

# Transportation Performance Management At NJDOT



*TPM Workshop  
DVRPC Philadelphia, PA  
November 29 & 30, 2017*

*Andy Swords, NJDOT*



# NJDOT TPM Activities

- Legacy Process
  - Problem Screening Process
    - Management Systems
- Governor's Performance Management Page
- MAP-21 Performance Measures
  - Safety Targets
  - Upcoming Targets

# NJDOT Project Development Process

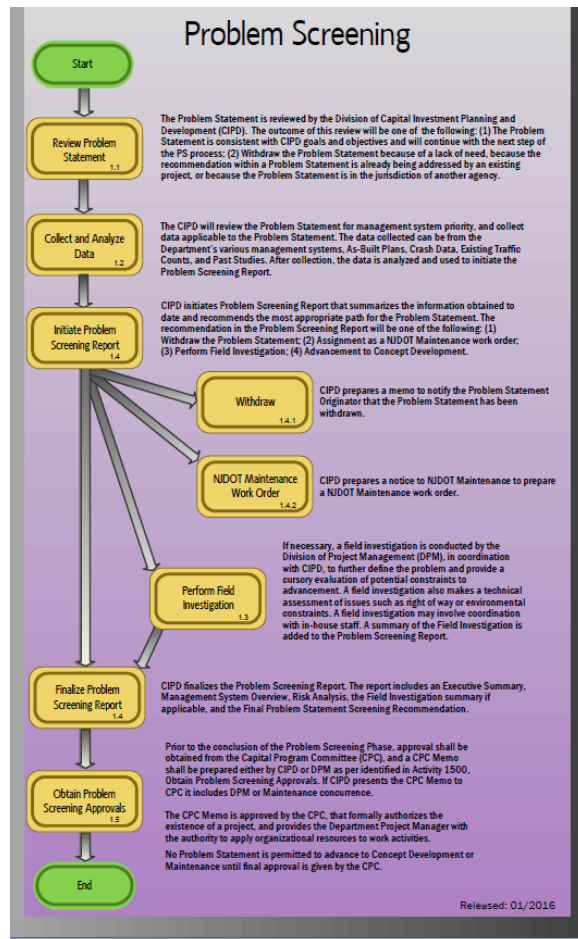


## New Jersey Department of Transportation Project Delivery Process



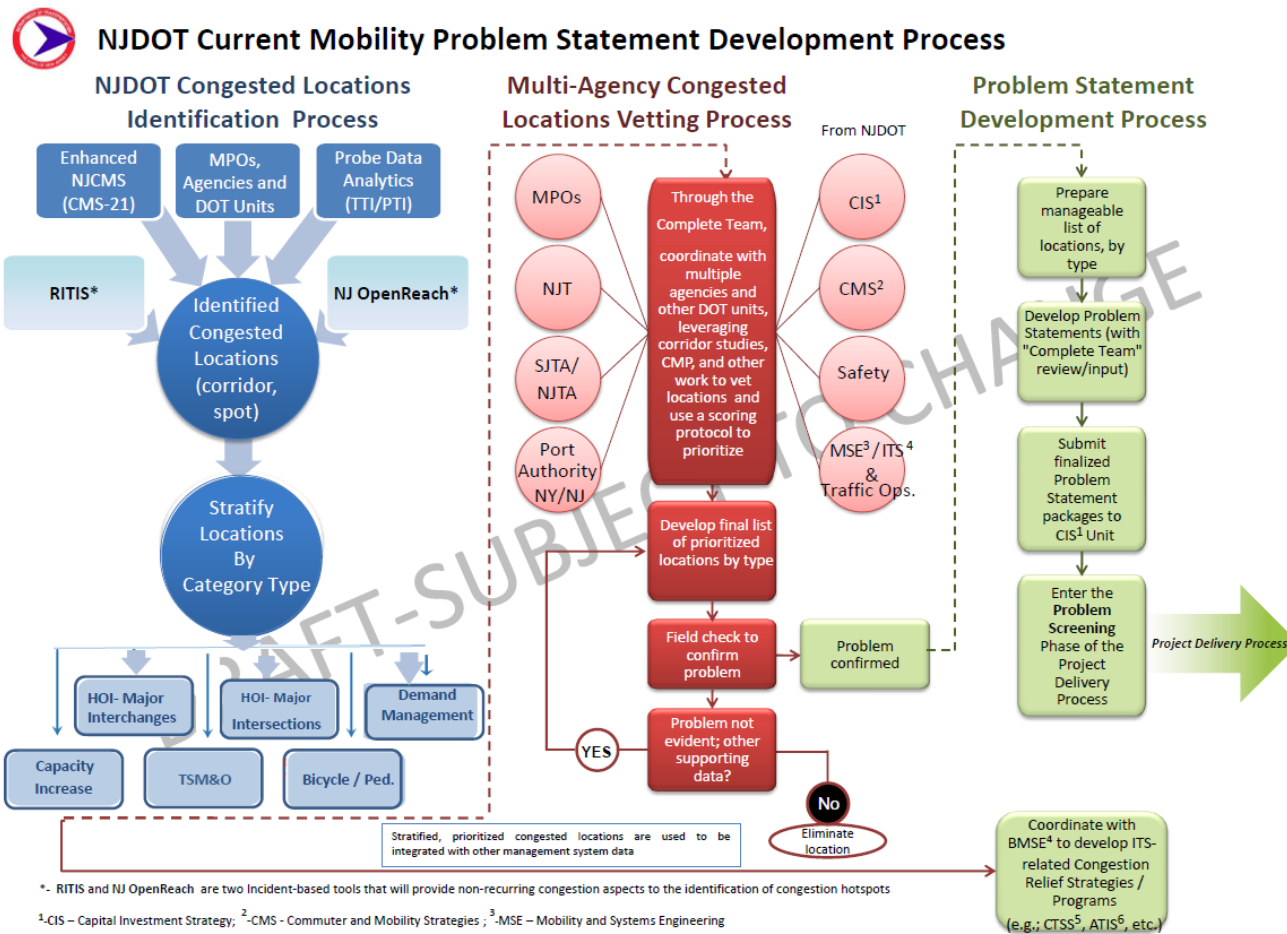
	Problem Screening	Concept Development	Preliminary Engineering	Final Design	Construction
<b>Funding</b>	<ul style="list-style-type: none"> <li>Planning Funds</li> </ul>	<ul style="list-style-type: none"> <li>Planning Funds</li> </ul>	<ul style="list-style-type: none"> <li>Preliminary Engineering Authorization</li> </ul>	<ul style="list-style-type: none"> <li>Final Design Authorization</li> <li>ROW/Utility Authorizations</li> </ul>	<ul style="list-style-type: none"> <li>Construction Authorization</li> </ul>
<b>Key Tasks</b>	<ul style="list-style-type: none"> <li>Review Problem Statement</li> <li>Subject Matter Expert Review</li> <li>Check NJDOT Management Systems</li> <li>Prioritize Problem Statements</li> <li>Conduct Field Investigation</li> <li>Validate Problem</li> <li>Recommend Preliminary Project Scope</li> <li>CPC Approval and Assignment</li> </ul>	<ul style="list-style-type: none"> <li>Conduct Data Collection</li> <li>Evaluate Deficiencies and Identify Fatal Flaws</li> <li>Evaluate Planning Alternatives</li> <li>Coordinate with Stakeholders</li> <li>Complete Environmental Screening</li> <li>Assess Right of Way (ROW) and Access Impacts</li> <li>Determine Preliminary Preferred Alternative (PPA)</li> <li>Identify Substandard Design Elements</li> <li>Determine Environmental Document</li> <li>Prepare Construction Cost Estimate</li> <li>Select Designer</li> </ul>	<ul style="list-style-type: none"> <li>Coordinate with Stakeholders</li> <li>Conduct Environmental Analysis for PPA</li> <li>Initiate Roadway Engineering</li> <li>Initiate Structural Engineering</li> <li>Initiate ROW and Access</li> <li>Initiate Utility Engineering</li> <li>Prepare Final Design and Construction Cost Estimates</li> <li>Manage Project Contracts</li> </ul>	<ul style="list-style-type: none"> <li>Manage Project Communications</li> <li>Complete Roadway Engineering</li> <li>Complete Structural Engineering</li> <li>Complete ROW and Access</li> <li>Complete Utility Engineering</li> <li>Complete Environmental Process</li> <li>Prepare Final Design Submission</li> <li>Certify Construction Contract Documents</li> <li>Manage Project Contracts</li> </ul>	<ul style="list-style-type: none"> <li>Advertise for Bids</li> <li>Award Project</li> <li>Conduct Construction Startup</li> <li>Conduct Mobilization</li> <li>Manage Construction Changes</li> <li>Conduct Construction Operations</li> <li>Complete Construction</li> <li>Closeout Project</li> </ul>
<b>Public Involvement</b>	<ul style="list-style-type: none"> <li>Obtain MPO Approval and Public Input</li> </ul>	<ul style="list-style-type: none"> <li>Execute Public Involvement Action Plan</li> </ul>	<ul style="list-style-type: none"> <li>Execute Public Involvement Action Plan</li> </ul>	<ul style="list-style-type: none"> <li>Execute Public Involvement Action Plan</li> </ul>	<ul style="list-style-type: none"> <li>Keep Public Informed</li> <li>Maintain Community Support</li> </ul>
<b>Key Products</b>	<ul style="list-style-type: none"> <li>Problem Statement Validation</li> <li>Problem Screening Report</li> <li>Charter</li> <li>Proposed Project Assignment</li> </ul>	<ul style="list-style-type: none"> <li>Design Communications Report</li> <li>Concept Development Report:                             <ul style="list-style-type: none"> <li>Purpose and Need Statement</li> <li>Preliminary Preferred Alternative</li> </ul> </li> <li>Environmental Document Classification</li> <li>Preliminary Engineering Scope Statement</li> </ul>	<ul style="list-style-type: none"> <li>Design Communications Report</li> <li>Preliminary Engineering Report:                             <ul style="list-style-type: none"> <li>Approved Environmental Document</li> <li>Approved Design Exception Report</li> <li>Cost Estimates (Final Design &amp; Construction)</li> <li>Approved Project Plan</li> <li>Final Design Scope Statement</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Design Communications Report</li> <li>Environmental Reevaluations and Permits</li> <li>Access Permits</li> <li>Acquisition of ROW</li> <li>Construction Contract Documents</li> <li>Supporting Agreements</li> </ul>	<ul style="list-style-type: none"> <li>Design Communications Report</li> <li>Completed Project</li> <li>As-Builts</li> <li>Closeout Documentation</li> </ul>
	Division of Capital Investment Strategies & Division of Project Management	Division of Project Management	Division of Project Management	Division of Project Management	Division of Project Management and Division of Construction Services and Materials or Operations

# Problem Screening Process



- Each Problem Statement has an initiating Management System (top priority)
- All MS are incorporated into an integrated MS score
- If project screening recommendation is approved, project moves on (to CD, or Maintenance)
- Process ensures that projects are based on demonstrated need

# Sample Problem Statement Process



\* RITIS and NJ OpenReach are two Incident-based tools that will provide non-recurring congestion aspects to the identification of congestion hotspots

<sup>1</sup>CIS – Capital Investment Strategy; <sup>2</sup>CMS – Commuter and Mobility Strategies; <sup>3</sup>MSE – Mobility and Systems Engineering

<sup>4</sup>ITS – Intelligent Transportation System; <sup>5</sup>CTSS – Controlled Traffic Signal Systems; <sup>6</sup>ATIS – Advanced Traveler Information Systems

(NOTE: ITS-related strategies are currently being developed internally, but at some point it may be beneficial to use the multi-agency vetting process)

# Governor's Performance Page

## NJDOT

Performance Indicators -July 2016 to March 2017	Frequency	Desired Trend	Target	Prior Period	Current Period	% Change	Last 2 Period Average
<b>Safety</b>							
Traffic fatalities per 100 Million Vehicle Miles traveled. (5 yr. rolling average) <i>Our Goal is a reduction to .62 by CY 2018.</i>	annual	decrease	0.76	0.78 (CY 14)	0.77 (CY 15)	-1.28%	0.775
Serious Injuries per 100 Million Vehicle Miles traveled. (5 yr. rolling average)	annual	decrease	1.52	1.82 (CY 14)	1.60 (CY 15)	-12.09%	1.71
<b>Mobility</b>							
Average state highway incident duration in minutes.	quarterly	decrease	42 (min)	43 (CY 16 Q4)	41 (CY 17 Q1)	-4.65%	42
<b>Operating &amp; Maintenance</b>							
Average response time for emergency pothole repair (in hours: minutes)	annual	decrease	5.0 (hrs)	6.06 (FY 15)	3.34 (FY 16)	-44.26%	5:27
Percent of traffic signals inspected needing repair	annual	decrease	18%	20.0% (FY 15)	17.0% (FY 16)	-15.00%	19%
Percent of crew responses within 90 minutes to electrical operations emergencies such as traffic signal failures.	annual	increase	73%	72% (FY 15)	71% (FY 16)	-1.39%	72%
Number of street lights relamped	annual	increase	400 (lights)	221 (FY 15)	799 (FY 16)	261.54%	510
Number of traffic signals inspected	annual	increase	6000 (signals)	5820 (FY 15)	5908 (FY 16)	1.51%	5864
Number of tons of trash picked up	annual	increase	3500 (tons)	3430 (FY 15)	3402 (FY 16)	-0.82%	3416
Average department bill processing time frame for capital payments. (in days)	annual	decrease	24 (days)	24 (FY 15)	20 (FY 16)	-17%	22
Number of miles swept by machine (in-house & contract)	annual	increase	10000 (miles)	9090 (FY 15)	10360 (FY 16)	12.87%	9675
Number of inlets inspected/cleaned	annual	increase	68000 (inlets)	68084 (FY 15)	97429 (FY 16)	43.10%	82757
Number of Barnegat Bay basins inspected	annual	increase	94 (basins)	94 (FY 15)	94 (FY 16)	0.00%	94
Number of Barnegat Bay basins cleaned	annual	increase	20 (basins)	20 (FY 15)	11 (FY 16)	-45.00%	16
Number of acres mowed	annual	increase	38000 (acres)	36958 (FY 15)	41484 (FY 16)	12.25%	39221
<b>Infrastructure</b>							
Percentage of competitive Municipal Aid grants that have been awarded by the Municipalities within 24 months.	annual	increase	90%	89% (FY 15)	87% (FY 16)	-3%	88%
Percentage of County Aid funds that have been awarded by the Counties within 36 months.	annual	increase	90%	84% (FY 15)	96% (FY 16)	14%	90%
Percentage of planned construction projects that have been awarded.	annual	increase	95%	94% (FY 15)	98% (FY 16)	4%	96%
Percentage of State highway pavement in acceptable condition. <i>Our Goal is a increase to 80% by CY 2021.</i>	annual	increase	67%	60% (CY 15)	67% (CY 16)	11.67%	64%
Percentage of State-maintained bridges 20 feet or more in length in acceptable condition only require periodic or routine maintenance in order to continue to safely serve the motoring public.	annual	increase	88.4%	88.5% (CY 15)	88.7% (CY 16)	0.23%	89%
Percentage of State-maintained bridge deck area in acceptable condition. Deck area in acceptable condition only require periodic or routine maintenance in order to continue to safely serve the motoring public. Goal 94% by CY 2021	annual	increase	87.7%	87.8% (CY 15)	88.1% (CY 16)	0.34%	88%

CY= Calendar Year, FY=Fiscal Year

Each State Department has a performance page on the Governor's web site

NJDOT has an intranet page with the same 4 investment categories, & performance measures

Intended to be a 1 stop shop to provide consistent data

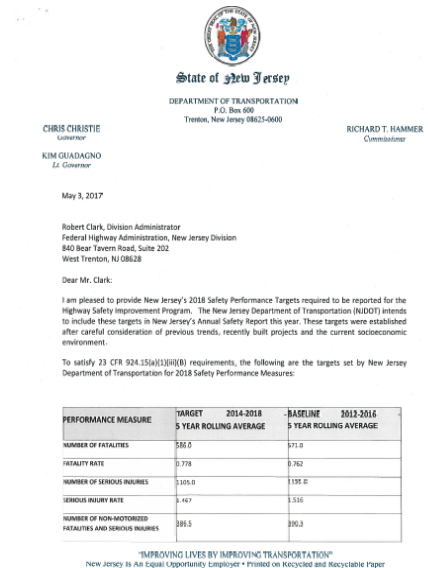
**Not** tied to MAP-21 performance measures

# MAP-21 Performance Targets

## ■ Safety Target Setting

USDOT issued final rulemakings in March 2016 on Safety Performance Management (Safety PM) and the Highway Safety Improvement Program (HSIP). The Safety PM rule detailed the requirements for safety target setting. Annual safety targets are required for five performance measures, expressed as a five-year rolling average, and applicable to all public roads:

1. Number of fatalities.
2. Rate of fatalities per 100 million vehicle miles traveled (VMT).
3. Number of serious injuries.
4. Rate of serious injuries per 100 million VMT.
5. Number of nonmotorized fatalities and nonmotorized serious injuries.



# MAP-21 Performance Targets

- Current & upcoming work
  - Bridge & Pavement Targets (PM2)
    - Venue: TAMP Team
  - System Performance Targets (PM3)
    - Venue: Complete Team
  - Master Table
    - targets & supporting information (all categories)
  - ***Coordination with MPOs, Federal Partners***



# Thanks!

**Andy Swords, AICP/PP**

Director, Division of Statewide Planning  
**New Jersey Department of Transportation**

[andrew.swords@dot.nj.gov](mailto:andrew.swords@dot.nj.gov)

