Transportation Commission of Colorado
Asset Mgmt. and Statewide Plan Joint Committee Meeting

Meeting Agenda
Wednesday, January 21, 2015 Time TBD
4201 E. Arkansas Avenue
Denver, Colorado

Debra Perkins-Smith, Director
Division of Transportation Development

Asset Mgmt. Committee Members

Les Gruen, Chair
District 9, Colorado Springs

Kathy Connell
District 6, Steamboat Springs

Heather Barry
District 4, Westminster

Sidny Zink
District 8, Durango

Stephen Hoffmeister
District 11, Haxtun

Statewide Plan Committee Members

Kathy Gilliland, Chair
District 5 Livermore

Shannon Gifford
District 1, Denver

Kathy Connell
District 6, Steamboat Springs

Steve Hoffmeister
District 11, Haxtun

Douglas Aden
District 7, Grand Junction

All Commissioners are invited to attend this Committee Meeting.

1. Purpose of Combined Meeting – Debra Perkins-Smith – 2 minutes

2. Report Out from Commissioner Gruen – 5 minutes
    - Approval of November, 2014 Meeting Minutes

3. Report Out from Commissioner Gilliland – 5 minutes
    - Approval of November, 2014 Meeting Minutes

4. Asset Management Metrics and Targets – 25 minutes

5. Policy Directive 14 – 20 minutes
    - Incorporation of other roadway assets
    - PD 14 Finalization

6. Statewide Plan Update and Next Steps – 5 minutes

ASSET MANAGEMENT COMMITTEE
DRAFT MINUTES

Date: November 19, 2014
Committee Members Attending: Commissioners Gruen, Barry, Connell, Hofmeister and Zink.
Others Attending: Commissioners Aden, Gifford, Gilliland, Peterson, Thiebaut; Don Hunt, Joshua Laipply, Scott Richrath, Debra Perkins-Smith, Ryan Rice, Kyle Lester, William Johnson, Jeff Sudmeier, Bill Schiebel, , David Wieder, Ty Ortiz, Saeed Sobhi, David Fox, Ermias Weldimicael, David Eller, Kerrie Neet, Johnny Olson, Karen Rowe, Anthony Devito,

Minutes:

- Minutes for the October meeting were approved.
- Commissioner Gruen welcomed everyone, and reminded the committee that the purpose of the meeting was to select a budget recommendation for FY17 and FY18 TAM programs.
- Staff provided two memoranda supporting the budget recommendations for FY17 and FY18 TAM programs.
- William Johnson asked if there were any questions regarding the memos. Given no questions, William reminded the committee that he was asked during the August 2014 committee meeting to provide three budget recommendations representing the staff, AIMS, and his recommendation.
- William gave an overview of the staff budget-setting workshop conducted August 22. During the overview, he noted that the $791.5 M budget for FY17 was the largest total budget TAM programs have ever worked with for budget setting, and that his recommendation was the same as the staff recommendation. Also noted was that fact that the $755 M budget for FY18 had great variance amongst voters during the budget-setting workshop, and that his recommendation was slightly different from the staff recommendation. The difference being that he did not feel, given the decrease in total dollars from FY17 to FY18, that MLOS should receive as high an increase in funds. His approach was to decrease MLOS funds slightly, with the difference split between buildings, ITS, and road equipment – keeping them closer to their historical proportion of the asset management budget.
- Director Hunt pointed out that the total TAM funding reduction from FY17 to FY18 as RAMP transitions to TRNS Bond debt retirement.
- Director Hunt expressed concern for reduction in Surface Treatment funding from FY17 to FY18.
- Commissioner Hofmeister expressed concern with MLOS hold-overs. Specifically, the MLOS funds should not just automatically roll back into CDOT's general fund, and he felt that this often causes maintenance staff to perform unnecessary work just to spend the money before the fiscal year ends.
- William then explained the results of the AIMS cross-asset analysis for the surface treatment, bridge, culvert, buildings, ITS, and roadway equipment programs. During the August budget-setting workshop, AIMS results informed the recommendation. However, since AIMS did not have the ability to analyze all asset, the TAM Oversight Committee (comprised of the Chief Engineer, Chief Financial Officer, Region 3 Director, Director of Project Support, and Director of the Division of Transportation Development) felt that the results were not able to fully replicate the budget-setting workshop recommendation.

- Commissioner Gruen asked if anyone wanted to propose a selection from the three budget recommendations. Commissioner Hofmeister proposed the asset manager recommendation, with a second from another committee member. The selection passed unanimously with all committee members voting in favor to approve use of the asset manager FY17 and FY18 budget recommendation.
- Director Hunt requested that at the next meeting Asset Management staff present the impacts to their programs of diverting $180 to $270 million of Asset Management funding to the viaduct. He also asked for an accounting of fixed costs for Bridge (viaduct, existing bonding, and inspection program).
- Director Hunt expressed concern that CDOT may be overfunding the bridge program, which is currently exceeding the performance target of having no more than 10% structurally deficient bridges.

COLORADO
Department of Transportation
Division of Transportation Development

Transportation Performance Branch
4201 E. Arkansas Ave. Shumate Bldg
Denver, CO 80222-3400

DATE: January 14, 2015
TO: Transportation Commission Asset Management Committee
FROM: Debra Perkins-Smith, Director, Division of Transportation Development
William Johnson, Transportation Performance Branch, DTD
SUBJECT: Asset Management Performance Metrics and Targets

Purpose

This memorandum provides Commissioners with Transportation Asset Management (TAM) performance metrics and targets staff recommendations.

Action

Staff requests Commission approval of the asset management performance metrics and targets. These performance metrics and targets will be used within asset management systems and programs, and forTAM program budget recommendations.

Background

Initial performance metrics and 20-year targets for CDOT's TAM programs were described in the Risk-Based Asset Management Plan (RB-AMP) completed in December 2013, which included current performance, fiscally constrained targets and aspirational performance targets for 6 of the 11 TAM programs. The Committee requested during the June 2014 meeting that performance metrics and targets be identified for those assets with a 'TBD' designation on Table 4.1 of the RB-AMP. An informational status update was provided during the August 2014 meeting.

Staff used the Asset Investment Management System (AIMS), as well as FY14-18 TAM Planning Budgets, to forecast performance curves and develop more appropriate fiscally constrained and aspirational targets for TAM programs. The result is a revised Table 4.1, included as an attachment to this memorandum.

Details

A deep-dive discussion will be given on individual staff recommended asset program metrics and targets. To develop performance metrics, each TAM program went through the same fundamental process which included:

- Understanding the investment decisions their asset program needed to make to maintain and extend the life of their assets.
- Understanding the data needed to support their investment decisions.
- Developing a metric, or set of metrics, that could demonstrate a link between investment and performance.
- Developing a fiscally constrained performance target that allows CDOT to maintain a balanced budget, and an aspirational target that describes the desired level of performance an asset could reasonably achieve given an unconstrained budget.
- Understanding of how the performance metric and target, along with performance data, informs project selection.

Next Steps

Staff will use the performance metrics and targets in the budget setting and candidate project selection processes. Additionally, staff will continue to advance and implement performance metrics within AIMS to better inform life-cycle decisions for TAM program, including refinement of trade-off analysis. Trade-off analysis will enable staff to quantify investment needed to achieve performance targets, and forecast impacts to other assets performance if current funding is inadequate to achieve all fiscally constrained performance targets.

Attachments

TC AM PowerPoint

Attachment A: Update RB-AMP Table 4.1

All CDOT Asset Management Metrics and Performance Targets (Developed by Staff, Including PD14)

Asset	Measure	Current Performance	Fiscally Constrained Target	Aspirational Target
Bridges	Percentage of deck area on structurally deficient CDOT-owned bridges	6%	10% [a]	5%
	Percentage of deck area on structurally deficient bridges on the NHS	5%	10% [a]	5%
	Percentage of CDOT-owned bridges over waterways that are scour critical	7.1%	5%	1%
	Percentage of bridge crossings over Interstates, U.S. routes and Colorado state highways with a vertical clearance less than the statutory maximum vehicle height of 14 feet-6 inches	0.4%	1%	0%
	Percentage of bridge crossings over Interstates, U.S. Routes and Colorado state highways with a vertical clearance less than the minimum design requirement of 16 feet-6 inches	4.8%	7%	2%
	Percentage of CDOT-owned bridges posted for load	0.1%	0%	0%
	Percentage of CDOT-owned bridges with a load restriction	2.6%	3%	1%
	Percentage of leaking expansion joint by length on CDOT-owned bridges	18.8%	15%	5%
	Percentage of CDOT-owned bridge deck area that is unsealed or otherwise unprotected	31%	30%	5%
Pavement	Percentage high-moderate drivability life for Interstates based on condition standards and treatments set for traffic volume categories	89%	80% [a]	90%
	Percentage high-moderate drivability life for CDOT-owned NHS, excluding Interstates based on condition standards and treatments set for traffic volume categories	78%	80% [a]	90%
	Percentage high-moderate drivability life for the State highway system based on condition standards and treatments set for traffic volume categories	73%	80% [a]	90%
Maintenance	Statewide Letter Grade	B-	B- [a]	B-
Buildings	Statewide Letter Grade	86% C or Better	90% C or Better	100% C or Better
ITS	Average Percent Useful Life	126%	90%	85%
Fleet	Average Percent Useful Life	103%	70%	50%
Culverts [h]	Percentage Critical Culverts	2.9%	5%	2%
Geohazards	Number of Sites with letter grade C or better	47% [c]	60% [c]	90% [ce]
Tunnels	Key components of fire/life safety must not exceed 100% of useful life, based on manufacturer's specification, condition inspections and maintenance history.	TBD [d]	100%	100%
Traffic Signals [i]	Percent overall signal infrastructure Beyond 100% Useful Life	23%	15%	0%
Walls [g]	Percentage of CDOT-owned walls, by square foot, that are in condition state 3 or 4 (poor or severe).	1%	1%	0.5%

[a] These objectives and targets are from PD 14, adopted by the Transportation Commission. Others are staff recommended, and subject to available funding.
[c] To be completed December 2014 with incorporation into AIMS.
[d] Target pending data collection.
[e] Some sites will always remain in the D category due to traffic volume. And at some sites, to effectively eliminate or significantly reduce the likelihood is beyond the scope of the Geohazards Program.
[f] Determined by estimating 10 sites mitigated per year at a Program Budget of $10M per year over 20 years (200 sites). D sites and F sites will be mitigated within corridors. Mitigation will improve the site by one letter grade.
[g] The walls inventory and condition are being collected under a 2 year project, so the information in this table is based on estimates.
[h] Culverts are minor structures between 4' and 20'.
[i] Overall signal infrastructure includes signal assemblies, cabinets and controllers rolled up using a dollar weighted average.

This document summarizes information for the assets within the Asset Investment Management System, including Bridge, Pavement, Buildings, ITS, Road Equipment, Culverts, Geohazards and Signals.

Bridge Condition

Performance Metric:
CDOT uses **structural deficiency** as its primary bridge performance metric. A structurally deficient bridge is typically one where corrosion or deterioration has resulted in a portion of the bridge being in poor condition; for example, where water leaking through an expansion joint has caused the end of a steel girder to rust. Depending on the degree of deterioration, bridges that are structurally deficient require additional monitoring, maintenance, or repair to ensure safety and continued service. Bridges are defined within CDOT as Major Structures, and are those vehicular bridges with a clear opening of greater than 20 feet along the direction of the roadway between abutments, spring lines of arches, extreme ends of openings for multiple boxes, or extreme ends of openings for multiple pipes. Most major structures are bridges; however, there are also large culverts (greater than 20 feet) within the population of major structures. The metric is the percentage of bridge deck area on structurally deficient CDOT-owned bridges.

Performance Target:
Table 4.1 of the Risk-Based Asset Management Plan (RB AMP) shows that the fiscally constrained target for % deck area on structurally deficient bridges is 10% and currently CDOT performance is 6%, so the target has been met and exceeded. For PD14 the Transportation Commission asked that the wording of this metric be adjusted to reflect the positive, so in PD14 the metric is stated as the % of deck area that is not structurally deficient should be at or above 90%.

Candidate Project Selection:
Bridge replacement, repair, rehabilitation, and preservation project selection is based on current bridge condition and ranked based on the following risks: structural deficiency, functional obsolescence, essential repair findings, load restrictions, clearance deficiencies, scour, leaking expansion joint, unsealed bridge deck, debris that contributes to deterioration, and failed paint system on steel in areas where paint provides corrosion protection. The Bridge Model and Asset Investment Management System (AIMS) are used to predict future candidates for replacement, repair, rehabilitation and preservation based on an optimal investment strategy to aid in setting future fiscal year bridge program allocations. Staff Bridge region structure asset managers review candidate structures with regional engineering and maintenance staff, who consider their priorities, resources, schedule and local input. This process is for those bridges falling outside of the Colorado Bridge Enterprise (CBE). The CBE finances, repairs, reconstructs, and replaces bridges rated Poor, the CBE developed a bridge prioritization system in order to address the highest priority bridges first.

Pavement Condition

Performance Metric:
CDOT's main measure of pavement condition is **"Drivability Life" (DL).** DL is an indication, in years, of how long a highway will have acceptable driving conditions. An acceptable driving condition is a function of smoothness and safety, as determined by the measured roughness and amount of pavement distress. Unacceptable pavement condition does not mean impassable; it means that drivers must reduce speeds to compensate for less than desirable driving conditions, navigate around potholes, or endure rough rides. Drivability standards for condition assessment vary between highway classifications, with Interstates having the highest CDOT drivability standards.

To determine DL for a segment of highway (0.5-5.0 miles in length), CDOT conducts a trend analysis using the following distresses: International Roughness Index (IRI); Rutting; Transverse cracking; Longitudinal cracking; Fatigue cracking (for asphalt only); and Corner break (for concrete only).
The predicted future point at which any one of these distresses surpasses a predefined drivability threshold defines the DL of that segment. DLs are then grouped into three categories:
High DL – Greater than 10 years; Moderate DL – From 4 to 10 years; and Low DL – 3 or fewer years.

Performance Target: The performance target is 80% high-moderate drivability life for Interstates based on condition standards and treatments set for traffic volume categories. The current performance is 89% high-moderate DL.

Candidate Project Selection:
The Project Management System is run to develop an optimized list of treatments to pavement segments over many years statewide. The cost associated with all recommended work is totaled and used to determine a percentage of the statewide surface treatment budget for each region. Then a second iteration is run for each region to generate a list of surface treatment projects. Chief Engineer Policy Memo 10 states that a minimum of 70 percent of surface treatment projects must match the model recommendations. Additional policy memos and the Pavement Design Manual establish rules to be satisfied during the regional planning process.

Buildings Condition

Performance Metric:
CDOT annually evaluates each building based on a multitude of functional, structural, and mechanical criteria. Each of the criteria are weighted, totaled, and averaged to determine an **overall building grade, A-F.** CDOT's rating criteria incorporates separate criteria for office buildings and maintenance buildings to account for the difference in the physical interior and proximity requirements of the buildings and building site. This method streamlines the physical condition assessment and building efficiency determinations as well as includes employee satisfaction of the building where appropriate.

Performance Target:
CDOT seeks to achieve a fiscally constrained target of 90% of buildings meeting a 'C' or better rating. A "C" Building as a functional facility that can be kept up through on-going maintenance and improvements rather than major corrective repairs. The facility may currently fit a purpose or use but not necessarily the intended one. The CDOT HQ Building is an overall score of 3.42 for a B rating.

Candidate Project Selection:
Each Region rates its building inventory on an annual basis and enters the data into SAP. The SAP ratings data is downloaded to AIMS (Asset Investment Management System) and an optimal buildings project list is generated. In addition to the AIMS recommended project list, each Region develops a project list based on their knowledge of the buildings and the building inventory ratings. Regional staff collaborate with the Buildings Asset Manager to synthesize the AIMS and Regional lists to determine the top priorities Statewide. The Buildings Asset Manager then determines the final list based on fiscal constraints, identifying the top priority projects to be funded.

ITS Condition

Performance Metric:
ITS uses **percent useful life** as a performance metric. A value of 100 percent indicates that a device has reached the end of its useful life. Values greater than 100 percent indicate the device has exceeded its useful life. Useful life, which is specific to each device type, is defined as the length of time that a device is expected to be fully functional and in good operational condition.

Performance Target:
The current average percent useful life for all ITS devices is 126%, meaning that CDOT has a significant number of ITS devices that are past the end of their expected useful life. The fiscally constrained performance target for ITS devices is to achieve an average useful life of 90%.

Candidate Project Selection:
Each year replacement requests are sought from CDOT Regions regarding their needs for replacing or updating devices or ITS infrastructure. The Regional lists received are compared against prioritized project recommendations produced from the Asset Investment Management System (AIMS). AIMS uses various parameters such as useful life, asset condition, device type, location, regulatory requirements, and others to help prioritize assets recommended for replacement. The AIMS list and Regional lists are then considered with Regional managers to further prioritize replacement needs based on additional parameters including project cost, available funds, and likely benefits. Other considerations used in refining the ITS project list include Federal guidelines such as MAP-21, current CDOT policies and changing CDOT priorities or objectives.

Road Equipment Condition

Performance Metric:
Roadway equipment uses **percent useful life**. A value of 100 percent indicates that a piece of equipment has reached its useful life. Values greater than 100 percent indicate that equipment has exceeded its useful life. The current condition of all CDOT road equipment is 103% average useful life, meaning the department has a large number of vehicles at the end of their useful life. In addition to useful life, annual maintenance costs as a percent of replacement cost, is also considered when deciding what vehicles to replace. The Asset Investment Management System (AIMS) annually imports road equipment data from SAP. The data includes records for each piece of road equipment, acquisition costs, start-up date, and work order maintenance history records.

Performance Target:
The fiscally constrained performance target for road equipment is to achieve an average useful life of 70%, to be achieved through a steady flow of new vehicles replacing older vehicles each year.

Candidate Project Selection:
AIMS recommends an optimal list of equipment to replace based on percent useful life (use and age) as well as maintenance cost as a percent of replacement cost. There are three "buckets" of equipment that are optimized: essential, road and off road equipment. The road equipment funds are prioritized by allocating to these three buckets based on a 55% / 25% / 20% distribution. Essential equipment includes snow blowers and tandems. Road equipment includes air compressors, sweepers, and trailers. Off road equipment includes backhoes and loaders.

Culverts Condition

Performance Metric:
Culverts (minor structures between 4 and 20 feet) are measured by determining the percent of culverts considered critical.

Performance Target:
There are currently 174 critical culverts out of the 6,064 total culverts. The current performance is 2.87% critical culverts.

Candidate Project Selection:
There is currently a backlog of critical culverts and to reduce the backlog additional funding is required. Once the backlog has been dealt with the amount of funds needed to maintain culverts should decrease. However if CDOT chooses to expand the definition of culvert to include minor structures below 4 feet, then additional funds may be necessary. A culvert is selected for work through two possible processes: the region staff determine a prioritized list of culverts and work down the list, or a construction project is or will be done in the same area as a critical culvert making it cost effective to replace the culvert at the same time.

Geohazards Condition

Performance Metric:
The Geohazards Program manages geological and geotechnical hazards, which include Rockfall, Rockslides, Debris Flows, Landslides, Embankments and Engineered Slopes, and Sink Holes. This is the first time an analysis based on risk assessment alone has been developed in AIMS and the analysis is currently under development.

There are 1,217 geohazard features inventoried and mapped statewide. The method of managing these features is outlined in the Geohazard Management Plan (GMP). The goal of the GMP is to reduce the risk geohazards pose to the state highway system. **The geohazard risk** is calculated for each site by the product of likelihood and consequence. Likelihood is the potential of the feature to affect the highway. Consequence is the threat the feature poses to highway safety, mobility and maintenance. The GMP recognizes that some geohazard features should be addressed separately from corridors due to their significance. For the purpose of the GMP, these features are referred to as "high risk outliers".

The 1,217 geohazard sites have been loaded into AIMS and the initial graph has been provided in this presentation. The methodology factors in sites, potential geohazards and possible treatments, both passive and active, for mitigating risks.

Performance Target:
Geohazard management through a risk based asset managed approach is still conceptual for the geological and geotechnical community in transportation. The Geohazard Management Plan is one of the first such approaches developed so far in the U.S. As such, the concept was developed through study of similar concepts used by other countries and through concepts addressed through the Transportation Research Board subcommittee on Geotechnical Asset Management. The targets presented are conceived of the experience of Geohazard Program Personnel and other outside subject matter experts of what can be achieved on a four year time period at an annual Program budget of $10M. Targets are determined by estimating 10 sites mitigated per year at a program budget of $10M per year over 20 years (200 sites). For purposes of determining targets, D and F sites only are selected for mitigation with an improvement of one letter grade. It is understood that some sites will remain in the D category due to traffic volume and at some sites, to effectively eliminate or reduce risk is beyond the scope of the Geohazards Program.

The target for geohazards is to keep the number of geohazard sites with a letter grade of C or better to at least 60%. Current performance is 47%.

Candidate Project Selection:
Corridors/Sites: Feasibility studies will be performed on corridors (rolled up from sites) with an average letter grade of D or F. The feasibility studies will include a cost to benefit (performance benefit) analysis of mitigation schemes that most effectively reduce risk for the corridor and the system.

High Risk Outlier Sites: Evaluated by measuring the contribution to risk a specific feature or set of features has on safety, mobility and maintenance to either the corridor or surrounding area if not associated with a corridor.

Emergency Response: Responses are as required or as requested by Region Maintenance and Engineering personnel. Where there is an imminent threat to the highway, mitigation will be implemented as soon as is reasonable according to the degree of the threat as determined by Geohazard personnel, Region personnel and other subject matter experts when available.

Signals Condition

Performance Metric:
Signals asset management uses **beyond 100% percent useful life** to illustrate the magnitude of the need, where a value of 100 percent indicates that a piece of equipment has reached its useful life. Values greater than 100 percent indicate the signal has exceeded its useful life. There are three components that are aggregated to indicate overall signal infrastructure useful life: traffic signal assembly, cabinets, and controllers.

Performance Target:
The Colorado Department of Transportation (CDOT) owns approximately 1,850 traffic signals statewide. Half of these signals are managed by CDOT and the other half are managed by local agencies under Senate Bill 8 agreements. CDOT is responsible for the eventual replacement of these signals.

The current signal infrastructure inventory is 23% beyond 100% useful life, meaning that CDOT has a significant number of signals/cabinets/controllers that have exceeded their expected useful life.

Candidate Project Selection:
SAP signals data (acquisition costs, installation costs, work order maintenance history records) is planned to be annually uploaded to SAP and extracted into AIMS (Asset Investment Management System). AIMS will then generate an optimal prioritized signal replacement project list. Concurrent to this effort, signals data for each region has been uploaded into the AIMS system for this initial analysis, which will be refined over time. Beginning with the FY19 project list, the Signals asset manager and region staff will review the AIMS project list, make revisions, and forward to the Traffic Signal Program Steering Committee for final approval.

COLORADO
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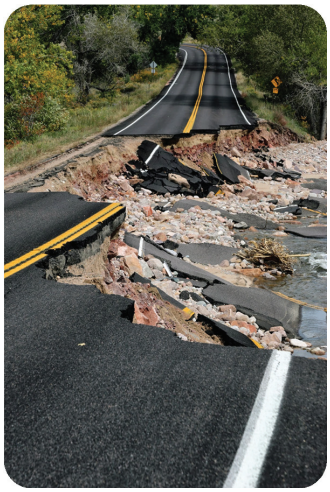
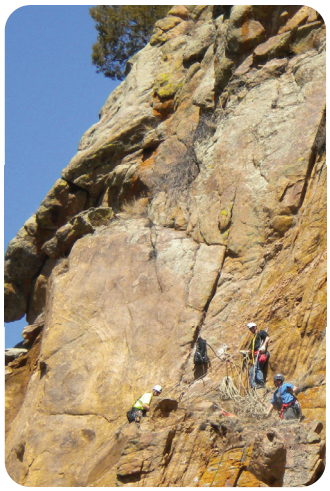




Transportation Asset Management Committee
January 2015

COLORADO
Department of Transportation

Agenda

Asset Management Metrics and Targets

PD14 and Statewide Plan

TAM Metrics and Targets

RB AMP Table 4.1 - Revised

Table enlarged on Page 6 of 39

All CDOT Asset Management Metrics and Performance Targets (Developed by Staff, Including PD14)

Asset	Measure	Current Performance	Fiscally Constrained Target	Aspirational Target
Bridges	Percentage of deck area on structurally deficient CDOT-owned bridges	6%	10% [a]	5%
	Percentage of deck area on structurally deficient bridges on the NHS	5%	10% [a]	5%
	Percentage of CDOT-owned bridges over waterways that are scour critical	7.1%	5%	1%
	Percentage of bridge crossings over Interstates, U.S. routes and Colorado state highways with a vertical clearance less than the statutory maximum vehicle height of 14 feet-6 inches	0.4%	1%	0%
	Percentage of bridge crossings over Interstates, U.S. Routes and Colorado state highways with a vertical clearance less than the minimum design requirement of 16 feet-6 inches	4.8%	7%	2%
	Percentage of CDOT-owned bridges posted for load	0.1%	0%	0%
	Percentage of CDOT-owned bridges with a load restriction	2.6%	3%	1%
	Percentage of leaking expansion joint by length on CDOT-owned bridges	18.8%	15%	5%
	Percentage of CDOT-owned bridge deck area that is unsealed or otherwise unprotected	31%	30%	5%
Pavement	Percentage high-moderate drivability life for Interstates based on condition standards and treatments set for traffic volume categories	89%	80% [a]	90%
	Percentage high-moderate drivability life for CDOT-owned NHS, excluding Interstates based on condition standards and treatments set for traffic volume categories	78%	80% [a]	90%
	Percentage high-moderate drivability life for the State highway system based on condition standards and treatments set for traffic volume categories	73%	80% [a]	90%
Maintenance	Statewide Letter Grade	B-	B- [a]	B-
Buildings	Statewide Letter Grade	86% C or Better	90% C or Better	100% C or Better
ITS	Average Percent Useful Life	126%	90%	85%
Fleet	Average Percent Useful Life	103%	70%	50%
Culverts [h]	Percentage Critical Culverts	2.9%	5%	2%
Geohazards	Number of Sites with letter grade C or better	47% [c]	60% [c]	90% [c e]
Tunnels	Key components of fire/life safety must not exceed 100% of useful life, based on manufacturer's specification, condition inspections and maintenance history.	TBD [d]	100%	100%
Traffic Signals [i]	Percent overall signal infrastructure Beyond 100% Useful Life	23%	15%	0%
Walls [g]	Percentage of CDOT-owned walls, by square foot, that are in condition state 3 or 4 (poor or severe).	1%	1%	0.5%

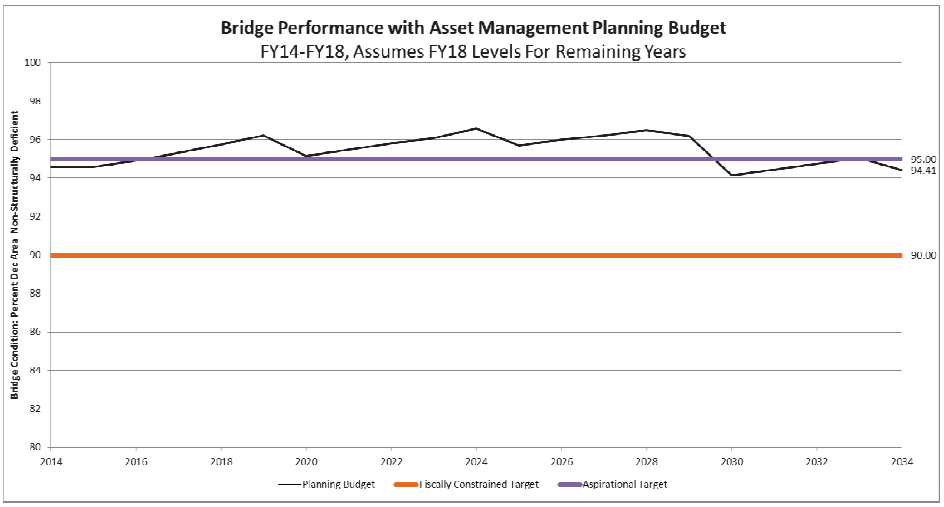
TAM Metrics and Targets

Planning Budgets

FY14-FY18 Asset Management Planning Budgets (in millions)						Out Years Assumption
Asset Class	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19 - FY35**
Surface Treatment	$239	$235	$236	$242	$231	$231
Bridge, BE & Bridge Fixed Costs	$174	$168	$164	$163	$155	$155
MLOS	$249	$251	$254	$263	$263	$263
Road Equipment	$21	$21	$18	$26	$23	$23
ITS	$22	$28	$21	$25	$23	$23
Geohazards	$9	$9	$9	$10	$9	$9
Buildings	$11	$21	$13	$21	$18	$18
Tunnels	$7	$12	$5	$8	$6	$6
Culverts	$12	$10	$8	$11	$9	$9
Walls	$0	$0	$2	$6	$5	$5
Traffic Signals	$0	$0	$6	$17	$13	$13
TOTAL	**$743**	**$755**	**$738**	**$792**	**$755**	**$755**

TAM Metrics and Targets

Bridge



Planning Budget (in Millions):

FY14	FY15	FY16	FY17	FY18
$173.9	$168.2	$164.1	$163.2	$155.4

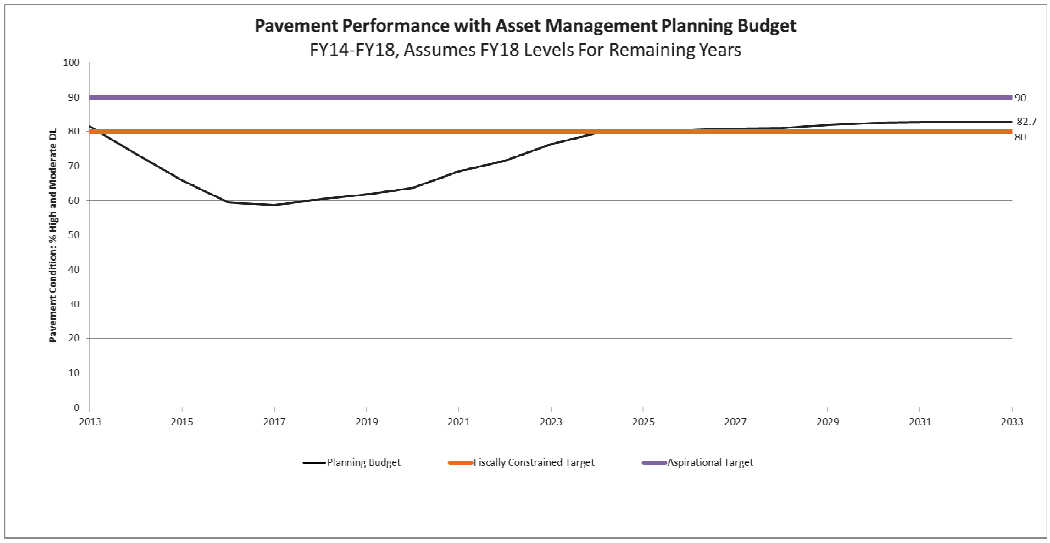
TAM Metrics and Targets

Bridge Risk Mitigation Measures

Scour Critical
Vertical clearance less than statutory maximum
Vertical clearance less than the minimum design requirement
Posted for load
Load Restricted
Leaking Expansion Joints by Length
Unprotected Deck Area

TAM Metrics and Targets

Pavement

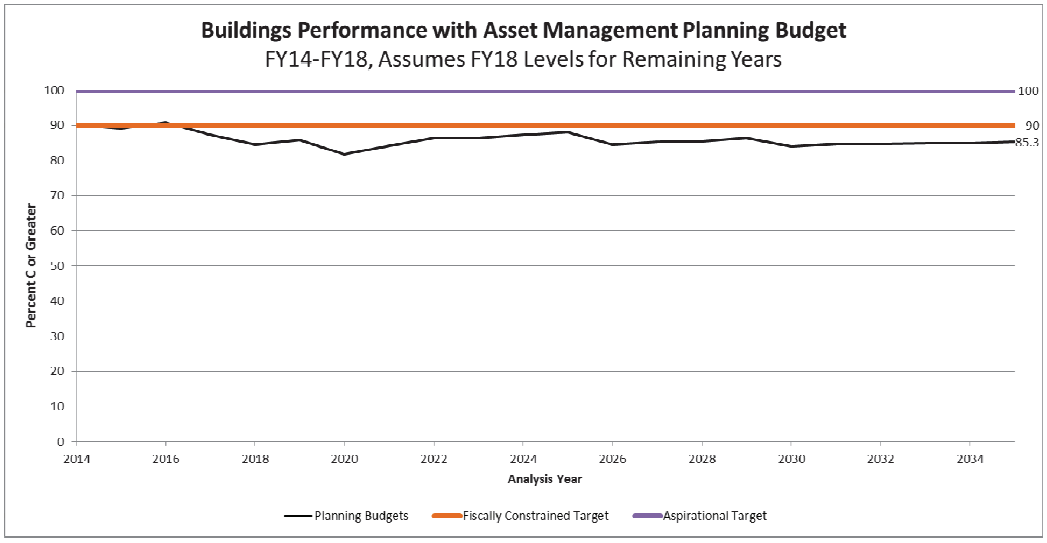


Planning Budget (in Millions):

FY14	FY15	FY16	FY17	FY18
$238.8	$235.2	$235.9	$242.1	$231.4

TAM Metrics and Targets

Buildings

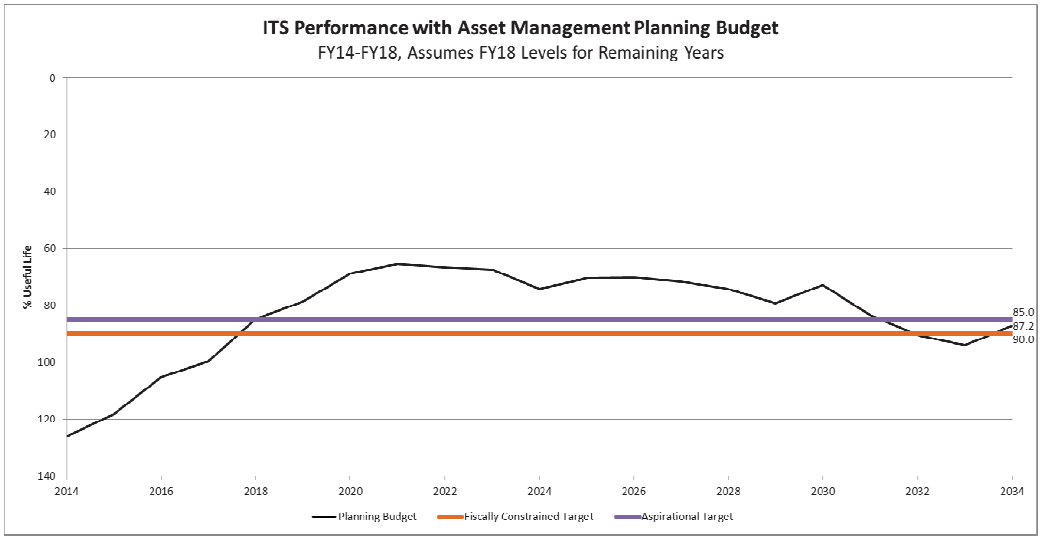


Planning Budget (in Millions):

FY14	FY15	FY16	FY17	FY18
$11.3	$20.8	$12.9	$21.4	$17.5

TAM Metrics and Targets

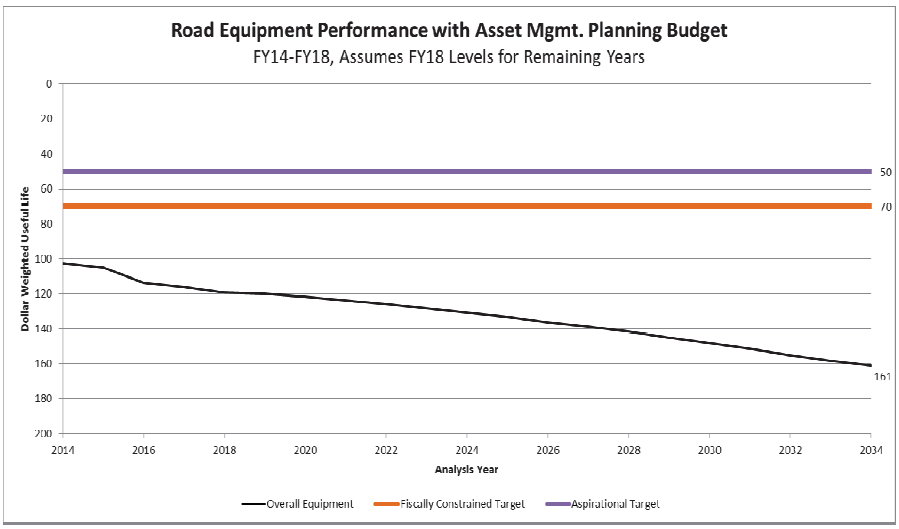
ITS



Planning Budget (in Millions):				
FY14	**FY15**	**FY16**	**FY17**	**FY18**
$21.5	$27.6	$21.4	$24.5	$23.0
Note: includes $15M for M & O				

TAM Metrics and Targets

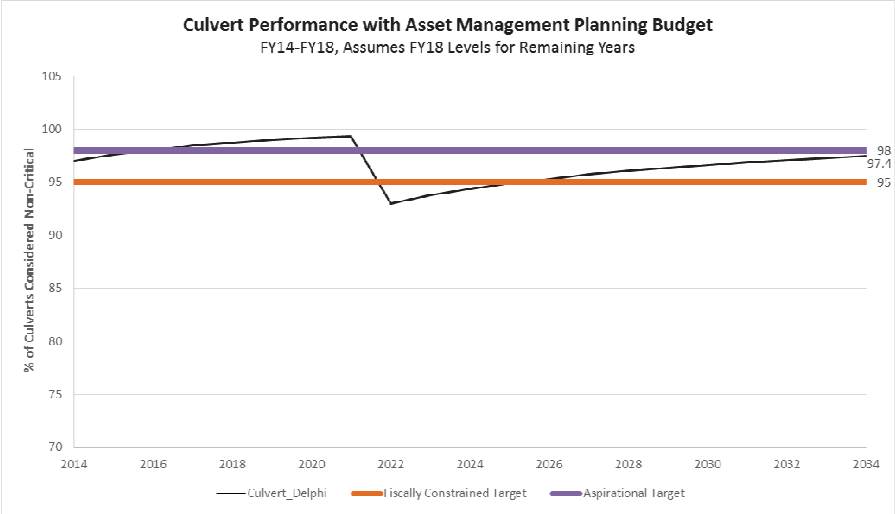
Road Equipment



Planning Budget (in Millions):				
FY14	**FY15**	**FY16**	**FY17**	**FY18**
$20.9	$20.9	$18.4	$26.4	$23.0

TAM Metrics and Targets

Culverts

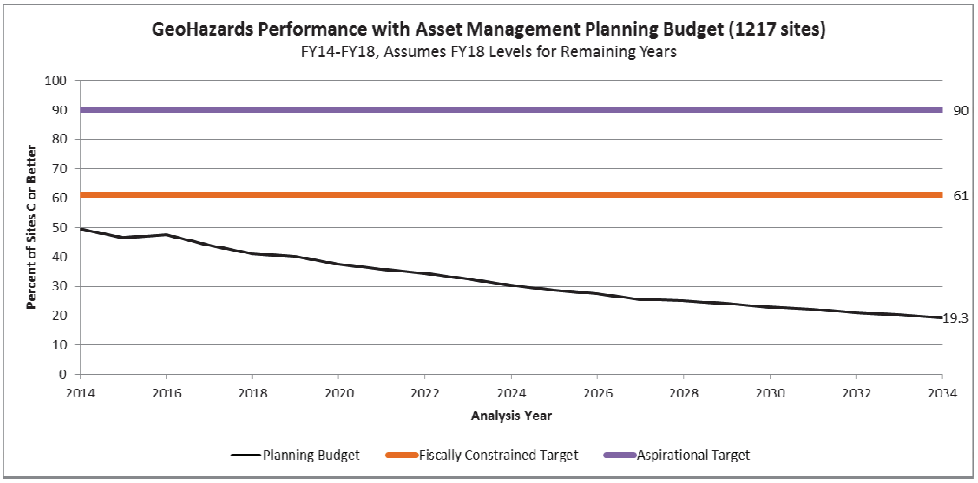


Planning Budget (in Millions):

FY14	FY15	FY16	FY17	FY18
$11.5	$9.6	$8.2	$11.0	$9.1

TAM Metrics and Targets

Geohazards

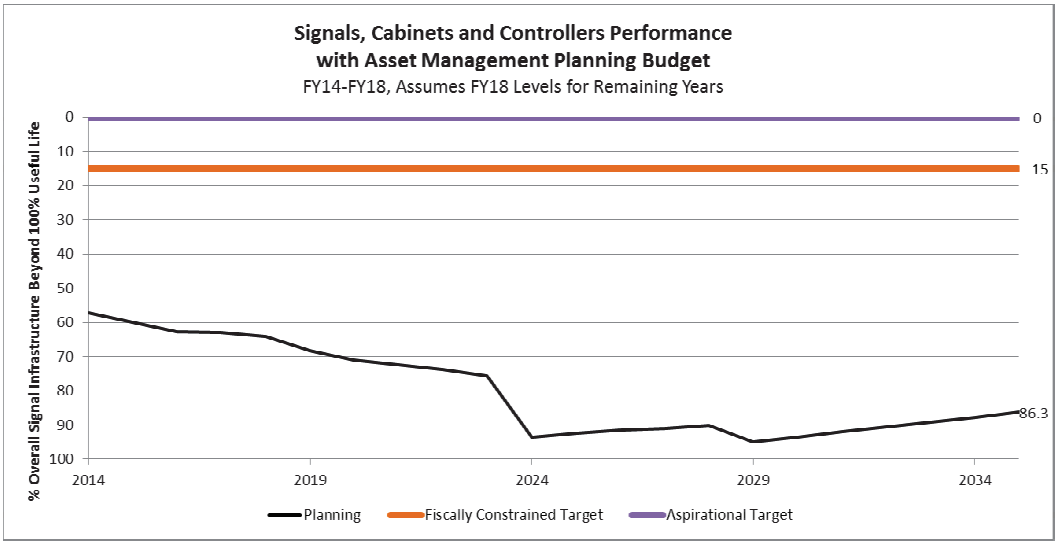


Planning Budget (in Millions):

FY14	FY15	FY16	FY17	FY18
$9.0	$9.1	$9.2	$10.0	$8.5

TAM Metrics and Targets

Signal Infrastructure



Planning Budget (in Millions):

FY14	FY15	FY16	FY17	FY18
$0.0	$0.0	$5.7	$16.9	$12.6

TAM Metrics and Targets

Tunnels and Walls Measures

Tunnels: Fire Life Safety

Walls: Walls in Poor or Severe Condition

STATEWIDE PLAN COMMITTEE

Date: Nov. 19, 2014

Committee Members Attending: Commissioner Kathy Gilliland, chair; Commissioner Kathy Connell, Commissioner Ed Peterson, Commissioner Steven Hofmeister, Commissioner Shannon Gifford

Other Commissioners Attending: Commissioner Heather Barry

Others Attending: CDOT HQ: Debra Perkins-Smith, Michelle Scheuerman, Mark Imhoff, Amy Ford, William Johnson, Ryan Rice, Jeff Sudmeier, Mike King, Heidi Humphreys, Scott McDaniel, Bill Schiebel, Tromila Maile. CDOT Regions: Dave Eller. Other: Vince Rogalski, STAC chair.

- *Oct. 16, 2014, Minutes:* The minutes were approved as written.
- *Statewide Transportation Plan Draft Executive Summary:* After reviewing the Executive Summary and seeing a demonstration of CDOT's first web-based Statewide Transportation Plan, Commissioners agreed that the Draft Statewide Transportation Plan (SWP) can be released for a 30-day public review and comment period on Dec. 5, 2014. The public review period will end January 4, 2015. The Executive Summary is a synopsis of the web-based plan on www.coloradotransportationmatters.com. Staff reviewed the organization of the Executive Summary and the summary's main messages.

  The Statewide Transportation Plan is in four parts on the website:

  1 – Colorado Transportation Story

  2 – Planning Process

  3 – Key Data Findings, Needs and Revenue

  4 – Moving Forward and Implementation

  The Executive Summary document will be released concurrently with the Statewide Transportation Plan web-based elements.

  Discussion/Comments:

  - Observations – Commissioner Kathy Gilliland said it's nice to see a document summarizing material on the plan. It should help with transparency and public understanding. She suggested bold-facing important material throughout the document to help guide readers.
  - Rail Freight – Commissioner Steven Hofmeister said the freight web page of the statewide plan website seems to focus more on "big dreams" for freight, yet farmers have trouble shipping their products by rail because oil, gas, and coal take precedence. Debra Perkins-

Smith said the Statewide Freight Plan that deals with truck freight should be on the www.coloradotransportationmatters.com website in about two weeks. That plan deals with things that can be done soon to address such issues as truck freight safety and bottlenecks.

- Colorado Freight Corridors – Commissioner Hofmeister said it's surprising that US 6 isn't designated as one of the Colorado Freight Corridors because it carries a lot of truck traffic in northeastern Colorado. CDOT staff will look into this.
- Travel Demand Forecast – Commissioner Gilliland asked about a Statewide Travel Model and how it might affect future planning. Debra Perkins-Smith said DTD is developing an activity-based travel demand model that will be fully operational in about two years. This will enhance scenario planning for the transportation system.
- Other CDOT Studies and Plans – Commissioner Gilliland asked about the oil and gas study. Debra Perkins-Smith said the study will pinpoint the impact of oil and gas development on the transportation system since the last energy study was completed in 2010. Much has changed in the oil and gas industry since the last study, including shifts in drilling areas and extraction methods.

- *Web-Based Statewide Transportation Plan Demonstration:* A video from Transportation Commissioner Chair Ed Peterson was presented welcoming viewers to the planning website and a video on the history of transportation and CDOT. They also received an overview of the major updates to the website for release of the Statewide Transportation Plan and where important information will be located.

  Discussion/Comments:

  - Commissioner Gilliland commended staff for using this innovative technology and outreach method.
  - Commissioner Hofmeister questioned the expense of the online planning website and of the videos in a time of tight funding. Staff said viewers can pick and choose the level of detail they want to gain from the website, from delving into the data to receiving general overviews. It is a quick and easy way for the public to get information on transportation. The website serves multiple purposes besides planning, such as providing a single source for information on transportation for CDOT presentations.
  - Commissioner Peterson said he learned how many people use the website when he gave a talk to a small community group. Many of the questions were based on what people had read on the website.

DATE: January 21, 2015
TO: Statewide Plan and Asset Management Committees of the Transportation Commission
FROM: Debra Perkins-Smith, Director, Division of Transportation Development
SUBJECT: Policy Directive (PD) 14 Finalization and Proposed Adoption

Purpose

This memo outlines the proposed additions or revisions to PD 14 in three goal areas – Safety, System Performance and Infrastructure Condition – and includes staff's recommendation to remove the earlier developed planning principles, as well as proposed options for referencing additional infrastructure assets in PD 14.

Action

Staff is seeking:

- Approval of the proposed additions and changes as reflected in the attached revised PD 14
- Direction on how to address other infrastructure assets in PD 14
- Consensus on the finalization of PD 14
- A recommendation to the Transportation Commission to adopt PD 14 in February

Background

Traditionally, PD 14 is reviewed and updated at the beginning of each planning cycle to provide an overall framework for the transportation planning process through which a multi-modal Statewide Transportation Plan (SWP) is developed and implemented. PD 14 also guides investment decisions for a multi-modal transportation system.

PD 14 goals, measures, and objectives formed the basis for the multi-modal goals and objectives and the top strategic actions for the SWP. The February adoption of PD 14 is intended to coincide with the adoption of the SWP and precede the adoption of the Statewide Transportation Improvement Program (STIP) in May.

Details

The current draft of PD 14 is included in Attachment A. Proposed changes from prior versions reviewed by the Transportation Commission are highlighted. Key changes include the following:

- Infrastructure Condition
  Additional proposed infrastructure condition objectives for bridges and other roadway assets are based on cross-asset optimization analysis and on the Risk Based Asset Management Plan and are the subject of this January Joint Asset Management and Statewide Plan Committee meeting.

  Staff is seeking direction on how the additional infrastructure objectives should be reflected in PD 14. Possible options include:
  1. Keep as is by including a reference to the Risk Based Asset Management Plan in PD 14.
  2. Incorporate specific measures and objectives from Table 4.1 into PD 14.
  3. Other options based on workshop discussion.

- System Performance
  Highways: Staff recommends continued use of the Planning Time Index (PTI) as the system reliability measure. This measure was discussed with the Statewide Plan Committee during some

of the initial workshops on PD 14. PTI is defined as the 95th percentile travel time divided by travel time at free-flow. The system reliability objectives address congested segments by maintaining a PTI of 1.25 or less on 90% or greater of interstates and Colorado Freight Corridors, and a PTI of 1.08 or less on 90% or greater of the National Highway System (NHS), excluding interstates. The PTI for the NHS is less than that for interstates and Colorado Freight Corridors because it excludes the interstates, which include many of the most congested highway segments. Over the past year we have moved towards different ways of measuring congestion, including PTI. As a result, staff recommends removing from PD 14 the minutes of delay measures.

- Planning Principles
  Staff recommends deletion of the planning principles section. The planning principles were carried forward from the previously adopted PD 14 from 2008. Elements of the planning principles have since been incorporated into other areas of PD 14 or the SWP, or are being proposed for consideration as measures and objectives for addition to PD 14 at a later date.

Other highlighted changes include:

- Revisions to purpose statement
- Updates to Implementation Plan section

Staff anticipates reporting to the Transportation Commission on the status of PD 14 and progress in meeting objectives on at least an annual basis. Additionally, work continues on the development of additional measures and objectives that can be brought before the Commission for consideration in the future. These include additional measures and objectives relating to bike and pedestrian, truck freight, and potential new goal areas for economic vitality and environmental sustainability. See Attachment B: Possible Future Measures and Objectives.

Next Steps

- February 2015: Transportation Commission adoption of PD 14

Attachments

- Attachment A: Revised Policy Directive 14
- Attachment B: Possible Future Measures and Objectives
- Refer to Attachment A: Update RB-AMP Table 4.1 with Asset Management Performance Metrics and Targets memo.

COLORADO DEPARTMENT OF TRANSPORTATION		■ POLICY DIRECTIVE □ PROCEDURAL DIRECTIVE
Subject **Policy Guiding Statewide Plan Development**		**14.0**
Effective **TBD**	**Supersedes** 03/20/08	**Originating Office** **Division of Transportation Development**

I. PURPOSE

This Policy Directive provides an overall framework for the transportation planning process through which a multimodal, comprehensive Statewide Transportation Plan will be developed and implemented. With limited funding available, the Colorado Department of Transportation (CDOT) has developed a vision for the Statewide Transportation Plan that guides investment for Colorado's multimodal transportation system and that balances:

- Preservation and maintenance,
- Efficient system operations and management practices, and
- Capacity improvements, while incorporating risk-based asset management and cash management practices to optimize cost-effective project delivery.

Policy Directive 14.0 performance objectives will guide the distribution of resources in the Statewide Transportation Plan, the Statewide Transportation Improvement Program, and the annual budget. This Policy Directive will be revised, as needed, to update performance objectives or incorporate additional goal areas.

II. AUTHORITY

23 United States Code (U.S.C.) 134, 135 and 450, PL 112-141 ("Moving Ahead for Progress in the 21st Century" or "MAP-21), and its implementing regulations.

§ 43-1-106(8)(a), Colorado Revised Statutes (C.R.S.) Transportation Commission

§ 43-1-1103, C.R.S. Transportation planning

Transportation Commission Rules Governing the Statewide Transportation Planning Process and Transportation Planning Regions (2 CCR 601-22)

III. APPLICABILITY

This Policy Directive applies to all CDOT Divisions and Regions involved in implementing the Statewide Transportation Plan in cooperation with CDOT's planning partners: the 10 rural Transportation Planning Regions and the five Metropolitan Planning Organizations.

IV. DEFINITIONS

"Aspirational Objectives" are those objectives, or targets, toward which CDOT may strive if CDOT receives revenues beyond those projected.

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"Drivability Life" is an indication in years of how long a highway will have acceptable driving conditions based on an assessment of smoothness, pavement distress, and safety. Drivability Life implements traffic based highway categories, and associated category drivability condition standards and allowed pavement treatments. Unacceptable driving condition is specific to each traffic based highway category and means drivers must reduce speeds to compensate for unsafe factors, navigate around damaged pavement, or endure intolerably rough rides.

"National Highway System" (NHS) is a federally designated system of roadways important to the nation's economy, defense, and mobility. The NHS includes Interstate highways as well as other roadways. Not all NHS roadways are part of the state highway system.

"Maintenance Level of Service" (MLOS) is a qualitative measure describing operational conditions on the roadway. Overall maintenance level of service is a combined grade for nine maintenance program areas. For snow and ice control, the LOS B level includes maintaining high levels of mobility as much as possible, and proactive avalanche control.

"Performance Measures" are the ways that direction toward a goal is measured.

"Performance Objectives" are the specific targets an organization intends to meet.

"Planning Time Index" is the 95th percentile travel time divided by travel time at free-flow time.

"Revenue Service Miles" are the miles of service operated by transit vehicles and available to the general public.

"Serious Injuries" are evident incapacitating injuries which prevent injured persons from walking, driving or normally continuing the activities they were capable of performing before being injured in traffic crashes.

"Vehicle Miles Traveled" (VMT) is a measurement of miles traveled by vehicles obtained by multiplying the Annual Average Daily Traffic (AADT) count by the length of the roadway segment.

V. POLICY

1. Policy. It shall be the policy of CDOT that the Statewide Transportation Plan and statewide performance objectives stated herein will guide distribution of financial resources to meet or make progress toward objectives in four goal areas: safety, infrastructure condition, system performance, and maintenance. Financial resources should be directed toward achieving the objectives within the first 10 years of the planning horizon (2016-2025). Projects should be selected to support the goals and objectives and will be included in the Statewide Transportation Improvement Program (STIP). Annual budget decisions will be guided by these performance objectives as well as CDOT's Risk Based Asset Management Plan. Prior to funding new initiatives, funds should be directed to achieving the objectives in each area while recognizing constraints on some funding sources. Aspirational objectives guide the use of funds received

that are above baseline revenue projections.

2. Goals. PD 14 goals guide development of the multimodal Statewide Transportation Plan and of performance objectives. The goals are:

- SAFETY – Moving Colorado toward zero deaths by reducing traffic-related deaths and serious injuries by one-half by 2030.

- INFRASTRUCTURE CONDITION – Preserve the transportation infrastructure condition to ensure safety and mobility at a least life cycle cost.

- SYSTEM PERFORMANCE – Improve system reliability and reduce congestion, primarily through operational strategies and secondarily through the addition of capacity. Support opportunities for mode choice.

- MAINTENANCE – Annually maintain CDOT's roadways and facilities to minimize the need for replacement or rehabilitation.

3. Performance Measures and Objectives. Performance measures describe how statewide success will be evaluated and performance objectives establish statewide achievement levels which are used to direct investment decisions primarily focused on a 10-year planning horizon (2016-2025). Explanations of how the objectives will be measured and budget categories that fund the four goal areas - Maintain, Maximize, Expand, and Pass-Through Funds/Multi-Modal Grants - are listed below with the appropriate goals.

a) SAFETY:
The highway safety objectives (with the exception of the economic impact of crashes objectives) were set after studying trends from 2008 through 2013. Safety measures and objectives apply to *all* roads in the state. The other safety measures and objectives in this section are subsets of the highway measures and objectives. The budget categories that fund Safety are Maintain, Maximize, and Expand.

(1) All Highways

MEASURES:
- Number of fatalities
- Fatalities per vehicle miles traveled (VMT)
- Number of serious injuries
- Serious injuries per VMT
- Economic impact of crashes

OBJECTIVES:
- Reduce fatalities by 12 per year from 548 in 2008 to 344 in 2025.
- Reduce the fatality rate per 100 million VMT by 0.02 per year from 1.03 in 2013 to 0.79 in 2025.

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- Reduce serious injuries by 90 per year from 3,200 in 2013 to 2,120 in 2025.
- Reduce the serious injury rate by 0.2 per 100 million VMT per year from 6.86 in 2013 to 4.46 in 2025.
- Reduce the economic impact of crashes annually by 1% over the previous calendar year.

ASPIRATIONAL OBJECTIVE:

- Achieve an annual average fatality rate of 0.75 per 100 million VMT in 2025.

(2) Bike and Pedestrian

MEASURES:

- Number of bicyclist and pedestrian fatalities involving motorized vehicles
- Number of bicyclist and pedestrian serious injuries involving motorized vehicles

OBJECTIVES:

- Reduce the number of bicyclist and pedestrian fatalities involving motorized vehicles from 67 in 2013 to 47 in 2025.
- Reduce the number of bicyclist and pedestrian serious injuries involving motorized vehicles from 469 in 2013 to 311 in 2025.

b) INFRASTRUCTURE CONDITION:

The infrastructure condition objectives for highways and bridges are intended to be achieved or maintained over the first 10 years of the planning horizon (2016-2025). The budget category that funds Infrastructure Condition is Maintain.

(1) Bridges

MEASURES:

- Condition of National Highway System (NHS) bridges
- Condition of state highway bridges
- Risk-Based Asset Management Plan Goals for bridges

OBJECTIVES:

- Maintain the percent of NHS bridge total deck area that is not structurally deficient at or above 90%.
- Maintain the percent of state highway total bridge deck area that is not structurally deficient at or above 90%.
- Meet bridge goals in the Risk-Based Asset Management Plan.

ASPIRATIONAL OBJECTIVES:

- Achieve the percent of NHS bridge total deck area that is not structurally deficient at or above 95%.

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(2) Highways

MEASURES:

- Pavement condition of the Interstate System
- Pavement condition of the NHS, excluding Interstates
- Pavement condition of the state highway system
- Risk-Based Asset Management Plan Goals for pavement condition

OBJECTIVES:

- Achieve 80% High/Moderate Drivability Life for Interstates based on condition standards and treatments set for traffic volume categories.
- Achieve 80% High/ Moderate Drivability Life for NHS, excluding Interstates, based on condition standards and treatments set for traffic volume categories.
- Achieve 80% High/Moderate Drivability Life for the state highway system based on condition standards and treatments set for traffic volume categories.
- Meet pavement condition goals in the Risk-Based Asset Management Plan.

ASPIRATIONAL OBJECTIVES:

- Achieve pavement condition level of 90% High/Moderate Drivability Life for Interstates based on condition standards and treatments set for traffic volume categories.
- Achieve pavement condition level of 90% High/Moderate Drivability Life for NHS, excluding Interstates, based on condition standards and treatments set for traffic volume categories.

(3) Other Roadway Assets

MEASURE:

- Risk-Based Asset Management Plan Goals (for culverts, tunnels, walls, and geohazards)

OBJECTIVE:

- Meet Risk-Based Asset Management Plan Goals

(4) Transit

MEASURE:

- Transit Asset Condition

OBJECTIVES:

- Maintain the percentage of vehicles in the rural Colorado transit fleet to no less than 65% operating in fair, good, or excellent condition, per Federal Transit Administration definitions, beginning with the baseline established in September 2014.

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- Ensure that all CDOT transit grantees have Asset Management Plans in place for state or federally funded vehicles, buildings and equipment by 2017.

ASPIRATIONAL OBJECTIVE:

- Increase the percentage of vehicles in the rural Colorado transit fleet to no less than 70% operating in fair, good, or excellent condition, per Federal Transit Administration definitions, beginning with the baseline established in September 2014.

c) SYSTEM PERFORMANCE:

The system performance objectives for Interstates, NHS and State Highway system are intended to be achieved within the first 10 years (2016-2025) of the planning horizon. The system performance objectives for transit begin in 2012 either for a five-year rolling average or as the baseline year. The budget categories that fund System Performance are Maximize, Expand, and Pass-Through Funds/Multi-Modal Grants.

(1) Interstates, NHS and State Highway system

MEASURES:

- Interstate Performance – Planning Time Index (PTI)
- NHS Performance – PTI for the NHS system, excluding Interstates
- Colorado Freight Corridors Performance – PTI
- Traffic Congestion – Minutes of delay on congested segments of the state highway system

OBJECTIVES:

- Maintain a statewide PTI of 1.25 or less on 90% or greater of Interstates centerline miles.
- Maintain a statewide PTI of 1.08 or less on 90% or greater of NHS centerline miles, excluding Interstates.
- Maintain a PTI of 1.25 or less on 90% or greater of Colorado Freight Corridor centerline miles.
- ~~Maintain daily travel time delay on congested segments of state highway corridors at or below 22 minutes of delay per traveler.~~

ASPIRATIONAL OBJECTIVE:

- ~~Achieve a daily travel time delay on congested segments of state highway corridors below 17 minutes of delay per traveler per day.~~

(2) Transit

MEASURES:

- Transit Utilization – Ridership statewide and by subcategory: small urban and rural
- Transit Connectivity – Revenue service miles provided

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OBJECTIVES:

- Increase ridership of small urban and rural transit grantees by at least an average of 1.5% statewide over a five-year period beginning with 2012.
- Maintain or increase the total number of revenue service miles of regional, inter-regional, and inter-city passenger service over that recorded for 2012.

ASPIRATIONAL OBJECTIVES:

- Increase ridership of small urban and rural transit grantees by at least an average of 1.7% statewide over a five-year period beginning with 2012.
- Increase the statewide total number of revenue service miles of regional, inter-regional, and inter-city passenger service by at least an average 1.7% over a five-year period beginning with 2012.

d) MAINTENANCE:

Maintenance objectives are established based on annual funding levels and measured annually. The budget category that funds Maintenance is Maintain.

MEASURES:

- Level of Service (LOS) for snow and ice removal
- Overall Maintenance Level of Service (MLOS) for the state highway system

OBJECTIVES:

- Maintain a LOS B grade for snow and ice removal.
- Maintain an overall MLOS B- grade for the state highway system.

ASPIRATIONAL OBJECTIVES:

- Achieve a LOS B+ grade for snow and ice removal.
- Achieve an overall Maintenance LOS B grade for the state highway system.

4. ~~Planning Principles. The planning principles describe how CDOT conducts business in carrying out the statewide transportation planning process.~~

~~a) Customer Focus. Improve customer service and satisfaction by focusing on the priorities identified by the public. Strengthen transparency and accountability by ensuring the public has multiple ways of learning about and participating in multimodal transportation planning and regional and statewide transportation decision making.~~

~~b) Partnerships. Collaborate with CDOT planning partners to build consensus for the integration of local, regional and statewide transportation priorities in the multimodal Statewide Transportation Plan and to reach data-based multimodal transportation planning solutions. Partner with other agencies and the private sector to leverage resources and to augment public funds.~~

~~c) Performance-Based Planning and Programming. Use a performance-based planning~~

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~~and programming approach in developing a multimodal Statewide Transportation Plan that aligns with MAP-21 national performance goals. Program projects in support of those goals and CDOT objectives and in alignment with the risk based asset management plan. Address both the 10-year and long range planning horizons.~~

~~d) Financial Planning. In cooperation with CDOT planning partners, and in recognition of declining revenues and increasing costs, develop reasonable Revenue Projections and a Program Distribution method that optimize the use of funds in addressing critical transportation needs. Utilize financial scenarios in the Plan in order to be prepared for different levels of future funding.~~

~~e) Freight Movement and Economic Vitality. Recognizing that Colorado's transportation system constitutes a valuable resource and a major public and private investment that directly affects the economic vitality of the state, enhance Colorado's economic competitiveness by supporting measures that facilitate freight movement and promote state, regional and local economic goals.~~

~~f) Environmental Sustainability. Incorporate social, economic, and environmental concerns into the planning, design, construction, maintenance, and operation of a state multimodal transportation system. Support coordinated decision making that balances transportation, land and resource use, and quality of life needs. Promote a transportation system that minimizes impacts to and encourages preservation of the environment, and follows the CDOT Environmental Stewardship Guide. Provide a sustainable transportation system that meets existing needs without compromising the ability to provide for the future.~~

VI. IMPLEMENTATION PLAN

Additional measures and objectives are planned or currently under development. As additional measures and objectives are finalized they will be brought forward for consideration of incorporation into PD 14. This includes measures and objectives in the following areas: Bike and Pedestrian, Truck Freight, Economic Vitality, and Sustainability.

This Policy Directive will be implemented by the Division of Transportation Development, with the Office of Financial Management and Budget, the Division of Transportation System Management & Operations, and the Division of Transit & Rail, and in collaboration with other CDOT Divisions and CDOT Regions. Funds will be directed to budget categories to support accomplishment of the objectives. The Transportation Performance Branch will report annually on performance of the transportation system to track progress toward objectives. At a minimum, the Division of Transportation Development will review and update or reaffirm this Policy Directive with each Plan update cycle in collaboration with the Office of Policy and Government Relations.

VII. REVIEW DATE

This directive shall be reviewed on or before December 2018.

_____ _____

Secretary, Transportation Commission Date of Approval

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Possible Future Measures and Objectives

Goal Area: System Performance- Bike and Pedestrian

To obtain the data on which to base future bike/pedestrian measures and objectives, CDOT proposes to:

- Complete by FY 2018 an inventory of all CDOT-owned bicycle and pedestrian facilities and all non-CDOT owned bicycle and pedestrian facilities parallel or adjacent to state highways.
- Complete data collection and a framework for the development of a bicycle miles traveled model for urbanized areas of the state by FY 2019.
- Establish by FY 2019 a Level of Service for all CDOT owned bicycle and pedestrian facilities.

Goal Area: Safety- Truck Freight

Measures and Objectives:

- To be determined

To obtain the data on which to base truck freight safety measures and objectives, CDOT proposes to:

- Establish a benchmark and objectives for truck crash shot spots on Colorado Freight Corridors using five years of data compiled through CY 2015.
- Establish a program to begin reducing the number of hotspots beginning in CY 2016.

Goal Area: Economic Vitality

Measures and Objectives:

- To be determined

To obtain the data on which to base economic vitality measures and objectives, CDOT proposes to:

- To be determined

Goal Area: Environmental Sustainability

Measures and Objectives:

- To be determined

To obtain the data on which to base environmental sustainability measures and objectives, CDOT proposes to:

- To be determined

COLORADO
Department of Transportation
Division of Transportation Development

DATE: January 21, 2015
TO: Statewide Plan Committee of the Transportation Commission
FROM: Debra Perkins-Smith, Director, Division of Transportation Development
SUBJECT: Public Comments on the Draft Statewide Transportation Plan and 10 Draft Rural Regional Transportation Plans

Purpose

To provide a high-level overview of the public comments received on the plans referenced above, how they are to be addressed, and other anticipated changes to the planning documents prior to finalization.

Action

Recommend taking final Statewide Plan (SWP) to the Transportation Commission for a February workshop and adoption.

Background

The Draft SWP and Draft RTPs were released for a 30-day public review and comment period from December 5, 2014 to January 4, 2015. Since release, there have been over 2,000 visits to the SWP web site, www.coloradotransportationmatters.com. Via the web site, 32 commenters submitted comments covering multiple topics. Once a comment was submitted, the sender received an immediate thank you response. A summary of the categorized public comments received will be posted to the Statewide Plan website.

Key Highlights of Comments Received

Statewide Plan Executive Summary and Web-based Plan Components

The majority of comments received were overarching recommendations that related to topics already heavily emphasized and/or echoed in the Executive Summary. In several instances, minor text, graphic, and map changes were identified and requested, and will result in minimal changes to the Executive Summary or SWP web-based components. Based on the public comments received, no substantive changes to the Executive Summary or SWP web-based components are anticipated. Site-specific comments have been forwarded to the appropriate CDOT Region to address.

Comments received by the Federal Highway Administration (FHWA) and Denver Regional Council of Governments (DRCOG) are being discussed with the respective agencies on how to best address those. Comments are being sent by the Pikes Peaks Area Council of Governments (PPACG) and will be treated the same. Based on the comments received to date, we do not anticipate any major or significant changes to the Executive Summary or other SWP web-based components. However, in many instances minor modifications or additional information to provide clarity will be incorporated. Requests to provide more detail in the Executive Summary will be addressed in Technical Memos that are being prepared.

10 Rural Regional Transportation Plans

Comments received on the 10 Regional Transportation Plans (RTPs) have been reconciled via coordination between the TPRs, CDOT Region Planners, and other staff as necessary. Minor modifications to some of the RTPs are being made.

Please see **Attachment A – High-level Summary of Public Comments on the SWP and 10 RTPs.**

Minor Modifications to the SWP Executive Summary

Additional minor modifications being made to the SWP Executive Summary include:

- Refined analysis of the Needs and Gap Estimate.
- Inclusion of a brief section on the Economic Benefits of transportation investments, including the economic benefits of additional funding.
- Clarification on the linkage of investment strategies to the goals in Policy Directive 14 and the mechanism for reporting performance.

Key Benefits

Public comments aid CDOT in assessing whether the Statewide Plan Vision, Goals and Objectives resonate with the public. Since the SWP will be a living document, the input and feedback provided by the public will assist CDOT staff in continuing conversations with the public on planning and transportation related issues after SWP adoption.

Next Steps

- February 2015 – TC Workshop on final SWP and adoption at regular TC meeting.

Attachments

Attachment A: Summary Table of Public Comments

Attachment B: Summary Table of Agency Comments

Summary Table of Public Comments for the Statewide Plan and Rural 10 Regional Transportation Plans

Comment Category	Comments – General Themes
Statewide Transportation Plan (SWP)	
Bicycle/Pedestrian	• Improve state highways for bicyclists. • Add dedicated bicycle lanes and widening improvements. • Distinguish between commuter and recreational cycling.
Environmental/Safety	• Emphasize as a priority improving habitat connectivity and permeability for wildlife in strategic actions. • Include reduce wildlife collisions in top strategic actions.
Transit	• Consider planned land development in transportation. • Expand light rail lines further south. • Highlight bus rapid transit. • Apply resources and planning towards more rail transit • Support high speed rail.
Highway Expansion	• Support tolled roads.
Mobility/Safety	• Support traffic signal changes to improve mobility and safety.
Regional Transportation Plans (RTPs)	
Safety	• Adjust and widen shoulders to improve safety. • Specific locations along state highways with safety concerns, priorities for safety for improvements • Importance of passing lanes and safety improvements • Specific locations along state highways with s during winter months. • Many semi-trucks with wide loads are a safety concern.
State Highway information	• Highlight state highway access to Scenic Byways. • Refinements for descriptions and characteristics of corridors. • Add local intracity transit service to maps. • Highlight important local projects.
Mobility	• Local downtown congestion a concern.
Bicycle/Pedestrian	• Support for pedestrian facilities and pedestrian bridges.
Transit	• Need for more regional transit service.
Environmental	• Emphasize as a priority improving habitat connectivity and permeability for wildlife
Other Comments	
Global Formatting	• Make documents more color blind reader-friendly.

Summary Table of Agency Comments for the Statewide Plan

Category	Comments – General Themes
System Overview	• Need a clearer identification of which elements of the statewide transportation system CDOT is and is not responsible for. • Delineate state highways from local roads. • Clearly define and explain the significance of the National Highway System.
Geographic Focus	• Should more clearly illustrate the balance between urban and rural infrastructure and population.
Data	• Define "Maintenance Level of Service" more clearly. • Note the importance of future vehicle technology for improving both safety and mobility. • Graphics should be clearly labeled to indicate whether data refers to the state highway system or entire statewide system.
Planning Integration	• Should include information on MPO plans such as adoption date, goals, and local connections between economic vitality and the transportation system.
Corridor Selection	• Should provide greater detail on what factors were used to select regional and statewide priority investment corridors.
Performance-Based Planning	• Expand the discussion of how investment categories align with performance measures and goals from PD 14. • Need to demonstrate linkages between SWP goals and performance measures and other MPO, modal, and topical plans. • Provide clearer connection between the SWP and the STIP in terms of goals, performance measures, and implementation actions. • Define the mechanism for reporting performance measure achievement.
Implementation	• Provide a better explanation of the 4-year Work Plan and 10-year Capital Improvement Plan and how they each fit into the planning process. • Explain how and when the public will learn of progress made on the SWP.
Agency Coordination	• Enhance information on coordination with MPOs during Statewide Plan development.