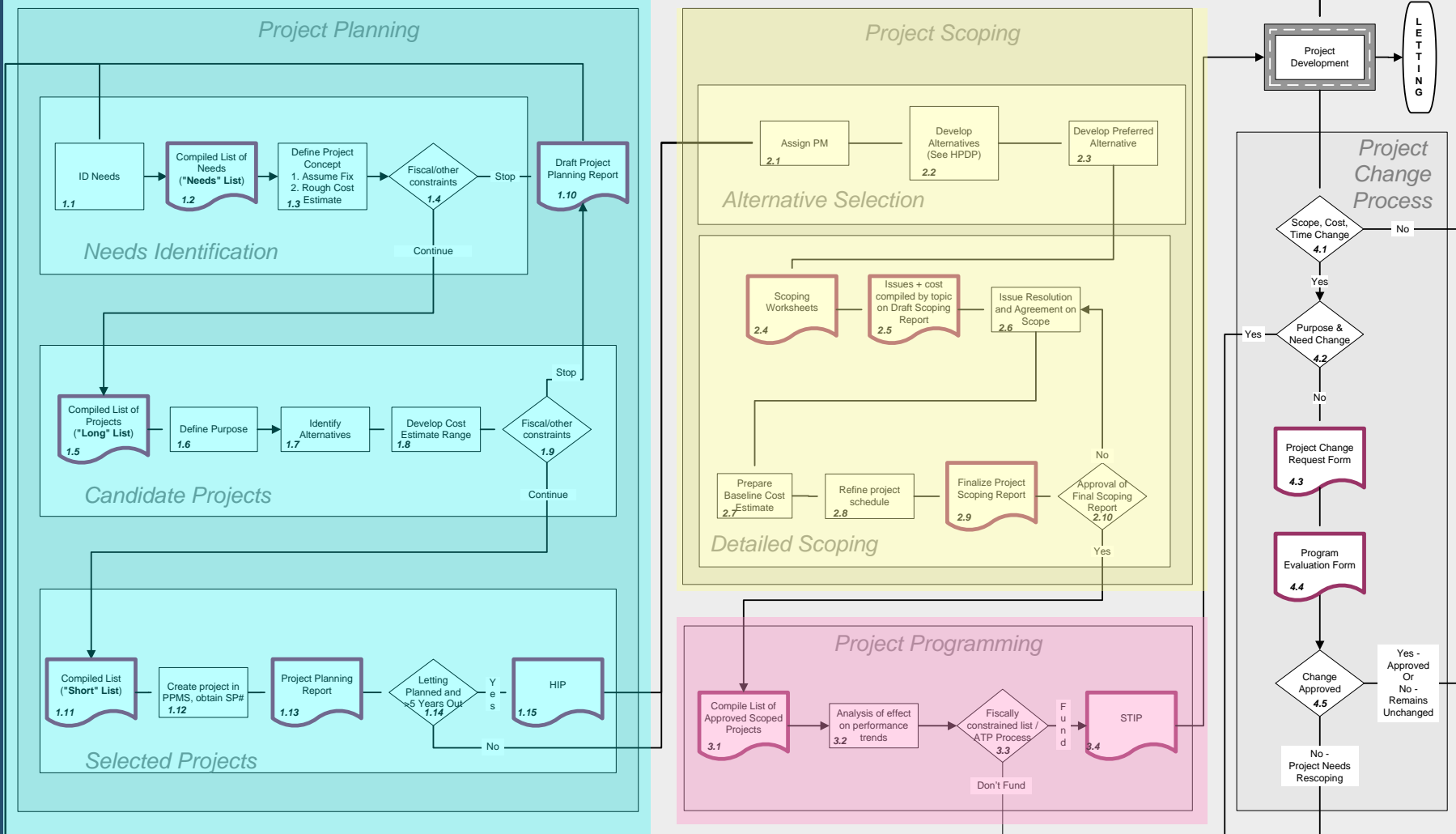
- Determine detailed scope
- Determine cost estimate
- Build schedule

## Programming

- Determine which projects to forward to ATP
- Prepare STIP



# Planning - Scoping - Programming Process 2008 (Refer to Scoping Narrative for detail)





# Scoping Process Implementation

- Implemented in FY 2012 projects in the 2009-2012 STIP
  - 96% of projects in 2012 had an approved scoping document
- All projects in the 2010 – 2013 STIP required to use the new scoping process
  - 94% of all projects of projects had approved scoping documents
- For 2011-2014, 90+% of projects have scopes







# Scoping Process Implementation – Remaining Challenges

- Continued communication about the value to project managers of early scoping
- Continue to focus on earlier coordination both internally and externally
- Integration of Risk Management
- Integration of many new initiatives and changes to policies and laws
- Identifying the appropriate level of effort
- More clearly identify roles & responsibilities





# Scoping Process – Next Steps

- Reconvened the Project Scoping Committee
- Mission Statement:
  - Define the “right” projects to be delivered on-time, on-budget and that meet customer expectations. The committee continues to ensure a comprehensive scoping process is early, scalable, documented, and includes a flexibility-driven change management process.





# Scoping Process – Next Steps

## – Review:

- Evaluate the scoping process

## – Refine:

- Clear guidance on Level of Effort
- Clearly defined roles and responsibilities
- Address Complexity and Flexibility

## – Reach:

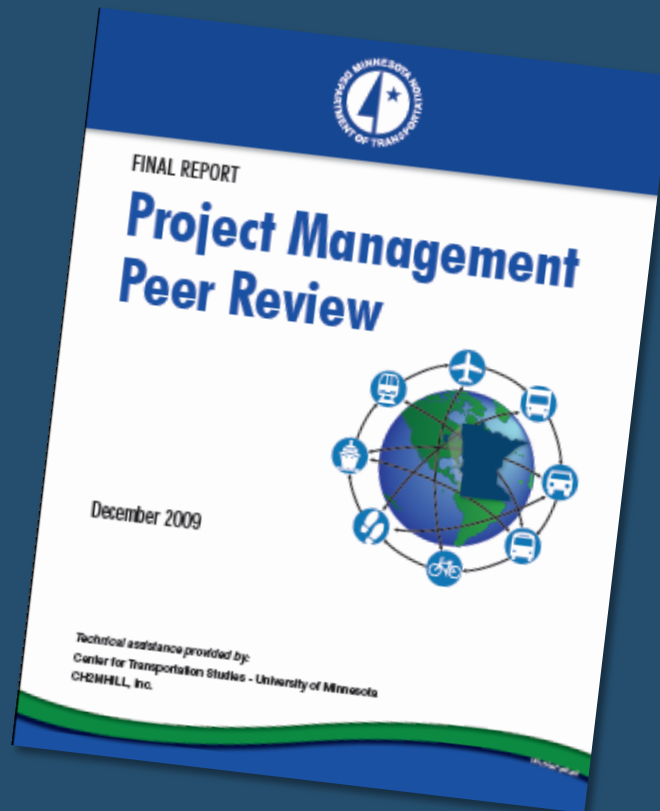
- Guidance on Scope Management
- Incorporate Risk and develop a process to integrate new initiatives, laws and policies

**Six  
Objectives**





# MnDOT's Project Management Peer Review





# Why a Peer Review? Why Project Management?

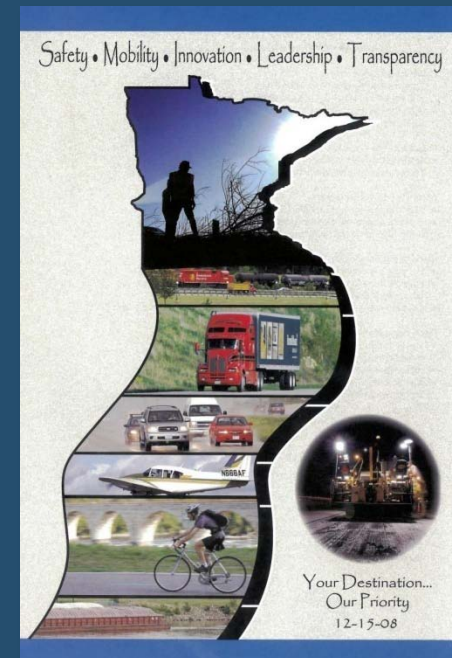
- Improve project delivery performance – on time, on budget (an issue we share with peers)
- Benchmark MnDOT's project management practices
- Initial step in a change management process
- Check for best industry practices
- Build from our success
- Aligns with our Strategic Vision and Directions



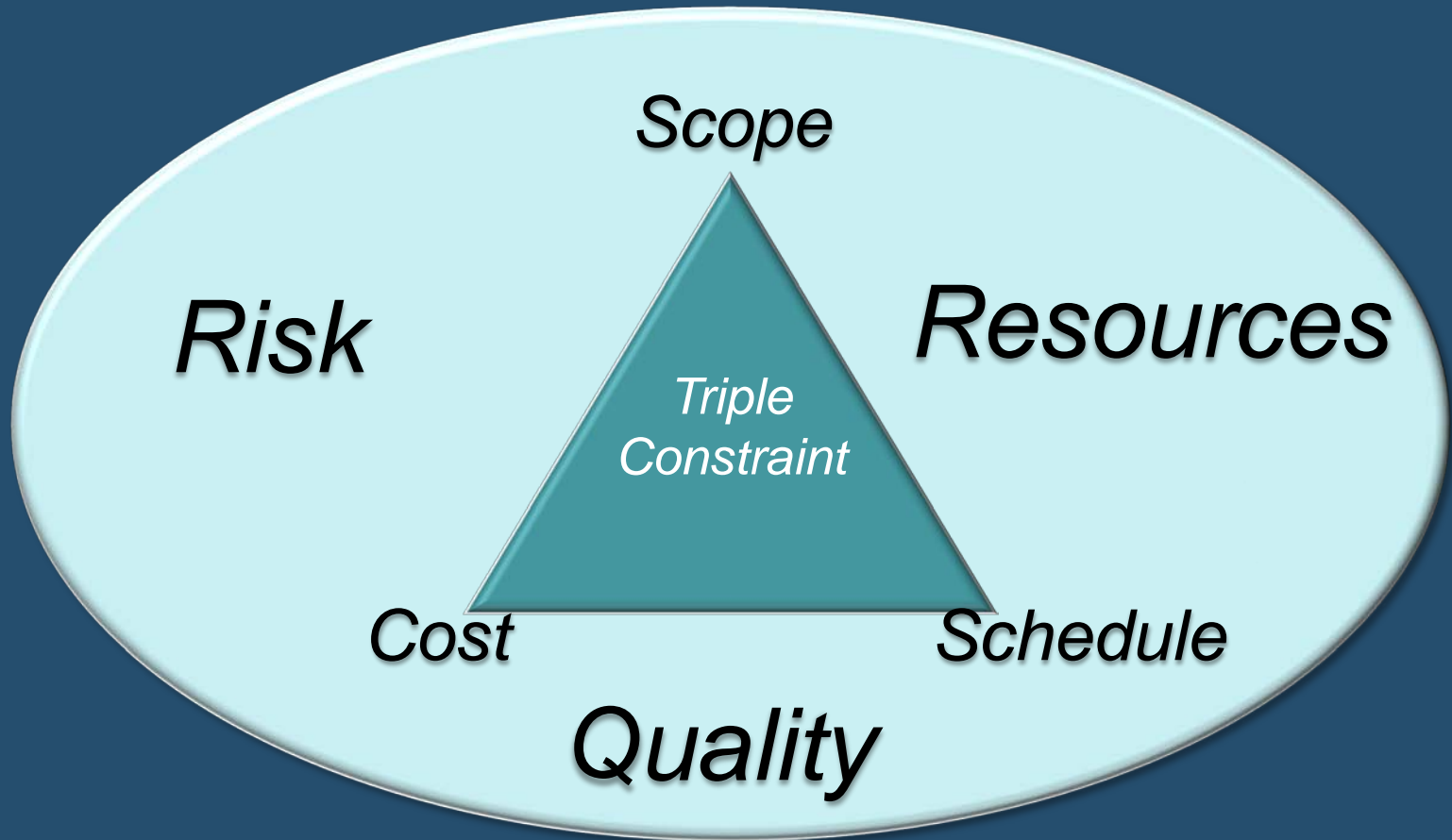


# Project Management Aligns with MnDOT's Strategic Vision

- Key element to successfully implementing the Strategic Directions of *Safety, Mobility, Innovation, Leadership* and *Transparency*
- MnDOT's Goal: Create, implement, support and sustain a "Project Management Environment"



# Project Management





# Recent National Work in Transportation Project Management

- NCHRP 20-68A, AASHTO Domestic Scan 07-01, "Best Practices in Project Delivery Management"
- NCHRP 20-69, NCHRP Web-only Document 137, "Guidance for Transportation Project Management"







# MnDOT Steering Committee and Project Team Leadership

## Project Oversight and Champions for Change

- Steering Committee

- Commissioner
- Deputy Commissioner
- 3 Division Directors
- 1 Asst. Div. Director
- 2 District Engineers
- FHWA

- Project Team

- Advisory to Steering Committee
- Developed the Peer Review agenda
- Communicated with Stakeholders
- Cross-Sectional representation of MnDOT and external partners





# An Opportunity to Partner...

- Center for Transportation Studies, U of MN
  - Jim Grothaus, CTS Project Manager
  - Laurie McGinnis, Stephanie Malinoff, and Joe Barbeau
- CH2M HILL, Inc.
  - Doug Aberer and Tim Thoreen
  - John Conrad, Tim Neuman and Mike Paddock





# Peer Review Process

- Background Documents Provided Context
  - White paper (current practices, national studies)
  - Survey of MnDOT Staff (180+ responses)
- Peer Review Panel (visited week of Oct. 5-8, 2009)

- Pasco Bakotich, Washington State DOT
- Sidonia Detmer, Virginia DOT
- Tucker Ferguson, Pennsylvania DOT
- Larry Langer, Arizona DOT
- Jim McMinimee, Utah DOT
- George Jones, FHWA
- Laurie McGinnis, U of MN, CTS
- John Conrad, CH2M HILL
- Tim Neuman, CH2M HILL
- Mike Paddock, CH2M HILL





# Panel Members Learned How MnDOT “Does Business”

## Conducted Interviews

- 20 Group Interviews
- Interviewed 100+ MnDOT Staff

## Interviews Focused on Four Categories

- Project Phases
- Functional/Program Areas
- Initiatives and Support
- Specific Projects





# Best Practices Exist in MnDOT

- Widespread implementation of scoping process and support for CE/CM, including:
  - Routine project reviews
  - Scope amendment process
- There is a strong project delivery focus and culture
  - Informal networks for resource sharing
  - Empowered to use consultants
- Training programs are valued and encouraged





# Best Practices Exist in MnDOT (cont.)

- Innovation is promoted, for example:
  - Contracting (contractor incentives, Design-Build process)
  - Utility group process improvements; REALMS (R/W)
  - IT Program Office PM organization and use of PMBOK processes
- Hear Every Voice and CSS are valuable tools
- Annual reporting of schedule delays and reasons given helps overall program review





# What are Good PM Skills?

- Good communication skills
- “Big Picture” point of view; ambiguity about project details will not hinder progress
- Understanding of MnDOT processes to ground decision-making
- Able to manage project change





# Project Management Opportunities and Challenges

- The panel identified several opportunities for change
- Two major themes help organize the findings:
  - Development of a project management organization and culture
  - Enhancing project management tools, technology, training, and methods







# Panel Observations (1 of 3)

- The term “project manager” has many definitions within MnDOT, resulting in:
  - Unclear transitions in the PM role
  - No performance measures to work from
  - Inconsistency in roles and responsibilities
- Build understanding of baseline schedules and cost estimates
- Early involvement of construction and maintenance staff





# Panel Observations (2 of 3)

- Include tools for risk and conflict management in the development of projects
- Develop resource/knowledge management systems and networks
- Gaps exist in training for experienced project managers
- Explore project manager core competencies and career tracks
- Utilize team charters and project charters





# Panel Observations (3 of 3)

- Project Management Plans should be used regularly (and should be appropriately scaled)
- MnDOT's project tracking software/system does not provide the capabilities needed for advanced project management
- Other potential areas for improvement:
  - Track and keep project commitments
  - Integrate project lessons learned; enhance closeout





# Construction Industry Perspective

Mortenson Construction – Kendall Griffith

- Most everything Mortenson does is project management
- We share common priorities and focal points – a focus on delivery of projects
- Careful balance between structured project management processes (technical aspects) and the importance of softer skills and forward-looking strategies





## Emphasis: Clarify the authority and responsibilities of Project Managers

- The PM is the leader of the project team
- “CEO of the Project”, with full responsibility for the success of the project:
  - Preconstruction and design-phase management
  - Safety, quality, productivity management
  - Scheduling and budget management
  - Procurement, insurance, billings, etc.
  - And... **Customer relationships**





## Emphasis: Clarify the authority and responsibilities of Project Managers

- PMs are responsible to deploy the “project management control systems” (Primavera)
- PCMS tool supports PMs; they do not define what PMs do (3<sup>rd</sup> most important tool)
- Second most important PM tool is verbal communication
- Most important PM tool is in-person, face-to-face communication!





## Emphasis: Utilize project-level risk management plans

- Effective “Issues” management is the primary determinant of Mortenson’s PM success
- Establishing plans for cost, schedule and quality management early in the project “clears the deck” to allow primary PM to focus on Issue Management
- Mortenson’s project management focus *is* Issue Management





# Construction Industry perspective on Project Management success:

- Understand the Customer's goals and priorities
- Start with a well-planned schedule and budget framework that support Customer goals and priorities
- Build a relationship that ensures clear communication of status of all project issues
- Actively management the issues on project to ensure the Customer's goals are achieved







# Peer Review Recommendations

## *Action Items*

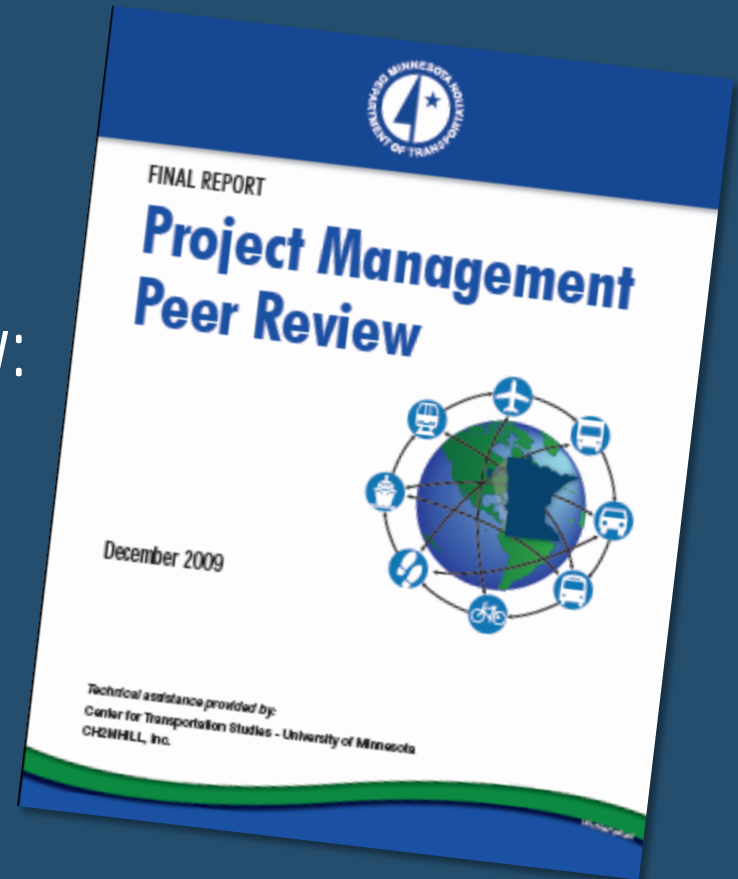
- Clarify the authority and responsibilities of PMs
- More broadly establish the use of PM Plans
- Implement team charters
- Complete project-level risk management plans
- Update training for PMs
- Explore PM core competencies
- Explore project management and other career tracks with Human Resources
- Develop and Implementation Plan for long-term sustained change





# Peer Review Final Report

- Final Report issued in January
- Website for the Peer Review:  
<http://www.dot.state.mn.us/cost-estimating/peer-review/index.html>





# Current Activities

- Facilitating the development of project management plans on four of the Ch. 152 Bridge projects
  - Included project-level risk management plans
- Exploring resource-loaded schedules and an earned value pilot project
- PM and portfolio management training for three key internal project managers





# Current Activities (cont.)

- Funding basic project management training courses based on the PMBOK
- Developing a RFP for implementation
  - Focus on developing project management plan guidance and templates
  - Integrating stakeholder involvement and risk
- Identifying showcase projects to implement PM processes
- Encourage PMP certification





# Thank You!

## Questions?

Jean Wallace, P.E.

Mn/DOT Office of Project Scope & Cost Estimating

Phone: 651-366-3181

Email: [Jean.Wallace@state.mn.us](mailto:Jean.Wallace@state.mn.us)

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