Collaborative System for Transportation Project Prioritization

Implementation of iOpenDecision for the Maryland Department of Transportation
Introduction to Project Prioritization

- Maryland has an annual transportation budget of nearly $2 Billion
- The development of the capital budget involves the evaluation of thousands of potential projects

Allocation of Budget by Agency

- MTA Maryland: $753.7
- WMATA: $320.4
- MVA: $207.3
- SHA: $264.2
- TSO/OTTS: $83.7
- Maryland: $187.6
- Court of Appeals: $51.3
Introduction to Project Prioritization

- Projects are developed and submitted by agencies, counties, and other state or partner agencies.
Project Goal

- Create a web based system where structured & defensible process can be used to collaborate on selection and prioritization of capital projects

Modal Agencies

Counties

Other Agencies

MDOT Planning

MARYLAND
Solution

- iOpenDecision – Collaborative, structured decision support system
Introduction

- What is iOpenDecision?
  - Web based application for collaborative decision making
  - Multiple *evaluators* are engaged by a *facilitator* in a structured and documented process
  - At the core of the system there are *Projects, Factors and Analysis*

- iOpenDecision allows input from multiple evaluators to be captured and incorporated into the final analysis
Application Concepts

- **Projects**
  - Contains Name, Description, Primary Contact, Type, Budget and Geographic Foot Print

- **Factors**
  - The aspects or features of the project which are under evaluation. e.g. Safety, Environmental, Mobility, etc.
  - Factor can be *Binary*, *Continuous*, or *Categorical*.
  - Factor are *Subjective* or *Objective* or *Location* based.

- **Analysis**
  - Scoring of projects based on factors

- **Publication**
  - Output of results internally and externally

![Diagram showing relationship between Projects, Safety, Budget, Political, Mobility, Analysis, and Publications]
Application Concepts

- **Requests**
  - Provides a mechanism for facilitators to request input from Evaluators (or others).
  - Requests support independent analysis and input as well as ones preformed in conference.
  - *Request Center* allows the facilitator to monitor status of requests (both sent and received).
  - Requests can be sent using email, SMS TXT or both.
  - Request expire after the timeline allotted by the facilitator.
  - Response to a request does not require a log in account.
Interface

- Main system dashboard
Interface

- Request Center allows tracking of participation by evaluators
- Calendar tool provides access to the process timeline
- Users and groups provide interface for management of evaluators
Projects can be viewed geographically or in a tabular format
Project can be organized by City/County/Legislative/Congressional Districts
Factors can include subjective, objective or location based
Location based factors can be used to analyze project footprint demographics, proximity, or transportation data from CTPP
Interface

- Analysis provides the ability for the user to input scores for each factor by project
- The input from other evaluators are also collected and optionally included
Visualization tool enables the user to dynamically adjust the weights for different factors and dynamically reorganize the prioritization of projects.

The budget tool allows the selection of the top scoring projects which can fit into the budget.
Publications allow output of analysis results to a web page for viewing outside of the system.
For More Information

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