



COLORADO

Department of
Transportation

Statewide Transportation Advisory Committee (STAC)

March 22, 2019

9:00 AM – 12:00 PM

**CDOT HQ Auditorium
2829 W. Howard Place
Denver, CO**

Agenda

- 9:00-9:05** **Welcome and Introductions** – Vince Rogalski, STAC Chair
- 9:05-9:20** **Opening Remarks from Executive Director Lew** – Shoshana Lew, CDOT Executive Director
- 9:20-9:25** **Moment of Silence for CDOT's Eric Hill** – Johnny Olson, CDOT Deputy Executive Director
- 9:25-9:50** **Planning Reset (Informational Update / Discussion Item)** – Rebecca White, Division of Transportation Development (DTD)
- Review and discuss CDOT's re-thinking the planning process and statewide plan development
- 9:50-9:55** **Approval of February Meeting Minutes** – Vince Rogalski, STAC Chair
- 9:55-10:05** **Transportation Commission Report (Informational Update)** – Vince Rogalski, STAC Chair
- Summary report of the most recent Transportation Commission meeting.
- 10:05-10:20** **TPR Reports (Informational Update)** – STAC Representatives
- Brief update from STAC members on activities in their TPRs.
- 10:20-10:35** **Break**
- 10:35-10:55** **Federal and State Legislative Report (Informational Update)** – Herman Stockinger & Andy Karsian, CDOT Office of Policy and Government Relations (OPGR)
- Update on recent federal and state legislative activity.
- 10:55-11:25** **Colorado Transportation Wildlife Alliance (Informational Update)** – Tony Cady, CDOT Region 5
- Overview of the Colorado Wildlife and Transportation Alliance, and the recently completed West Slope Wildlife Prioritization Study.
- 11:25-11:55** **Federal Lands Access Program (Informational)** – James Herlyck, FHWA
- Overview and update of the Federal Lands Access Program (FLAP)
- 11:55-12:00** **Other Business-** Vince Rogalski
- 12:00** **Adjourn**

STAC Conference Call Information: 1-877-820-7831 321805#

STAC Website: <http://www.coloradodot.info/programs/statewide-planning/stac.html>



COLORADO

Department of Transportation

Division of Transportation Development

Multimodal Planning Branch
2829 W. Howard Pl., Fourth Floor
Denver, CO 80204

DATE: March 22, 2019
TO: Statewide Transportation Advisory Committee
FROM: Rebecca White, Division of Transportation Development, Director
Tim Kirby, Multimodal Planning Branch, Manager
SUBJECT: Planning Workshop

Purpose

To brief and engage the Statewide Transportation Advisory Committee (STAC) on new effort to reset the planning and Statewide Transportation Improvement Program (STIP) process in order to streamline multiple processes and the stakeholder engagement involved in these efforts.

Action

None. Information only.

Background

Over the last several months STAC has received several briefings on the upcoming launch of the 2045 Statewide Plan, a federally required planning document (23 U.S. Code § 135) with a target adoption rate of March 2020. In addition to the Statewide Plan, STAC has been closely involved in the review and adoption of several additional planning and project prioritization efforts. This work, briefly summarized, includes the following:

- *Additional Modal Plans and other Federally Required Documents:* Strategic Highway Safety Plan, Transportation Operations, Colorado Freight Plan, Colorado State Freight and Passenger Rail Plan, Statewide Bicycle and Pedestrian Plan, Colorado Aviation Plan, Risk-Based Asset Management Plan, and the Statewide Transit Plan (also on a four year planning cycle).
- *The 4-year STIP:* A fiscally constrained list of projects, currently updated on a rolling basis where the fourth year of projects is added every year.
- *The 10-year Development Program:* A list of unfunded capital projects that has served as the basis for identifying project opportunities when new funding sources become available.

While these processes have been closely coordinated and connected within the Department, their development as largely distinct efforts has limited CDOT's ability to realize efficiencies and to effectively engage our public and stakeholders.

Details

Under the direction of Director Lew, staff is working to bring these efforts together in order to develop a 10-year strategic pipeline of projects, inclusive of all modes, informed both by a data-driven needs assessment and public and stakeholder input. This effort involves the following primary actions:

1. ***Leverage Statewide Planning Process to Deliver 10-Year Strategic Pipeline of Projects***
 - Utilize the statewide planning process to involve the public not just in setting a 25-year vision, but also in shaping a more immediate 10-year list of projects.



- Build on the lessons learned and experience gained through the development of the 2040 plan, which achieved a record level of public involvement.
2. **Modal Plan Integration**
 - “Marry” the Statewide Transit Plan and the overall 2045 Statewide Plan through enhanced coordination between the Division of Transportation Development (DTD) and the Division of Transit and Rail (DTR).
 - Previously these efforts were envisioned as two separate planning efforts with their own respective timelines and public meetings.
 - By “marrying” the two efforts CDOT can realize efficiencies to effectively engage the public and stakeholders. This change would still result in separate “plans” per Federal requirements, but will enable the public to better evaluate project needs across multiple modes.
 3. **Utilize New Tools to Understand Current Conditions and Measure Needs**
 - Utilize CDOT’s recently completed Statewide Travel Model and in-house GIS capabilities to visually portray the relationship of the existing “footprint” of the state transportation system to a range of different factors through which the department can measure needs.
 - Factors could include population distribution, accident hot-spots, employment centers, military installations, etc.
 4. **Evolution of the STIP**
 - Transition the 4-year rolling STIP to a 10-year strategic pipeline of projects.
 - Requirement for a 4-year fiscally constrained list of projects per Federal requirements is unchanged; however the STIP would also include a 6-year list of capital projects and asset investments that exist beyond the 4-year federally recognized STIP window.

At the March STAC meeting staff will provide an initial overview of how these processes will be aligned. In April, staff will build on this information and engage STAC in reviewing public outreach materials, including a series of visuals built around geospatial analysis. April’s STAC meeting also will include additional information on how the asset management process aligns with this approach.

Next Steps

- April 2019: Review of public outreach materials and geospatial analysis visualization.
- April 2019: Asset management process alignment with streamlined planning approach.

Attachments

- Attachment A - An Overview of Resetting the Planning Process Presentation





COLORADO

Department of
Transportation



Planning Reset

Statewide Transportation Advisory Committee

March 22, 2019



Agenda

- Background
- Solving our Transportation Challenges
- Current Priorities and Opportunities
- Resetting the Planning Process
 - Statewide Planning Process and Pipeline of Projects
 - Modal Plan Integration
 - Evolution of the STIP
 - Utilization of New Tools
- STAC feedback and discussion
- Next Steps



Background

- **STAC has been involved in a number of planning and prioritization efforts.**
 - The 25-year Statewide Plan
 - Additional Modal Plans and other Federally Required Documents (Colorado Freight Plan, Risk-Based Asset Management Plan, and the Statewide Transit Plan, etc.)
 - The 4-year STIP
 - The 10-year Development Program
- **These planning activities are closely coordinated, but were largely independent efforts.**
- **Independent efforts have limited CDOT's ability to maximize efficiencies and engagement opportunities with the public and stakeholders.**



Solving Our Transportation Challenges

- How do we solve the transportation challenges people are facing across Colorado?
- How do we bring all modes and varying needs into a single statewide conversation?
- How do we evaluate needs against each other in a fair and equitable way?



Current Priorities & Opportunities

- Look at how we invest in infrastructure
- Determine how we allocate limited resources
- Learn to make the case better- starting with \$ need is like convincing someone to take on a mortgage and then telling them they also get a house
- Know the problem we are trying to solve for
- **Re-thinking the planning process to help accomplish these things is an important first step**



Resetting the Planning Process

THE GOAL

Bring planning efforts together in order to develop a 10-year strategic pipeline of projects, inclusive of all modes, informed both by a data-driven needs assessment and public and stakeholder input.



Resetting the Planning Process

- **Strategic Actions to Achieve Goal:**
 1. Leverage Statewide Planning Process to Deliver 10-Year Strategic Pipeline of Projects
 2. Modal Plan Integration
 3. Evolution of the STIP
 4. Utilize New Tools to Understand Current Conditions, Future Areas of Concern, and Identify Needs



Statewide Planning Process and Pipeline of Projects

1. Leverage Statewide Planning Process to Deliver 10-Year Strategic Pipeline of Projects

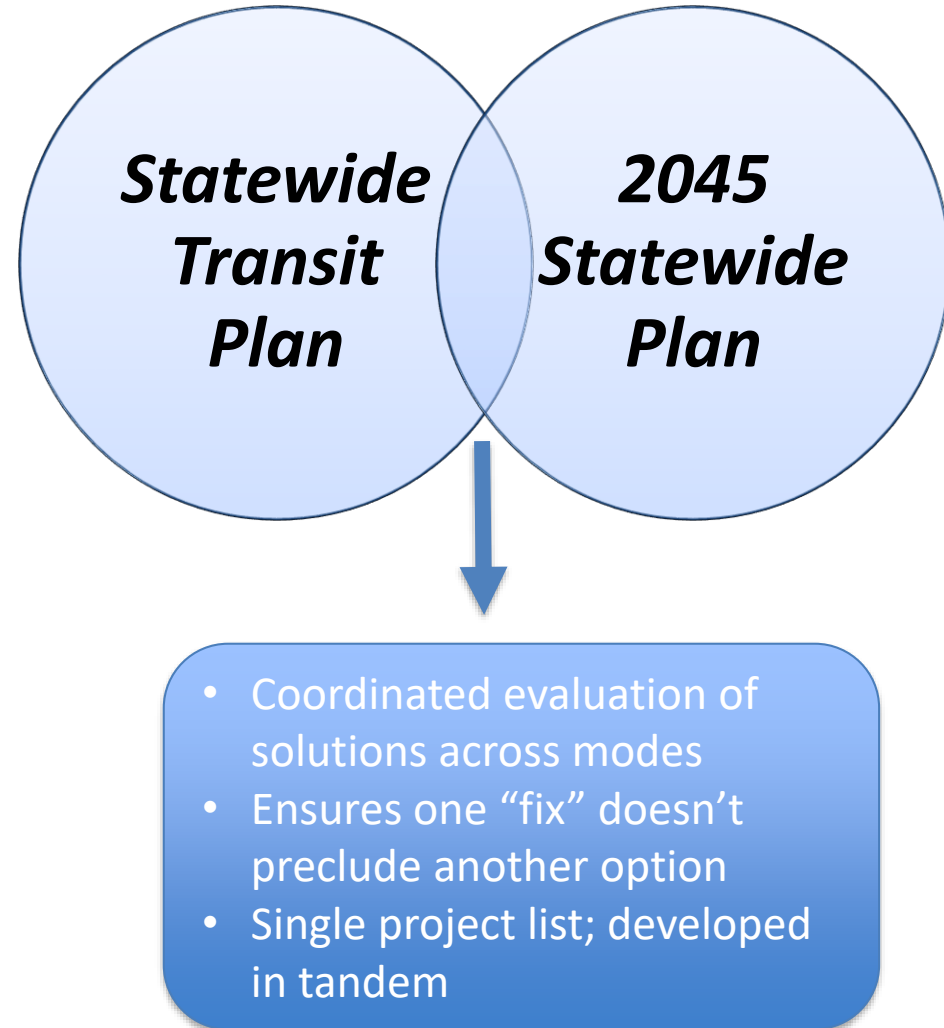
- Utilize the statewide planning process to involve the public shaping a more immediate 10-year list of projects.
- Build on the lessons learned and experience gained through the development of the 2040 plan.
- Continue the high level coordination with the Transportation Planning Regions (TPRs) as seen in the 2040 plan development.



Modal Plan Integration

2. Modal Plan Integration

- Merge development of the Statewide Transit Plan and the 2045 Statewide Plan
 - ❖ Previously two separate planning efforts with their own respective timelines and public meetings.
 - ❖ Create efficiencies for public engagement.
 - ❖ Federal rules still require separate products and CDOT will do more to enable the public to better evaluate project needs across multiple modes.





Evolution of the STIP

3. *Evolution of the STIP*

- Transition the 4-year rolling STIP to a 10-year strategic pipeline of projects.
 - ❖ Requirement for a 4-year fiscally constrained list of projects per Federal requirements is unchanged.
 - ❖ Add a 6-year list of capital projects and asset investments that exist beyond the 4-year federally recognized STIP window.
 - ❖ Allows CDOT to better plan for the future and optimize project delivery over a broader period of time.



Evolution of the STIP

Rolling 4-Year STIP (OLD)

Statewide Transportation Improvement Program

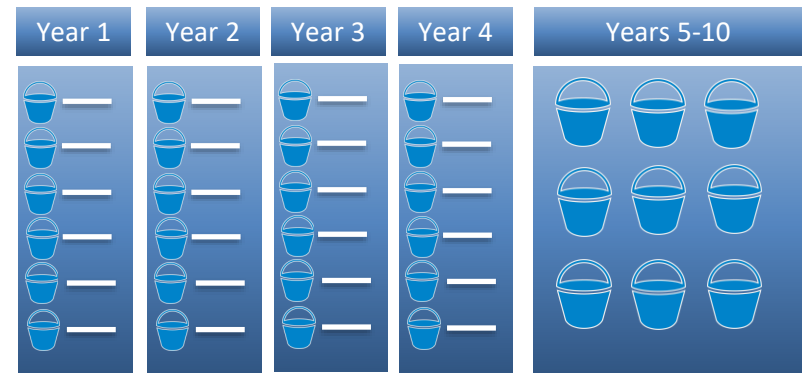


New Year Added on Annual Basis

PMO Optimization of Project Delivery

10 Year Strategic Pipeline of Projects (NEW)

Statewide Transportation Improvement Program



PMO Optimization of Project Delivery



Utilization of New Tools

4. Utilize New Tools to Understand Current Conditions and Measure Needs

- Utilize CDOT's recently completed Statewide Travel Model and in-house GIS capabilities.
- Visually portray the relationship of the existing “footprint” of the state transportation system to a range of different factors through which the department can measure needs.
- Factors could include population distribution, accident hot-spots, employment centers, military installations, etc.



Previous Modeling Approach

- **Simplified form of “modeling” and “forecasting”:**
 - Used traffic counts on road segments with available count info to estimate volumes on other segments.
 - For forecast years--calculate growth rates from past year counts, and use those rates to estimate future volumes.
- **Could not tie growth/development to growth in traffic-- simply assumed that future growth would be like past growth.**
- **No analysis of vehicle occupancy was possible.**



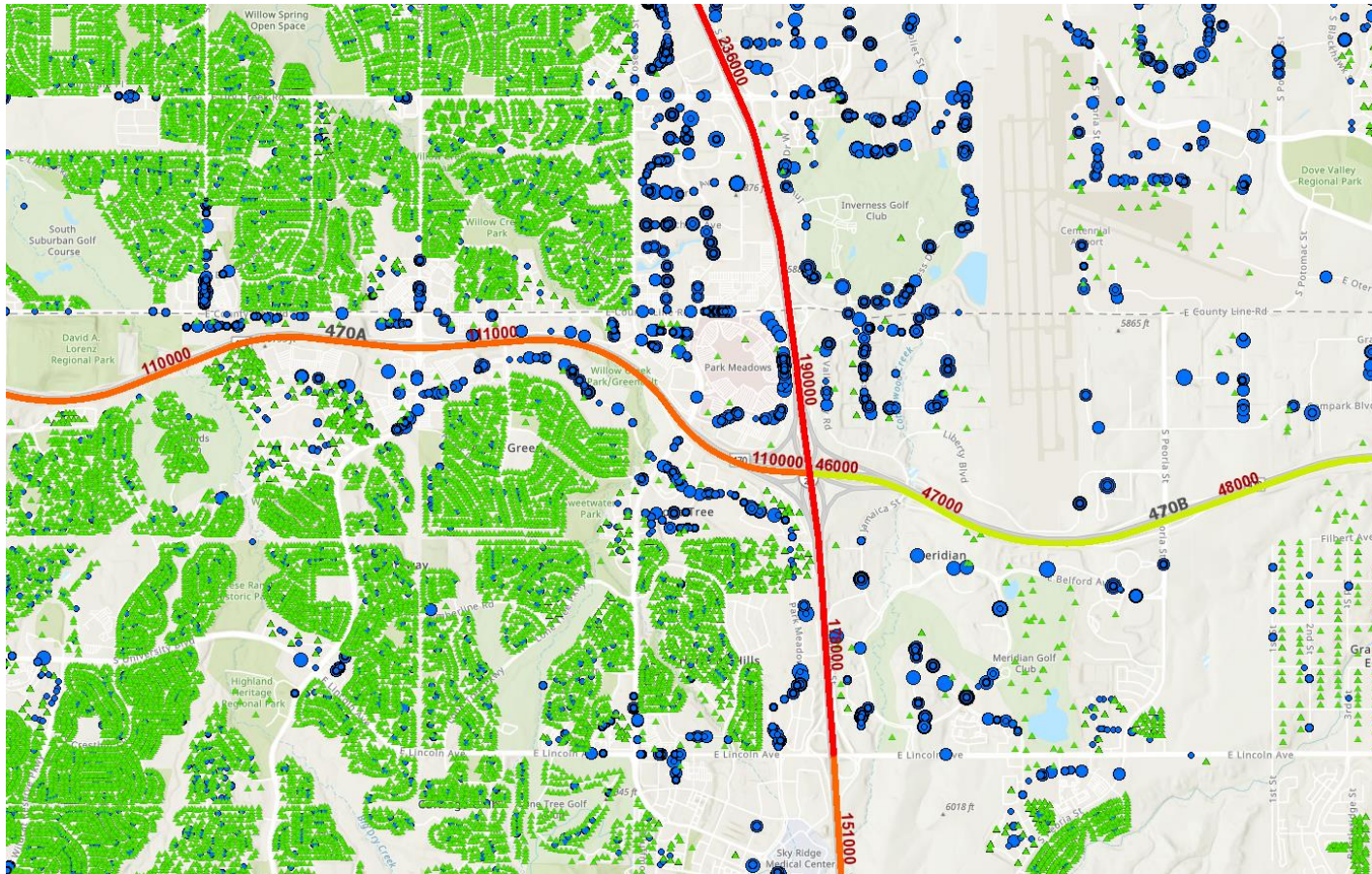
New Statewide Travel Model

- Behavioral model of human behavior and preferences
- Can handle multiple “what ifs” (changes in land use, transit and bicycle/pedestrian, etc.)
- Multi-modal (can examine effects of traffic congestion on transit demand and vice versa)
- Can provide projections for 10-year window
- Can examine the effects of multiple simultaneous changes (e.g. changing land use, transit and highway facilities all at once)



Utilization of New Tools & Data--Example

Land use (Housing and Job locations), AADT(2017)



Legend

Project Planning Layers

Mobility / Congestion

AADT (2017)

- 40 - 10,000
- 10,000 - 26,000
- 26,000 - 52,000
- 52,000 - 94,000
- 94,000 - 167,000
- 167,000 - 280,000

Housing Locations (0)

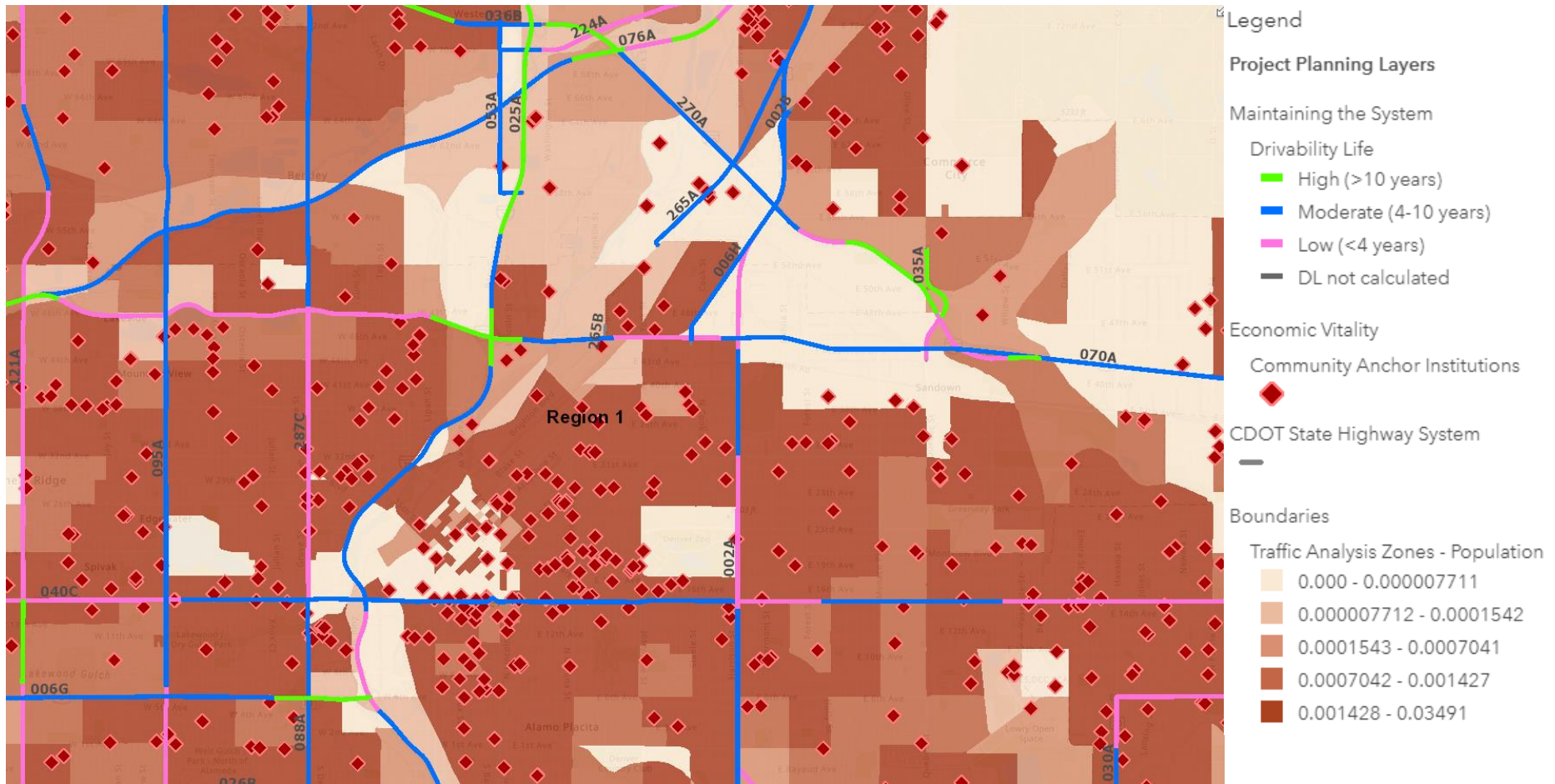
Job Locations (1)

- 0 - 5
- 5 - 20
- 20 - 100
- 100 - 500
- 500+



Utilization of New Tools: Geospatial Analysis--Example

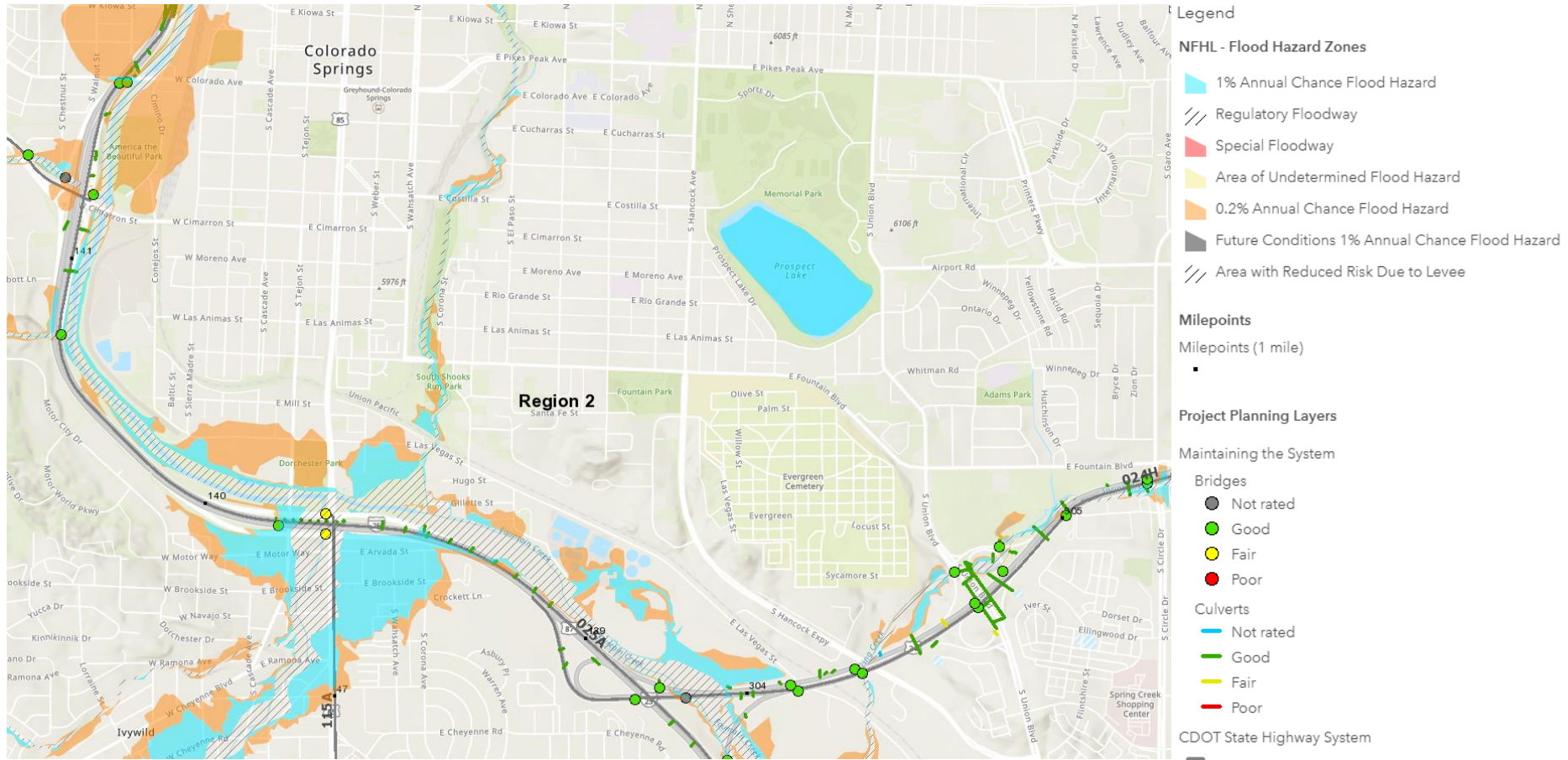
Community anchor institutions, Population by Transportation Analysis Zone, Drivability Life





Utilization of New Tools & Data--Example

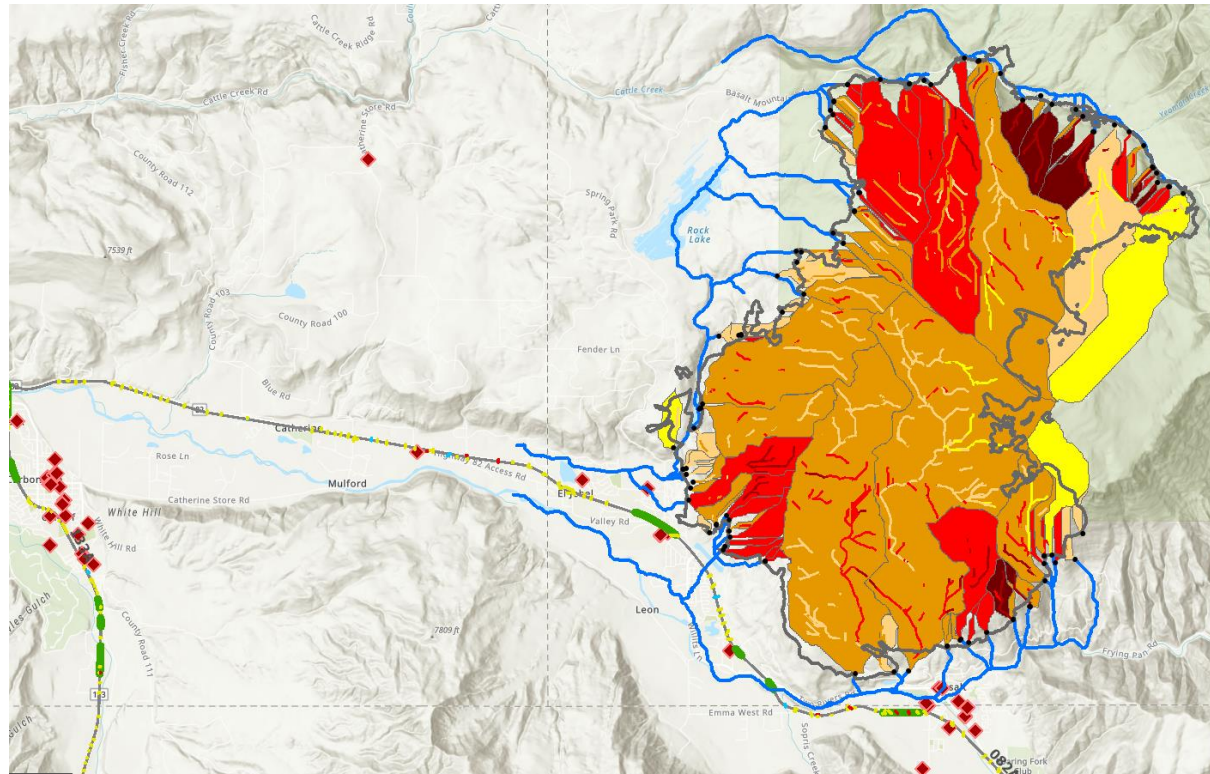
Flood hazard zones, Bridge Condition, Culvert Condition, Mile points





Utilization of New Tools & Data--Example

Post Fire Debris Flows (2018), Community anchor institutions, Culvert condition, Shoulders 2' or Less



Legend

Post Fire Debris Flows 2018

Debris Basins

- Basin Outlets
- Fire Perimeter
- Watchstreams

Basin Probability Estimates

- 0 - 20%
- 20 - 40%
- 40 - 60%
- 60 - 80%
- 80 - 100%

Basin Volume Estimates

- < 1,000 m³
- 1,000 - 10,000 m³
- 10,000 - 100,000 m³
- > 100,000 m³

Basin Combined Hazard Estimates

- Low
- Moderate
- High

Segment Probability Estimates

- 0 - 20%
- 20 - 40%
- 40 - 60%
- 60 - 80%
- 80 - 100%

Segment Volume Estimates

- < 1,000 m³
- 1,000 - 10,000 m³
- 10,000 - 100,000 m³
- > 100,000 m³

Segment Combined Hazard Estimates

- Low
- Moderate
- High

Project Planning Layers

Maintaining the System

Culverts

- Not rated
- Good
- Fair
- Poor

Safety

- Shoulders 2' or less

Economic Vitality

- Community Anchor Institutions
- CDOT State Highway System



Solving Our Transportation Challenges

- How do we solve the transportation challenges people are facing across Colorado?
 - Work closely with MPOs, TPRs, Counties and Cities to understand the challenges
 - Determine what we are solving for and then relate to potential investments
 - Look at needs holistically and not by mode, particularly in urban, congested areas
 - Develop a project selection tool that fairly weighs the benefits of projects against the costs



Next Steps

- April 2019: Review of public outreach materials and engagement plan
 - Schedule and engagement tools
 - Geospatial analysis visualizations
- April 2019: Asset management process alignment with streamlined planning approach.

STAC Meeting Minutes February 22nd, 2019

Location: CDOT Headquarters Auditorium

Date/Time: February 22nd, 2019; 9:00 a.m. – 12:00 p.m.

Chairman: Vince Rogalski, STAC Chair

Attendance:

In Person: Vince Rogalski (STAC Chair and Gunnison Valley TPR), Kris Manguso (Northwest TPR), John Liosatos (Pikes Peak Area COG), Norm Steen (Pikes Peak Area COG), Andy Pico (Pikes Peak Area COG), Roger Partridge (Denver Regional COG), Ron Papsdorf (Denver Regional COG), Douglas Rex (Denver Regional COG), Rebekah Karakso (North Front Range MPO), Suzette Mallette (North Front Range MPO), Barbara Kirkmeyer (Upper Front Range TPR), Elizabeth Relford (Upper Front Range TPR), Bentley Henderson (Intermountain TPR), Gary Beedy (Eastern TPR), Walt Boulden (South Central TPR), Dick Elsner (Central Front Range TPR), Jim Baldwin (Southeast TPR), Peter Baier (Grand Valley MPO), John Cater (FHWA), Johnny Olson (CDOT Deputy Director), Deb Perkins-Smith (CDOT Division of Transportation Development), David Krutsinger (CDOT Division of Transit & Rail), Sidny Zink (Transportation Commissioner).

On the Phone: Amber Blake (Southwest TPR), Michael Yohn (San Luis Valley TPR), Keith Baker (San Luis Valley TPR), Kristie Malendez (North Front Range MPO), Dean Bressler (Grand Valley MPO), Terry Hart (Pueblo Area COG), Stephanie Gonzales (South Central TPR).

Agenda Item / Presenter (Affiliation)	Presentation Highlights	Actions
Introductions & January STAC Minutes / Vince Rogalski (STAC Chair)	<ul style="list-style-type: none"> • Review and approval of January STAC Minutes without revisions. 	<i>Minutes approved.</i>
Transportation Commission Report / Vince Rogalski (STAC Chair)	<p>Presentation</p> <ul style="list-style-type: none"> • <u>Transportation Commission</u> <ul style="list-style-type: none"> ○ Kudos to CDOT staff for producing TC Minutes overnight. ○ Future budget summaries will more clearly identify roll-over amounts from previous years. <ul style="list-style-type: none"> ▪ The FY19-20 budget is being prepared and will start on July 1st, 2019. 	No action.

	<ul style="list-style-type: none"> ○ Discussed potential changes to chain-up and traction laws for both commercial and passenger vehicles to help prevent incidents on mountain corridors during the winter. ○ Received a presentation on the alternative transportation options being made available to those impacted by the Central 70 construction. ● <u>High Performance Transportation Enterprise</u> <ul style="list-style-type: none"> ○ <i>No HPTE report.</i> 	
TPR Reports / STAC Representatives	<p>Presentation</p> <ul style="list-style-type: none"> ● <u>DRCOG</u>: New officers were elected, Bob Fifer will be the new Chair, John Diak will be the Vice Chair, Ashley Stolzmann will be Secretary, Kevin Flynn will be the Treasurer, and Herb Atchison will be the Immediate Past Chair; the Board approved \$1.4 million in funding for 8 stationary transportation and land use master plans; amendments to the 2018-2019 UPWP include 2 new planning efforts (the RTD Transportation Transformation and Regional Complete Streets Toolkit); received an update from RTD on their ongoing Bus Rapid Transit study. ● <u>GVMPO</u>: Like many places following the ballot measure failures we're looking at our fiscal situation and getting ready for our 2045 RTP; I heard that the new Executive Director will be coming our way soon so we're looking forward to that; also working through some labor issues with our transit drivers; in the absence of adequate funding to complete multiple projects, Region 3 staff have recommended moving RPP funds from US 6 Fruita and US 6 Clifton to Palisade, to I-70B. Staff have coordinated with the TAC and plan to take a TIP amendment to the board as soon as possible. However, this would leave behind two important projects. ● <u>NFRMPO</u>: The 2045 RTP is underway, and is being reviewed in chapters by the TAC; just completed a call for projects for FY2022-2023 for CMAQ, STBGP, and TAP; working on 2020-2023 TIP and should be adopted by planning council in May of 2019. ● <u>PACOG</u>: Continuing on the site selection process for a new transit administration and maintenance building, which has been narrowed down to 3 sites; construction has slowed due to weather but we are in the process of preparing for US 50 east out of Pueblo for resurfacing; also working on a Bustang park & ride location north of Pueblo. 	No action.

- PPACG: Approved TIP Amendment #6; adopted CDOT's CY 2019 safety targets because we felt they were appropriate for our region; provided a letter of support for CDOT INFRA project submissions; working to improve our collaboration with the local state delegation and held a breakfast this morning with several members as a part of that effort.
- Central Front Range: Next TPR meeting in March; Safe Routes to School projects in Canon City and starting design on SH 115 improvements; hoping to get started on US 285 passing lanes and resurfacing south of Fairplay.
- Eastern: Getting set up for 2 years of reconstruction of failing asphalt for I-70; also going to work on improving traffic flow on the s-curve in Sterling to improve freight and safety; SH 71 / US 385 freight studies should be done in the coming months to identify what can be done to help alleviate congestion on I-25; also want to thank Johnny Olson for his service to Region 4.
- Gunnison Valley: We have a lot of snow on the ground, which is good for our reservoirs come spring; the biggest project going on right now is snow plowing and CDOT has done an excellent job of keeping the roads clear and sanded so folks can get around; some questions around the FLAP-funded project on Little Blue Canyon between Gunnison and Montrose, given the potential for total closure of US 50 for some period of time, I have no information as yet so I can't answer questions from the public, there are a lot of people who travel between Gunnison and Montrose on a daily basis for work and the alternate route is very winding and steep, which would require buses and trailers to take *another* alternate route that adds even more time, work will begin in about a year so we're trying to figure all that out.
- Intermountain: In between meetings as well; we also provided a letter of support for the INFRA grant submissions; appointed a new Vice Chair, who is Garfield County commissioner Tom Jankovsky; former vice chair Jill Ryan is now the director of CDPHE.
- Northwest: We haven't met since December, and there's not much to report except that its warmer up there than down here.
- San Luis Valley: *No report.*
- South Central: The TPR won't meet again until March; gearing up for bike/ped PEL study of the Southern Loop that will last approximately 12 months; SCCOG Transit will be adding a second fully-electric van to its service in the coming weeks.
- Southeast: Bridge replacement on SH 71 over the Arkansas River north of Rocky Ford has started; another bridge project on SH 167 north of Fowler is still in

	<p>progress; next TPR meeting will be in March; also submitted support letter for the INFRA projects.</p> <ul style="list-style-type: none"> • <u>Southwest</u>: A lot of snow in Durango right now; held a TPR meeting in February and discussed the process for RTP development; have a number of projects going on but focused on avalanche control at the moment. • <u>Upper Front Range</u>: Will meet again in March at the TPR; held a joint TPR meeting in R4 and had a robust discussion, agreed that full RPP amount would move between TPRs from year to year, starting with Eastern, will continue meeting quarterly; US 85 agreement in place between Union Pacific, CDOT, and Weld County just in time before our RTD left to become Deputy Director, so we'll be looking for a new one; want to take the opportunity to thank Johnny for his great service to the region, I think we have the best communication and discussion in the state, and that's a credit to Johnny's leadership, we look forward to what you're going to do for the whole state. • <u>Southern Ute Indian Tribe</u>: <i>No report.</i> • <u>Ute Mountain Ute Indian Tribe</u>: <i>No report.</i> • <u>FHWA</u>: The current federal appropriations bill is good through the end of the year; the next round of INFRA grants will total \$900 million nationwide; there is also a new national competitive bridge program that was announced, but we don't qualify here in Colorado because our bridges are in too good of a condition - only 19 states do qualify. • <u>Commissioner Zink</u>: During our workshop on Wednesday we had a robust discussion about the RPP formula funds, and at some point it was suggested that we should be considering the amount as well as the formula, so that's on the table; we also had a serious discussion about "the budget" and what that means in terms of the planning budget vs the real budget, and once you start looking out to 2045 it gets hard to even think about; I'm a CPA and when you look at the budget you see different categories of activities, and then you have projects, and each project may have money in multiple activities, so it can be a bit hard to match one to the other; I am confident that project budgets are being well-managed but I would also say that Jeff, you have your work cut out for you. • <u>Johnny Olson</u>: The Executive Director has announced that the Chief Engineer, Chief Financial Officer, and Director of the Office of Policy and Government Relations will continue in their current positions, and she has also announced me as the new Deputy Director of CDOT. We have 4 other senior management positions 	
--	---	--

	<p>currently open, including the new Chief of Intermodal Transportation and Advanced Mobility, and hopefully within a few weeks we'll have the full team in place. The Executive Director wanted to be here today in person, but unfortunately she had a conflict.</p>	
<p>Federal and State Legislative Report / Herman Stockinger & Andy Karsian (CDOT Office of Policy & Government Relations)</p>	<p>Presentation</p> <ul style="list-style-type: none"> • <u>Federal Update</u> <ul style="list-style-type: none"> ○ The government is fully-funded but the next potential fight is over the debt ceiling, which could indirectly affect CDOT in the form of reauthorization. A solution will need to be found between now and the end of 2019. ○ Continued discussion of a federal infrastructure package, which everyone agrees is necessary, but has no concrete proposal at this point. <p>STAC Comments</p> <ul style="list-style-type: none"> • <u>Norm Steen</u>: Colorado Counties will be having their annual conference in DC next week, so you should try to connect with them while you're there. • <u>Barbara Kirkmeyer</u>: There will also be a meeting between Weld County and our two Colorado Senators that you may want to attend as well. <p>Presentation</p> <ul style="list-style-type: none"> • <u>State Update</u> <ul style="list-style-type: none"> ○ Discussion of an expanded chain law bill similar to previous, defeated versions. ○ A bill to ban new red light cameras was defeated in committee. ○ A bill to allow half-price express lane travel by battery electric vehicles (with a participation fee and cap on number of registrants) has been proposed. <ul style="list-style-type: none"> ▪ There would be an initial fee to participate, owners would receive an express toll transponder, and then they would be charged 50% off for most express lanes except for the two explicitly HOV lanes on Santa Fe and SH 82, which would be free. ○ A "portfolio" of transportation projects is being developed by one member for possible funding at a level much lower than the 2018 ballot initiatives. <p>STAC Comments</p> <ul style="list-style-type: none"> • <u>Barbara Kirkmeyer</u>: On the Clean Pass Act, has CDOT done any assessment of how much that would cost to the system? How would you generate enough revenue to maintain our system if you're giving people a free pass on express lanes? • <u>Andy Karsian</u>: We worked with the bill sponsor to refine the language. Their original idea was to make express lanes completely free for EVs, which would have made a huge impact on HPTE's finances. We worked with the legislator and with the 	<p>No action.</p>

	<p>Colorado Energy Office to change the rate to 50%, build in the participation caps, and based on those our analysis shows this being essentially revenue neutral. We've also helped to create some other policy "off-ramps" to give us the flexibility to adapt it in the face of any negative impacts that might occur.</p> <ul style="list-style-type: none"> • <u>Barbara Kirkmeyer</u>: What about the impacts right now? We've put in a funding model on I-25 North that relies on a certain level of express toll revenue to attract private sector investment as well, so how can legislation come in after the fact and threaten the entire endeavor? • <u>Andy Karsian</u>: We have been working with the sponsor on those types of issues. • <u>Barbara Kirkmeyer</u>: Who is the sponsor? • <u>Andy Karsian</u>: Representative Alex Valdez of Denver. • <u>Barbara Kirkmeyer</u>: We've been working for years to establish a revenue model that allows us to build capacity and maintain our system, and then legislation comes in that throws that out the window. • <u>Suzette Mallette</u>: We had a robust discussion at the North Front Range MPO meeting about the ZEV Rule idea, and one of the big issues that came up is that right now electric vehicles are not contributing to the system. • <u>Andy Karsian</u>: There has been a discussion about increasing the fees on electric vehicles to address that issue you're identifying, but there hasn't yet been a coalesced strategy around how to apply that and how much it should be. • <u>Ron Papsdorf</u>: Does the Express Lanes bill include all managed lanes, including things like E-470, or just CDOT's managed lanes? • <u>Andy Karsian</u>: There was discussion of both but right now it's just CDOT managed lanes. • <u>Gary Beedy</u>: Have they looked at how that would affect the decision of drivers to use those managed lanes and whether it would lower the overall speed and reliability of those lanes as more and more vehicles use those lanes? Also, is there a sunset or does it go on in perpetuity? • <u>Johnny Olson</u>: We have to remember that these are managed lanes and so the fees will be variable as the number of vehicles rises and falls. So I'm sure that it has been considered. • <u>Andy Karsian</u>: Yes, it has. • <u>Vince Rogalski</u>: Has there been any discussion at all about a primary seatbelt law? This has frequently come up in past years as the best way to improve safety statewide. • <u>Andy Karsian</u>: There is no discussion of that right now. Colorado is one of 15 states that does not have a primary seatbelt law even though the evidence is crystal clear that such laws directly correlate to fewer fatalities. Political considerations have 	
--	---	--

	<p>always won out in past years, with Republicans usually focused on the issue of personal liberty while Democrats are typically concerned about the potential for increased racial profiling by law enforcement.</p> <ul style="list-style-type: none"> • <u>Commissioner Zink</u>: If we can't get a law passed, is education the answer? Something about slowing down, using a seatbelt, and not being stupid. Is there funding for that? We have to try to hammer that home. • <u>Andy Karsian</u>: We are sometimes the victim of our own success, for instance with Click It or Ticket, that many legislators don't even realize we don't have an existing primary seatbelt law. The other thing is that out among the public the approval for this type of law is very high across political backgrounds, something like 60% or 70%, but that doesn't translate into political support under the dome. Maybe we need to get the first responders and other people that deal directly with these issues into the Capitol to talk to legislators about how important this really is. 	
<p>STAC Elections / Vince Rogalski (STAC Chair)</p>	<p>Presentation</p> <ul style="list-style-type: none"> • Following the departure of Sean Conway, the STAC needs to select a new Vice Chair to serve alongside Vince Rogalski as Chair. • Nominations: <ul style="list-style-type: none"> ○ Gary Beedy (Eastern TPR) was nominated by Barbara Kirkmeyer. ○ Norm Steen (Pikes Peak Area COG) was nominated by Dick Elsner. • Each TPR has one vote and those on the phone could submit via email. Votes will be tallied by staff during the meeting and the results will be announced at the end of the meeting. <p>STAC Comments</p> <ul style="list-style-type: none"> • <u>Gary Beedy</u>: I have been a county commissioner for 12 years and involved in the STAC for 18. I am well-informed on all the issues, in particular freight, and would appreciate your support. • <u>Norm Steen</u>: I have been a county commissioner for 7 years. In addition to being the chair of the Pikes Peak Area COG, I participate in 5 other CDOT committees and would be happy to serve in this role as well. <p>STAC Action</p> <ul style="list-style-type: none"> • At the end of the meeting, STAC Chair Vince Rogalski announced the results. Norm Steen was elected Vice Chair. 	<p><i>The STAC elected Norm Steen as the Vice Chair.</i></p>

<p>INFRA Discretionary Grants / Debra Perkins-Smith (CDOT Division of Transportation Development) and Herman Stockinger (CDOT Office of Policy & Government Relations)</p>	<p>Presentation</p> <ul style="list-style-type: none"> • In January, STAC recommended 3 projects for CDOT to submit: <ul style="list-style-type: none"> ○ SH 13: Rifle to Wyoming <ul style="list-style-type: none"> ▪ Total Cost: \$105 million / Grant Request: \$21 million ▪ Renamed as the “I-70 to I-80 Connector” to show multi-state support. ○ US 287: Kit Carson to Oklahoma <ul style="list-style-type: none"> ▪ Total Cost: \$20 million / Grant Request: \$9.8 million ○ Statewide Fiber (no longer being put forward) <ul style="list-style-type: none"> ▪ Removed given high match requirement compared to other projects. ▪ In 2018, CDOT was awarded 5 nationally competitive grants through INFRA, BUILD, and CRISI, which has put a strain on TC funds available to match new projects. ○ The US 85 that Adams County was planning to submit (with CDOT endorsement) is also being pulled at this time for lack of matching funds. • An additional project is now under consideration: <ul style="list-style-type: none"> ○ I-25 North (Segments 7-8) <ul style="list-style-type: none"> ▪ Total Cost: \$109 million / Grant Request: \$100 million ▪ This corridor has received a number of recent investments and the Governor and Executive Director would like to leverage those by applying for \$100 million in INFRA funding to improve freight movement, minimize risk and resiliency issues related to flooding, develop some transit and mobility hubs, and generally improve safety. • Other upcoming federal grant opportunities include FLAP (call expected in March) and BUILD (call expected in April). <p>STAC Discussion</p> <ul style="list-style-type: none"> • <u>Suzette Mallette</u>: Do we know when INFRA grant award announcements are expected? • <u>John Cater</u>: It’s unfortunately been vague. They say that they want to move as quickly as possible but these things generally take longer than we hope. • <u>Elizabeth Relford</u>: Can you please review the project amounts again? • <u>Debra Perkins-Smith</u>: Yes, here they are. 	<p>No action.</p>
<p>Low Emission Vehicle Rule & Electric Vehicle Executive Order / Phil von Hake</p>	<p>Presentation</p> <ul style="list-style-type: none"> • We will start by busting a few LEV and ZEV myths: <ul style="list-style-type: none"> ○ Neither rule takes vehicles off the road, forces consumers to purchase a ZEV, or goes into effect immediately. 	<p>No action.</p>

<p>(Colorado Department of Public Health & Environment)</p>	<ul style="list-style-type: none"> ○ The rules apply to automakers, not consumers, and would not occur until 2022/2023. ○ There can be no “third standard” apart from the federal and the CA standards, because Colorado is simply not large enough of a vehicle market to drive a change by manufacturers. ○ So far 12 states plus the District of Columbia have adopted the California Air Resources Board’s (CARB’s) stricter vehicle standards. ● The LEV was proposed by Governor Hickenlooper in Executive Order B 2018-006. <ul style="list-style-type: none"> ○ Subsequently approved by the Air Quality Control Commission (AQCC) in November 2018. ○ Applies to MY 2022 and later light- and medium-duty vehicles, which must be certified to the California standard rather than the federal standard. ○ CDPHE economic analysis forecast an initial cost increase of \$1,000 per vehicle and a lifetime cost savings of \$3,000 per vehicle. ○ There was a bill in the Legislature to prevent the implementation of the LEV Rule but it was defeated. ● The ZEV was proposed by Governor Polis in Executive Order B 2019-002. <ul style="list-style-type: none"> ○ CDPHE tasked with developing a proposed ZEV rule for possible adoption in October 2019. ○ Would potentially apply to MY 2023 and later light-duty vehicles. ○ Manufacturers would potentially be mandated, incentivized, or otherwise encouraged to make an increasing percentage of ZEVs available for sale in the state. ○ An established credit system could be used to “keep score” and Colorado would determine how to enforce. ○ Consumers would retain the choice of their vehicles and equity is a key consideration - the goal is not to put a Tesla in every driveway, but rather to offer more options to consumers than they would otherwise have. ● Unknown factors to be considered include: <ul style="list-style-type: none"> ○ Future availability and of new ZEV models (including trucks and SUVs) across the country. ○ Ozone non-attainment status of the Front Range. 	
---	--	--

- Changes to the cost and efficiency of vehicle batteries, including the impact on the overall cost and range of ZEVs.
- Growth in the availability and speed of charging infrastructure.
- Impact of widespread transportation electrification on electrical grids and upstream emissions (i.e. how that electricity is generated).
- Continuation or elimination of state and federal ZEV incentives.
- Price of gasoline and other fuels in relation to electricity prices.
- National and global economic trends.
- CDPHE is seeking input from the public online, through stakeholder meetings, and eventually at an AQCC Hearing (if granted). Some *tentative* dates for rule development are:
 - March 27: Next Stakeholder Meeting
 - May 9: Request for hearing to the AQCC
 - May 12: Applications for Party Status become available
 - June 10 - July 10: Pre-hearing process
 - August 15 - 16: AQCC Rulemaking Hearing
- For more information, or to comment, visit:
 - <https://www.colorado.gov/cdphe/zero-emission-vehicle-mandate-proposal>
- We appreciate your thoughts and feedback - the more constructive input we receive the better we will be able to write a final rule that works for Colorado.

STAC Comments

- Andy Pico: What do you mean by Party Status?
- Phil von Hake: There is a difference between general public comment and Party Status. So for instance, the Automakers Association is a party whereas an individual makes a comment. It essentially means that you have a direct stake in the matter.
- Andy Pico: You said that the rules apply to automakers rather than consumers, but if you put a rule on the company then it will inevitably affect the consumer. Also, how is the fuel and maintenance cost cheaper for EVs?
- Phil von Hake: Comparing gasoline to electricity prices is very apples to oranges, but think pennies per kilowatt-hours versus dollars per gallon. On the AQCC website there is an economic analysis that addresses that point.

- Also, if you are plugging in for electricity that's not zero emission, then it's just transferring the emissions to the power plant. Have you done the analysis on how that compares in terms of emission per mile traveled?
- Phil von Hake: In our regulatory analysis, which ties in with our State Implementation Plan (SIP) to show EPA how we're going to address our ozone issues, it talks to that point. I'm sorry that I don't have that in front of me.
- Andy Pico: I also sit on the board of an electric utility, so one of my concerns is that at the same time we're trying to ask people to decrease their usage of electricity on that end on the other side we're encouraging them to plug a car into the grid. I'm not convinced that all the impacts of that have been thought through in this rule in terms of the distribution and transmission system necessary to support a large-scale adoption of EVs. Most of the people pleading for zero-emission vehicles don't understand that. Finally, EVs don't pay into the gas tax so that's undercutting the CDOT revenue
- Phil von Hake: I don't believe the utilities piece is included directly in our economic analysis, but the PUC has formed an EV working group that is looking at this issue. How will the growth of electric vehicles affect their overall load and system needs? Some utilities see a potential benefit to them given the ability to smooth the demand curve on the overall grid since most people charge their vehicles at night rather than during peak times.
- Andy Pico: I agree with that at present, but as we get into larger levels of adoption I'm concerned that the equation will change. Some other states that have gone further on this have experienced rolling blackouts and I don't think that's what people in Colorado want. I would also point out that if you're charging a vehicle at night then that's not coming from solar, it's coal and natural gas.
- Suzette Mallette: I'm interested in what's happening with the LEV Standard. Currently the EPA is trying to roll it back, and if that happens, what does it mean for Colorado?
- Phil von Hake: That is a fight that right now we're letting California fight on behalf of the 177 states. There were ongoing negotiations between EPA and CARB on that but I heard yesterday that they've broken down, so I think it's going to go to the courts. Obviously the carmakers would like one national standard, but currently there are two and Colorado has chosen the 177.
- Suzette Mallette: Also in the Executive Order it mentions a goal of 940,000 electric vehicles by 2030 - do you have any idea of what percentage of the overall fleet that would be? Also, how long will the survey be up for people to weigh in on the ZEV?
- Mike King: There are currently about 15,000 EVs registered in the state of Colorado and off the top of my head I think that the 940,000 goal represents between 5% -

	<p>8% of the state fleet in 2030 (correction: it's actually closer to 16% based on current forecasts of total state vehicle fleet in 2030).</p> <ul style="list-style-type: none"> • <u>Barbara Kirkmeyer</u>: You mentioned getting a waiver from the federal standards, does Colorado have that? • <u>Phil von Hake</u>: No, Colorado is not required to get a waiver. California received a waiver from the EPA which allows them to set their own air quality standard. Then other states may choose between the two, but no waiver is required for that process. • <u>Barbara Kirkmeyer</u>: Are there projections for how much of an ozone level decrease those 940,000 vehicles in 2030 would achieve if it was successful? • <u>Phil von Hake</u>: I know that there are estimates of those benefits in our analysis but I don't have them in front of me - I will find those for the group. • <u>Barbara Kirkmeyer</u>: A few weeks ago a colleague of yours was at our North Front Range MPO and I asked about an economic impact analysis of the impacts of ZEV. He said that you didn't have that yet, but earlier in your presentation I thought you referred to an analysis. • <u>Phil von Hake</u>: We do have an economic impact analysis for the LEV Rule, and we're currently developing one for the ZEV Rule. • <u>Mike King</u>: The Executive Order references a completed economic analysis done by an outside company that identifies a \$43 billion net savings to Colorado. That analysis was not specific to the goals of the Executive Order, rather it is for the "large-scale transition to electric vehicles by 2050". I can send you this study while we wait for the state-specific economic impact study. • <u>Barbara Kirkmeyer</u>: When will the state economic impact study be ready? Will you have that in hand before you develop or adopt a rule? • <u>Phil von Hake</u>: Yes, the economic impact study will be completed by the end of April, prior to a request for hearing in May. So we will have a better idea of the impacts before anything is decided. • <u>Barbara Kirkmeyer</u>: Also, I recall a CDPHE study from 2009 on the sources of ozone in Colorado that identified up to 75% of the state's ozone coming from outside sources in other states and other countries. Has CDPHE updated that study? • <u>Phil von Hake</u>: I'm not familiar with that study, but I expect they have updated it. Cross-border issues are something we talk about a lot but I would have to discuss with the folks at the other end of the hallway. • <u>Gary Beedy</u>: You said that most of this will be focused on the Front Range, even though it's a statewide rule. Is there any potential to increase the credit or incentive for hybrid vehicles operating in rural areas given the greater range need in those 	
--	--	--

	<p>areas compared to the Metro? This could be an example of how to make the program work better for people in different parts of the state.</p> <ul style="list-style-type: none"> • <u>Phil von Hake</u>: Thank you for mentioning that idea - I think it gets back to the equity issue that we mentioned earlier. That's an excellent point and we will bring it back to the group for consideration. • <u>Debra Perkins-Smith</u>: We will share this presentation with you and put together a sheet with some follow-up links and ways for the public to make their voices heard in this process. 	
<p>Colorado Resilience Institutionalization Project Outreach Initiative / Rob Pressley (Colorado Resiliency Office)</p>	<p>Presentation</p> <ul style="list-style-type: none"> • The Colorado Resiliency Office was born out of the 2013 floods to handle immediate impacts and prepare for future issues. <ul style="list-style-type: none"> ○ At the time there was not even a common definition of resiliency among the participants. • In 2014, a Colorado Resiliency Working Group was formed to identify current shocks and stresses, as well as future vulnerabilities, across 6 sectors. • Between 2015 and 2017, a Colorado Resiliency Framework was finalized, local resiliency groups were formed along the Front Range, and a number of web-based resources were created and made available online. • In 2018, the office was incorporated into the Department of Local Affairs (DOLA) and re-focused on state/federal coordination as well as local technical assistance. • Currently working on a year-long Colorado Resiliency Institutionalization Project that aims to: <ul style="list-style-type: none"> ○ Establish a common understanding of resiliency within the context of individual state departments. ○ Implement pilot programs for resiliency building and staff support. ○ Develop tools and metrics for performance measurement and ongoing implementation. • The Colorado Resiliency Office website (https://www.coresiliency.com/) includes a number of resources to engage local communities in this process. <ul style="list-style-type: none"> ○ Includes a Story Map that visually tells Colorado's resiliency story using GIS. • A "Resiliency 101" training was piloted in La Plata County and staff are hoping to hold at least one in each DOLA region by the end of June. • We will also be launching a statewide survey in partnership with CU Denver to better understand past issues, current challenges, and future needs of communities across the state to help guide the CRO's activities in the future. <p>STAC Comments</p>	<p>No action.</p>

	<ul style="list-style-type: none"> • <u>Barbara Kirkmeyer</u>: How many people from local governments are actually participating in that Colorado Recovery and Resiliency Collaborative? Is it more than just emergency management folks? • <u>Rob Pressly</u>: There are about 50 - 60 participants in that group right now, mostly from the emergency management world. • <u>Barbara Kirkmeyer</u>: You also mentioned looking at how to fund these types of priorities through discretionary grants. Did you mean just the Hazard Mitigation grants? • <u>Rob Pressly</u>: No, we are considering any discretionary grants, such as the Energy/Mineral Impact Assistance grants. • <u>Barbara Kirkmeyer</u>: Well that was my next question and it raises a concern for me. If you're talking about putting resiliency into the EIAF program that could make it harder for us to access FEMA reimbursements under the Stafford Act. Also as a general comment I would hope that you're not using EIAF grant funds in areas of the state that are not contributing to the development of energy and mineral resources. 	
<p>2045 Statewide Transportation Plan Update / Marissa Gaughan (CDOT Statewide & Regional Planning)</p>	<p>Presentation</p> <ul style="list-style-type: none"> • CDOT staff would like input on the concept of forming a Rural TPR Subcommittee of the STAC to help guide the development of the 2045 Regional Transportation Plans (RTPs). <ul style="list-style-type: none"> ○ This group would meet immediately after the STAC Meeting each month and help plan the subsequent round of TPR meetings while assessing progress made during the previous round. • Is there any feedback or discussion around this idea? <p>STAC Comments</p> <ul style="list-style-type: none"> • <u>Barbara Kirkmeyer</u>: Can you clarify who would be attending those meetings? • <u>Marissa Gaughan</u>: We would be asking the STAC members from rural areas to stay following the STAC and provide guidance and input on upcoming meeting planning so that we make sure we're bringing the right topics, data, and resources to those TPR meetings and getting feedback on what's working well or not well so we can be sure to deliver a quality product and use our time together effectively. • <u>Gary Beedy</u>: One thing that was mentioned at the last FAC meeting was the intention to highly encourage each TPR to incorporate a section on freight movement into each of the RTPs, like Weld County currently does. 	<p>No action.</p>

<p>Traffic Incident Management / Ryan Rice (CDOT Division of Mobility Operations)</p>	<p>Presentation</p> <ul style="list-style-type: none"> • The goal of TIM is to work as safely and efficiently as a NASCAR pit crew when bringing together a variety of first responders and other agencies at the site of a highway incident. • Several years ago, and in light of 3 highway patrolman deaths in 18 months, Governor Hickenlooper ordered the creation of a task force led by Colorado State Patrol to address the need for improved first responder safety. • One of the recommendations put forward by that group was to develop a joint plan among agencies for future collaboration and improvement. • A Strategic Plan for Joint Agency Implementation was developed under the leadership of CSP and produced a list of recommended improvements under the following focus areas: <ul style="list-style-type: none"> ○ Training - currently 44% of first responders in CO are trained in TIM principles ○ Standing Program Management Teams - 8 across the state to improve communications, hold joint trainings, etc. ○ Legislation - clarification of the “Move It” statute to increase the speed of incident clearance ○ Technology - connected vehicle technology in first responder vehicles for improved traveler information and early warning ○ Joint Operations Centers - first joint CDOT/CSP dispatch facility established in Pueblo at CDOT R2, CDOT R1 facility is planned, and other locations are being explored • CDOT staff appreciates continued STAC support for TIM activities at both the statewide and local level and hopes to continue building the foundation for improved TIM through training. <p>STAC Comments</p> <ul style="list-style-type: none"> • <u>Norm Steen</u>: How do you work with the private sector on these issues? • <u>Ryan Rice</u>: The towing industry is represented in these groups, first through the Towing Association on the Standing Committee, and then ideally down to the individual companies on the Standing Program Management Teams, although that can be a challenge given the large number of players in that sector and the time commitment to participate. • <u>Roger Partridge</u>: Douglas County appreciates CDOT’s work in this area. On the connected vehicle point, it can be a tremendous lift for a county to convert to those 	<p>No action.</p>
---	--	-------------------

	<p>when we're talking about thousands of vehicles in a given area. That's a significant cost that may not fall on CDOT but rather on the local agencies who can't afford it.</p> <ul style="list-style-type: none"> • <u>Ryan Rice</u>: Yes, that's a concern and we're always looking at ways to get those costs down, either via new options like cellular systems, the iCone tool that drops into a road cone, or other creative solutions as we bridge the gap between today and the more commonly connected vehicle future that we expect to see. • <u>Josh Laipply</u>: CDOT can also share our CV standards on new vehicles that we purchase with local agencies to help you make your own decisions when adding or replacing vehicles in your fleet. 	
Other Business / Vince Rogalski (STAC Chair)	<ul style="list-style-type: none"> • In March, the TC will meet from March 20th – 21st (the same week as STAC). • The next STAC meeting will be Friday, March 22nd, 2019 at CDOT HQ (2829 W. Howard Place, Denver, CO 80204). 	No action.

STAC ADJOURNS

The Transportation Commission Workshops were Wednesday, February 20, 2019 and the regular meeting was Thursday, February 21, 2019. Both the workshops and the regular meeting took place at the Colorado Department of Transportation Headquarters at 2829 W. Howard Place, Denver, CO 80204.

Documents are posted at <https://www.codot.gov/about/transportation-commission/meeting-agenda.html> no less than 24 hours prior to the meeting. The documents are considered to be in draft form and for information only until final action is taken by the Transportation Commission.

Transportation Commission Workshops Wednesday, February 20, 2019 2:00 pm to 5:30 pm

Attendance: all 11 Commissioners attended.

Right of Way Workshop (Josh Laipply)

Purpose: The purpose of the workshop was to discuss three right-of-way (ROW) acquisition projects (negotiations), three settlement affirmations & authorization requests, and one project for condemnation authorization request.

Action: Prepare to act on agreed upon proposed acquisitions, settlements, and condemnations at the regular Commission meeting.

The three projects with requests for authorization of property acquisitions that will be part of the consent agenda for at the regular TC meeting for February 2019 included:

- Region 3
 - US 6 at 20 Road Intersection, Project Code 19771
- Region 4
 - I-25 North: SH 102 to SH 14, Project Code 21506
- Region 1
 - I-70 Central, Project Code 19631

The three projects with requests for settlement affirmation & authorization requests that will be part of the consent agenda at the TC Regular Meeting for February 2019 included:

- Region 3
 - US 40 Craig East BPM, Project Code 20753
- Region 5
 - SH 151 MP 13.36 Priority Culvert, Project Code 21091
- Region 1
 - I-70 Central, Project Code 19631

The one project for condemnation authorization request to be approved via resolution at the TC Regular Meeting for February 2019 included:

- Region 1
 - US 85 Expansion MP 198.30 to MP 200.47, Project Code 21557

Discussion:

- No comments on the ROW acquisition projects were raised by the Commission.
- No comments on settlement authorizations were raised by the Commission except for Central 70 project.

- I-70 Central Manna Pro West Property change of parcel AP -89 related to a substantial increase in price of the property. Additional building demolition costs raised the settlement costs.
- Commissioner Zink asked what would happen to the building. The one building will be fully demolished and rebuilt to bring it up to code, and will require rebuilding an unloading zone. CDOT caused the changed conditions to require the new code compliance.
- Funding for the price change will come from the Central 70 ROW budget that is trending well (expenditures are below those anticipated to date).
- BNSF railroad tracks are provided to Manna Pro - CDOT needs to rebuild track for this building and the building behind it. The track design is the optimum design considered for this project per Central 70 Project Manager, Keith Stefanik.
- Settlement costs went from \$27,000 to over \$3.2 million after a deeper investigation took place to identify true costs. Keith Stefanik noted that another option for the railroad was explored, including providing a bridge, that would have been even more costly to CDOT.
- Condemnation for US 85 Expansion MP 198.30 to MP 200.47
 - Two properties are involved.
 - Starbucks is an owner and CDOT is having problems with corporate getting back to us.
 - Reality Income Corporation is having an issue with getting a renter on their property to sign off. The owner/landlord asked for CDOT to begin a friendly condemnation proceeding.
 - Commissioner Gifford confirmed that there were no representatives from the public present to raise comments on this condemnation authorization request.

Construction Contracts and Administration (Josh Laipply)

Purpose: Briefly recap the contracting methods CDOT utilizes for construction. Describe how current CDOT process includes force account work (essentially planned changes), in the categorization of “changes”. Discuss current CDOT systems responsible for reporting and tracking changes. Solicit Commission input regarding proposed staff recommendations for near-term and long-term system/process improvements.

Action: Approve, modify or reject CDOT staff recommendations.

Details: Over the last month CDOT has reviewed procedures and how a change is tracked on a project. This led to identifying some key areas for improvement and change:

- Better define and track changes associated with projects. Separate changes (owner initiated changes, unforeseen conditions, and design errors and omissions) from force account items (e.g. quality incentives, risk mitigation cost adjustments [e.g. fuel], known items with unknown quantities). Track changes by category and provide a structure to report.
- Modify structure of funding for bid items on projects. Some bid items such as construction trailers are not charged directly to projects but rather to a separate construction engineering pool (CE Pool). This leads to a discrepancy when comparing project level data between systems used for construction project administration (Site Manager [AASHTOWare]) and CDOT’s financial system of record (SAP). After proposed modifications SAP would accurately reflect project level expenditures.
- Establish more clear and consistent quality control procedures for plan and specification preparation. This could include Contractor reviews prior to advertisement, plan checking sign offs, etc. These steps will help minimize design errors and omissions.
- Review the Dispute Resolution Board (DRB) specification. On CDOT Public-Private Partnership projects (P3s) CDOT staff has made changes to the Dispute Resolution specification based on previous projects and lessons learned. Projects that are not P3s may also benefit from some of these revisions.

The approach to minimizing total project costs are a combination of mitigating risk and achieving the goals associated by selecting the right contract, maintaining an appropriate amount of flexibility for unforeseen issues and design errors and omissions. CDOT staff feels that more detail is needed on our tracking process, consistency in quality reviews, and structural changes to process to ensure that the data is easily available to

ensure the appropriate flexibility is in place. In addition, reviewing potential changes to the dispute resolution specification based on recent P3 experience may be beneficial.

Discussion:

- Josh Laipply, CDOT Chief Engineer, explained that the majority of CDOT projects today are Design-Bid-Build projects.
- Force account elements of projects include incentives for good quality, even though the lowest bid gets higher priority. When low bids are prioritized CDOT tries to incorporate high quality incentives and other project risk mitigation elements. An example of a force account cost would be fuel Cost adjustments.
- CDOT understands the need and desire to minimizing total project costs by not just evaluating short-term costs but also considering longer-term expenses.
- CDOT's construction budgets allow for some flexibility for unforeseen changes in costs.
- Some project elements are based on lump sums and others are unit cost based.
- Commissioner Thiebaut asked about the relationship between forced account elements and change orders, and how some reporting overlaps them.
- Josh noted that staff is proposing a new method of reporting that clarifies which elements of forced account are in change orders.
- Josh also noted that AASHTOWare and SAP, when using both to report project status they are not consistent, especially with third-party contracts it gets confusing. Not all bid items are tracked in SAP. AASHTOWare is more detailed not all of it is captured in SAP.
- Commissioner Pulido strongly stressed that CDOT needs a project control software.
- Josh concurred with this sentiment. Acquiring this type of software is a next step towards process changes.
- Commissioner Thiebaut raised the issue of the limitations with our dispute resolution process.
- Josh noted that the DRB specifications on Central 70 project is different from US 36. We are intending to work with Regions on a quality control plan and other specifications. We need a more robust tracking system and need to know specifically what change orders are for.
- Commissioner Pulido suggested a need for score cards on projects, just basic information for project tracking, e.g., contingency funding available at high level. Do this for CDOT's four or five big projects.
- Shoshana Lew, CDOT Executive Director, commented that it is a process of record to include full integration of a project management system and streamlining this process will provide the check points we need. Also monitoring project schedule milestones and when they are supposed to happen, we are getting there. We will be moving all projects to project management software.
- RTDs get status reports and are doing this now.
- Josh mentioned that he gets project reports too in Excel now that will be moved to Project Manager software.
- Commissioner Hofmeister asked if we are following state statute of what the TC is supposed to be doing – TC members are not project managers.
- Commissioner Scott commented on his thoughts regarding the TC's role on project management; it is up to the Project Management staff at CDOT to use toolkits available to them, not the TC. TC needs to discuss policy here. Big picture is our (TC) level of need to understand.
- Shoshana Lew noted that avoiding decision points that are unnecessary for TC, we need to make it clear when TC needs to make a decision vs staff providing TC with oversight information.
- Josh noted that staff is in the process of revising business processes, and that he is working with Jeff Sudmeier, CDOT Chief Financial Officer, on this. We will aim to revise DRB specifications based on research of best practices.
- Commissioner Hofmeister noted that the choice of the project management software should not be a TC decision, but potentially an Executive Management Team (EMT) decision.
- Josh explained that staff first needs to identify and define CDOT's business requirements and then have a software expert select the right product for CDOT. Staff can eventually show TC the CDOT business requirements at a high level for their input, in case Commissioners have comments.

- Commissioner Gilliland requested that whatever staff decides the software must help answer questions the TC may have on project status. Currently staff can't always quickly pull information requested.

Workshop – Decision Items: FY 20 Proposed Annual Budget; Modifications to Budget Process and Products (Jeff Sudmeier)

Purpose: The purpose of this workshop was to discuss the FY 2019-20 Final Annual Budget and review proposed changes and additions to budget products and processes.

Action: The Division of Accounting and Finance (DAF) requests that the TC review the FY 2019-20 Final Annual Budget and proposed changes to budget products and processes, and provide DAF with guidance and input in preparation for the March 2019 meeting when the FY 2019-20 Final Annual Budget will be presented to the TC for adoption.

The FY 2019-20 Final Annual Budget reflects several changes from the FY 2019-20 Proposed Annual Budget. Changes include:

- FASTER Safety (Line 25): Decreased to \$1.4 million to \$68.5 million as a result of the updated revenue projection
- Department Operations (Line 70): Increased to \$3.7 million to \$27.4 million to accommodate a mandated increase for PERA Direct Distribution (\$3.3 million) and an increase in the cost of the RTD Eco-Pass benefit (\$400,000)
- Administration (Line 74): Increased \$77,000 to \$38.3 million because of mandated increases for Paid Family Leave
- STP-Metro (Line 90): Increased \$613,000 to \$55.4 million as a result the updated revenue projection
- Transportation Commission Program Reserve Fund (Line 122): The remaining \$68,000 of flexible funds were added to Program Reserve

Changes to Budget Products proposed by DAF and subgroup of the EMT:

- *One-Sheet Budget:* As noted previously, the FY 2019-20 One Sheet Budget has been updated to include estimated roll forward amounts as of June 30, 2019. After the end of the fiscal year, the TC will be asked to review roll forward amounts and consider requests to approve the roll forward of funds or reallocation to other programs. The budget will be subsequently amended to reflect final roll forward amounts and decisions. An additional column has been added for budget adjustments and amendments. This is in anticipation of some updates to the budget process, which will include more frequent amendments to the budget during the course of the year to ensure the approved budget reflects the most current information.
- *Budget Allocation Plan:* This plan outlines new elements which will be incorporated into the FY 2019-20 Final Budget Allocation Plan prior to adoption. This includes a series of new budget reports intended to provide a more complete and transparent view of the budget, including additional information on open projects, prior year funds encumbered in projects, and forecasted annual expenditures. Staff plans to review these new reports in greater detail at the March workshop.
- *Monthly/Quarterly Budget Report:* Going forward, the intention is to provide this report on a monthly or quarterly basis. This report is intended to provide the most current information on the budget, including roll forward budget, and any amendments or adjustments since the time of initial adoption. The report also includes information on budget "consumed" year to date (i.e. funds budgeted to projects or expended from cost centers) and on expenditures year to date so the TC has visibility to budget performance throughout the course of the year.

Next Steps

- In March 2019, DAF will provide the TC with the FY 2019-20 Final Annual Budget, including any changes from the February 2019 TC meeting related to topics discussed between the TC and department staff and

any changes prescribed by the Joint Budget Committee (JBC) of the state legislature during the annual Figure Setting Process on February 6, 2019.

Discussion:

- Jeff Sudmeier, CDOT Chief financial officer, explained that one key change to budget reporting would be to add roll forward category, as historically we have not displayed roll forwards – we are proposing to include estimates of this, with final roll forwards with actual numbers at a later date.
- Five changes to line items of budget. None are major. See list of line item changes above.
- Commissioners asked about how many CDOT staff use their eco- passes. Jeff responded that approximately 1,250 passes have been issued, but can't confirm how many are used. Commissioner Stuart asked questions regarding costs and exploring ways with RTD to still provide employees with this benefit without paying for every employee, with a cost of about \$400 per person (Regular rates are roughly \$1,200 per person). Explore other methods for getting a good deal from RTD. If we learn that there are not enough users, figure out low cost incentives to encourage users.
- Decision Items on the agenda for this workshop did not require TC approval as all were under \$1 million, these decision items were approved by the EMT. Jeff provided an overview of the decision items within the FY 2019-20 budget.
- Jeff also reviewed budget attachments that display reporting changes.
- Commissioner Scott requested to focus on variances from old processes.
- Jeff responded that we go over in more detail the proposed changes next month or later. These products of reporting are evolving and DAF welcomes TC input.
- Jeff explained that a supplemental report on construction budget is under development; this report will add forecasted expenditures to report process for projects; Project reports under development for open projects, and for planned projects. We are also looking to amend Policy Directive (PD) 703.0 – as we amend budget more frequently now. What we consider a budget amendment or a budget supplement, and other budget process, etc.
- In August DAF will start development of the FY 2021 budget; the plan is to work with TC over next few months to re-conceptualize the budget format – one that is more transparent and useful for TC and public. Also future discussions on format and information and policies related to roll forwards will take place.
- Commissioner Hofmeister asked a questions by providing a project example –Sterling S-Curve project is to be let out this spring. This project will not completed until spring of 2020. Later funds would be from FY20. How are funds allocated when not spent in one fiscal year?
- Jeff noted the need to distinguish between budget and cash, staff is working with PMO to maximize our cash flow. In terms of budget, this gets complicated. With a multi-year project comes a multi-year budget. Still transitioning through this after finishing up the Responsible Acceleration of Maintenance and Partnerships (RAMP) program. Eventually, a project budget lines up with fiscal year of budget and construction.
- Josh mentioned that the budget is not expenditures; for example, this time last year, CDOT decided to not let projects, as not enough cash was available at the time. CDOT has projects on the shelf to meet expenditures for cash on hand.
- Commissioner Connell requested that the larger projects with major concerns should be brought to the TC for notification.
- Budget allocation plan includes some budget that is still committed – e.g., roll over non-encumbered. This report covers projects with budget not expended yet.
- Per Josh, almost every project spans at least two fiscal years with construction occurring during summer season.
- Commissioner Gilliland asked when dollars encumbered under cash management.
- Josh and Jeff explained projects are encumbered under multiple years for projects larger than \$15 million. The practice is to encumber \$15 million up front – if project is more than \$15 million staff will incrementally encumber.
- Commissioner Thiebaut noted this is all about coming up with fresh ideas for budget reporting – thank you for this.

Infrastructure for Rebuilding America (INFRA) Discretionary Grants (Debra Perkins-Smith)

Purpose: To discuss approach and potential projects for submittal by CDOT under the INFRA discretionary grant program.

Action: Informational Only. Because the projects being proposed do not request any new matching funds from the TC they do not require TC approval per PD 703.0.

After reviewing the INFRA notice of availability, staff worked with the CDOT Regions and planning partners to identify several potential projects. Two candidate projects have been identified for the INFRA solicitation. SH 13 – Rifle to Wyoming State Line (I-70 to I-80 Connector) has been a prior submission from Colorado under the INFRA and BUILD discretionary grant programs. US 287 Passing Lanes Oklahoma State Line to Kit Carson (Ports-to-Plains Corridor) has not been submitted previously for discretionary grants.

Discussion:

- Debra Perkins-Smith, Division of Transportation Development Director, explained that applications are due March 4, so this request is time-sensitive.
- Good news is that we are not asking for money from the TC today.
- Deb provided an overview of the project criteria and why some projects fell out of being candidates.
- \$902 million is available for the INFRA grant program. Project levels are: less than \$100 million, over \$100 million, or at least \$5 million.
- A minimum match of 40% is required, and at least 20% is not to be federal funds for projects.
- Another criteria CDOT staff placed on the proposed projects was the need to not use TC contingency reserve funds.
- As a result, the two projects proposed do not require match.
 - US 287 Passing Lanes Oklahoma State line to Kit Carson.
 - Commissioner Gilliland noted we should ask for letters of support from other states.
 - Deb responded that Oklahoma is writing a letter for CDOT.
 - CDOT has a 51% match for the US 287 project.
 - This is an important federally designated high priority freight corridor from Laredo Texas to Denver. This route also serves an important port in Texas, and is a multi-state project.
 - SH 13 Rifle to State Line – Connector between I-70 and I-80.
 - Have Wyoming DOT letter of support.
 - CDOT has an 80% match for this project.
- Herman Stockinger, Office of Policy and Government Relations Director and TC Secretary, asked Johnny Olson to comment on the third project application for an INFRA grant that CDOT is working on:
 - I-25 North, Segments 7 and 8.
 - Johnny explained that no additional TC funds are needed. Bridge Enterprise (BE) funds are being used as a funding source for a match for this project.
- I-25 is a major freight corridor, is a high priority for CDOT, and Executive Director Lew strongly supports an application of this project for an INFRA grant.

Statewide Plan Committee – Statewide Plan Formula Programs (Debra Perkins-Smith)

Committee Members: TC Members: Karen Stuart, Chair; Jesus Pulido, Ed Peterson, Sidney Zink, Rocky Scott, and Steven Hofmeister; and STAC Chair, Vince Rogalski – were provided an opportunity to comment on the SWP Commission meeting notes from January 2019. Commissioner Gifford commented that Commissioner Pulido is the new member of the SWP Committee and not herself, as is indicated in the notes. Notes will be revised to make this correction.

Attendees: All 11 TC members, and STAC Chair

Purpose: The purpose of this workshop was to provide the Statewide Plan (SWP) Committee of Commission with information for discussion on the Statewide Plan (SWP) Formula Programs.

Action: Develop 2045 SWP formula recommendations for the full TC to consider at the February Regular TC meeting.

The agenda covered:

- Program Distribution Overview
- FASTER Safety Program and Formula Recommendation
- Regional Priority Program and Formula Recommendation

SWP Commissioners last month recommended TC approval of all formulas except those for FASTER Safety and Regional Priority Program (RPP).

FASTER Safety Formula

Following PD 1504.1, which describes how CDOT staff should analyze crash data for development of regional planning budgets every four years, CDOT staff recommended percentages for each region using 2012-2016 on- and off-system crash data. The recommended allocations by Region are:

Region 1 – 37.3% (previously 33%)

Region 2 – 19.8% (previously 21.3%)

Region 3 – 11.4% (previously 14.1%)

Region 4 – 23.9% (previously 23.6%)

Region 5 – 7.6% (previously 8%)

Discussion:

- After some discussion, Commissioners approved the proposed distribution methodology based on total crash weight according to National Safety Council estimates of average economic cost per death, injury, and other crash data. They indicated a willingness to re-examine PD 1504.1 later.
- Points made during the discussion included:
 - Commissioner Pulido commented that he learned recently that 90 percent of crashes are due to driver behavior, not infrastructure problems, and asked how CDOT addresses that. He said that \$12 million a year spent on safety education may be insufficient to address this problem.
 - Commissioner Thiebaut noted that he is not a member of the SWP Committee, but he wanted to point out that FASTER Safety funds may be spent with more flexibility than the federal Transportation Highway Safety Improvement Program funds
 - Mike McVaugh, Region 5 Regional Transportation Director, explained that CDOT is trying to take a more pro-active approach to infrastructure safety issues, such as repair and replacement of guardrails across the state. He noted that an increase in crash rates are occurring in the urban areas compared to rural areas, and that this is a shift from the recent past. The new percentage allocations proposed for the FASTER Safety funding formula reflect that trend.
 - Commissioner Connell said that if crashes go down in one Region, that Region receives less money in future years. Herman Stockinger, Director of the Office of Policy and Government Relations, said that many programs operate in the same way: money goes to areas of the state with greater needs.
 - Commissioner Scott suggested CDOT use some of the FASTER Safety money to establish a statewide pool to spend on identified safety needs throughout the state. He also suggested that CDOT establish a way of being more pro-active to reduce fatalities and serious injuries.

Regional Priority Program (RPP) Formula

RPP funding provides flexible funding for regional priority projects. Currently, CDOT allocates \$50 million a year for RPP. Forty-eight million goes to the CDOT Regions for regional priority projects, with \$2 million off the top for permanent water quality and management projects. When it became apparent that SB97-01 would not fund TransBonds for strategic projects in the 1990s, CDOT used some of the RPP money to pay off the bonds. This reduced the RPP amount distributed to Regions in a given year. During the economic downturn that began in 2007, CDOT allocated no RPP money at all for two years.

For many years CDOT used the historic formula for RPP of 45% vehicle miles traveled (VMT), 40% lane miles, and 15% truck VMT. Population later became one of the RPP formula inputs.

- The current formula is 50% population, 35% lane miles, and 15% truck VMT.
- The STAC recommended Option B (25% VMT, 20% population, 40% lane miles, and 15% truck VMT) by a vote of 12-3, with three MPOs voting against it.
- Option A was 25% VMT, 25% population, 35% lane miles, and 15% truck VMT.

At the January STAC meeting, three MPOs favored a vote prohibiting CDOT from using the RPP allocation formula for other purposes, but the other TPRs voted against it. TPR representatives did not want to tie the hands of the TC, said Vince Rogalski, STAC chair.

The SWP Committee meeting did not end with a final decision on the formula to use for RPP. Commissioner Hofmeister wanted to know how much and what funds are going to the Front Range compared to the rest of the state as background information. Commissioner Connell requested some input from the five CDOT RTDs about the formula they would prefer, if that was possible.

Discussion:

These were among the topics covered in the discussion:

- Commissioner Zink noted, regarding Option B, that the STAC favored, does a better job of being fair to all CDOT Regions than the current formula, which perpetuates the urban-rural divide.
- Commissioner Hall agreed that Option B is a more balanced proposal.
- DRCOG sent a letter to Debra Perkins-Smith regarding the future of RPP allocations, stating DRCOG prefers the current formula.
- Commissioner Stuart said she thought it was a good idea to stick with the current formula for now, but resolve to consider other formulas in about four years.
- Commissioner Thiebaut expressed that he thought the TC should use the current formula for fear of stirring up the urban/rural divisions again.
- Commissioner Connell explained that the newer Commissioners might not fully understand that \$50 million out of a large budget is not a lot of money.
- Commissioner Rocky Scott added that he thought the TC should be concerned more with advocating for more transportation dollars, versus arguing over such a small sum of money, when looking at the overall budget.
- Johnny Olson, former Region 4 RTD and now CDOT Deputy Executive Director, regarding use of RPP money within the CDOT Regions commented that Region 4 Transportation Planning Regions (TPRs) (North Front Range MPO and the rural TPRs) distribute RPP money on a project basis now, rather than a fixed amount to each TPR. He said the allocation of money to projects within Region 4 usually aligns with the Regional Transportation Plan for the areas. Vince Rogalski said in his area, Gunnison Valley, when one area of the Region comes up short for one project, it may get the needed RPP funds from another area of the Region.
- Commissioner Connell noted regarding the urban/rural division that urban areas have sources of funding that are not available to rural areas. She mentioned CMAQ (Congestion Mitigation and Air Quality) and STP-M (Surface Transportation Program – Metro). She said she wants to get more money out to the rural Regions to spend on their priorities.
- Commissioner Gilliland recalled that the current formula was a very contentious issue in Region 4 last time in the more rural areas.
- Commissioner Thiebaut commented that the last thing he wants is an urban/rural division.
- Commissioner Zink said she thought the current formula heightens the urban/rural division.
- Commissioner Hofmeister said, regarding the urban/rural division, that the SWP Committee members can talk about trying to increase the amount of money allocated for RPP, but they already know there is \$50 million a year for RPP. The SWP Committee needs to make a decision.

- Jeff Sudmeier noted that the TC has until March 2019 to make a decision about the RPP formula to have any bearing on the FY 2020 budget. The TC needs to approve the budget in March 2019.
- Commissioner Thiebaut said, regarding the future of RPP allocation, that he would like to end RPP funding gradually. Other ways of getting money to the Regions for their priority projects are available.
- Josh Laipply, CDOT Chief Engineer, suggested the RPP money could go to a statewide pot, with the distribution of RPP funds decided statewide based on need.

Next Steps:

- The TC will have a workshop in March 2019, followed by TC approval of all the Program Distribution funding formulas anticipated to occur in April 2019.

2018 Colorado Fatalities Summary (Charles Meyer)

Purpose: To provide overview of the status of transportation safety in Colorado

Action: None, information only

Colorado Status:

- Total Fatalities 627- 33% higher than 2010-2014 average, 4% lower than 2017 60% on CDOT highways
- Fatality Rate 1.15 - 16% higher than 2010-2014 average, 6% lower than 2017.

National Comparison 2017

- Fatality Rate – 1.16
- 13% increase in fatalities from 2010-2014
- 4% increase in fatality rate from 2010-2014
- 27 states decreased in fatalities from 2016 (Nationally 1.8% decrease)

State Comparison in Colorado 2017

- Fatality Rate – 1.21
- 38% increase in fatalities from 2010-2014
- 22% increase in fatality rate from 2010-2014
- 30th worst VMT fatality rate by state
- 25th lowest population fatality rate

CDOT Efforts to Improve Safety include:

- Update of State Highway Safety Plan (SHSP) in 2019
- Establish and Monitor National Safety Performance Measures – Colorado and MPOs
- Data Integration, Analysis and Sharing
- Education Campaigns
- Enforcement (partner with Colorado State Patrol)
- Engineering – Programs & Projects
 - Highway Safety Improvement Program (HSIP) funding & FASTER Safety program funding, Before After Analysis
 - Level of Service of Safety (LOSS) listing and mapping
 - Patterns listing and patterns
 - Mobility and Operations Evaluation during projects and earlier in National Environmental Policy Act (NEPA) environmental clearance projects.
 - LRSP – Local Road Safety Plans with Local Technical Assistance Program (LTAP), FHWA
 - Traffic Incident Management (TIM) , TIM tracking, and secondary crash analysis

Discussion:

- Commissioner Pulido observed that the information from Charles Meyer indicates that the number of fatalities and serious injuries is often a matter of people making the wrong choices, such as driving under the influence of drugs or alcohol and/or failing to use seatbelts. CDOT should set bold goals for safety. He added for continued discussion on the issue.
- Commissioner Hall noted that the data seems to show that the huge motorcycle safety campaign CDOT had may have helped bring down fatalities and serious injuries of motorcyclists.
- Commissioner Scott asked if a primary seatbelt law is in the state legislative agenda this year.
- Herman Stockinger replied no. The primary seat belt law is not in this session's legislative agenda.
- Commissioner Scott said such a law seems like a low-cost option for the state, and added that he thinks the TC and CDOT need to advocate strongly for it.
- Commissioner Hofmeister asked about the safety work CDOT is doing with the counties. Charles Meyer explained that CDOT distributes Highway Safety Improvement Program (HSIP) money for local projects. One project example is making the roadway striping wider in strategic locations.

Transportation Commission Regular Meeting Thursday, February 21, 2019, 9:30 am – 11:30 am

Audience Participation - None

Call to Order, Roll Call: Commissioner Peterson was excused. All other 10 Commissioners attended.

Comments of Individual Commissioners

- Commissioner Zink commented on the good snow removal along Red Mountain Pass; Looking forward to Executive Director Lew's visit to Southwestern Colorado. Attended a TPR meeting in Durango.
- Commissioner Gilliland attended a luncheon with small business and diversity group that has a mentor program for small businesses; program pairs program mentors with small business starting out and educates them on how to conduct business with CDOT. Eight to ten businesses were present, and some spoke about their experiences. Larger businesses also learned from hearing of the small business experiences shared. It was a great luncheon and the program is great. Commissioner Thiebaut also attended this event.
- Commissioner Pulido commented that the safety presentation given yesterday was eye opening; 600 fatalities in Colorado, and compared to other states, Colorado is average. Would really like a call for aggressive aspirational goals for safety in Colorado. We owe this to people in the state. Suggested more TC workshops on the subject. Commissioner Pulido expressed his support of use of mobility and operations technology. Attended a meeting with Greenwood Village and CDOT Bustang team, the good relationship between Greenwood Village and CDOT that was demonstrated was impressive.
- Commissioner Stuart thanked and recognized Shoshana Lew for attending a Northern Colorado Economic Alliance meeting and doing a great job with the audience; also recognized Peggy Caitlin being present and in the audience.
- Commissioner Connell expressed her new appreciation of roads, transportation is important and safety is too. Steamboat Springs has lots of snow with a 92 inch base; trucks are removing snow from town; areas is experiencing crashes along US 40 with elks getting hit. Will be starting TPR meetings next month.
- Commissioner Hall recognized and thanked Peter Baier for being in the audience; TPR meetings will be starting in April; will be out of town and in Australia this March. Executive Director Lew is to visit Club 20 in the near future.
- Commissioner Hofmeister extended his congratulations to the EMT selected to stay on, and Johnny Olson on his new role as Deputy Executive Director.

- Commissioner Scott expressed his congratulations to Johnny Olson, noted good work of Region 2 with cities and counties and is happy with coordination CDOT does with locals. They are extremely appreciative of CDOT. On a drive from Colorado Springs to Fort Collins along I-25, it is exciting to see work happening.
- Commissioner Thiebaut extended his congratulations to EMT reappointments and to Johnny Olson. There is lots of energy to help TC as they make decisions. Recognized Herman and Oliva for their help with print outs of the TC packet. Agreed with Commissioner Gilliland regarding the luncheon and the small business mentor program.
- Commissioner Gifford welcomed and recognized Peggy Caitlin in the audience, and explained that Peggy is the Regional Transportation District (RTD) liaison between CDOT and the RTD Board. Peggy once served at CDOT as the Deputy Executive Director. Extended Congratulations to re-appointed EMT team and Johnny. Will be visiting the Congressional delegation with CDOT Executive Director Lew shortly.

Chief Engineer's Report (Josh Laipply)

- Commissioner Pulido commented on the Bustang with Greenwood Village meeting and how it went well; CDOT is doing late spring service changes. There is the possibility to stake out stop locations for folks to see and comment on. CDOT staff works well with the locals.
- The Work Now meetings, are to support emerging small businesses and our non-profit stakeholders. It is a workforce development program that is part of Central 70 that is underway. Anticipate a committee meeting will be held next month.
- Excited to have Johnny on the EMT.
- In terms of the cyber incident – happened a year ago this month, and during this event, Johnny played a key role in the initial response and recovery. We are planning a future TC workshop on this topic. Initial activities taking place include all Bentley program data and information being moved to the Cloud with added security levels for SAP. These are improvements underway with more to come.

High Performance Transportation Enterprise (HPTE) Director's Report (David Spector)

- HPTE annual report is finished and hard copies are available for those who want one; a SB 1 report is included in the annual report. There is also a link available on the HPTE website to this document.
- Commissioner Gilliland gave credit to HPTE for this very “reader-friendly” report. Report is written in a “down to earth” format; strongly recommends reading this report.
- I-25 Central PEL Team is working on what this project might look like; this month was the first time the Central 70 Executive Partnering team met with Executive Director Lew, and that meeting went well; also the Metropolitan State University of Denver is exploring potential public private partnerships (P3s) and reached out to HPTE for some ideas and concepts.
- CDOT is a member of E-470 Public Highway Authority Board of Directors as an ex-officio member with a non-voting role. CDOT/HPTE seat is normally appointed by the HPTE Director- This Board held their strategic planning retreat as they are going through a strategic planning process, all members, voting and non-voting, were given the opportunity to provide their input. HPTE is actively participating in this planning process through participation on this E-470 Board.
- HPTE Board of Directors with Commissioner Gifford, and Commissioner Gilliland, are also conducting a strategic planning retreat starting this afternoon and tomorrow. A big focus will be the evolution of the HPTE, moving from a role of catalyzing express lane projects, to becoming one of the nation's largest toll operators in a four-year time frame, with roughly 200 miles of tolled lanes. What to know what does that mean from a business perspective for HPTE and how should we move forward.

FHWA Colorado Division Administrator's Report (John Cater, Division Administrator)

- Received our Appropriations Bill through the end of the fiscal year, so all federal offices are up and running.

- FHWA has good news – FHWA received the projected FAST Act levels of appropriations and the internal operating funds anticipated, and will continue business as usual.
- Better Utilizing Investments to Leverage Development (BUILD) Program last year we received several grants here in Colorado for I-25 North, V2X and in Glenwood Springs. There will be \$900 billion for BUILD this year sometime in the spring of this year. We hope to continue our track record of success.
- An extra \$3 billion of general fund money is available for highways, with \$2.7 billion under Surface Transportation Block Grant Program (STBG) and will include sub-allocations to Metropolitan Planning Organizations (MPOs).
- \$475 million will be available for a competitive bridge program – states with higher, more than 7.5% of bridge deck area deficient condition are eligible, but Colorado did not qualify, as our bridge deck area condition is too good.
- LTAP in Colorado includes a road scholar program for maintenance workers (CDOT and local government maintenance workers are eligible). This program is intended to help local roadway maintenance workers grow professionally. This is a CDOT, FHWA and LTAP program partnership. Through a Front Range Community College accredited program, completed participation leads to an Associate's Degree of Applied Science in Highway Management.

STAC Report (STAC Chair, Vince Rogalski)

- For the legislative report the Executive Order for zero emissions vehicles was discussed by the STAC. Concern exists with the impact of electric vehicles on CDOT's revenue and what will be the replacement/alternative source of revenue in the future. STAC wants to know if a ballot measure to increase funding is in the works as CDOT still needs more funding to maintain the transportation system.
- For INFRA grants STAC unanimously recommended US 287, SH 13 and Smart Fiber and an Adams County application for US 85. Not sure about how I-25 North fits into the picture.
- Technology discussion included talks about an air traffic control system without using a control tower. A pilot project for this is occurring at the Northern Colorado Regional Airport.
- SB 1 and SB 287 – staff to bring projects for STAC review and comment.
- In terms of the proposed increase for Bustang fares, the \$1 per trip increase doesn't seem right to STAC. If there are any increases, they should be proportional (based on a percentage increase of the current fare) instead.
- Outrider program is doing a good job with analyzing things. Nothing concrete yet but lots of potential is there.
- Regarding Southwest Chief and Front Range Rail, people looking more at rail as a public transportation mode of choice; there is lots of work going on and interest expressed. AMTRAK 2.0 is being considered for Front Range rail potential.
- For February and March, STAC meetings and TC meetings are held in the same week. Tomorrow's STAC agenda includes: STAC election for Vice-Chair as Sean Conway had to leave, INFRA grant program update, Low Emission Vehicle Rule and Executive Order update, Colorado Resilience institutionalization update, 2045 Statewide Plan project update, and Traffic Incident Management Update.

Act on Consent Agenda – Passed unanimously on February 21, 2019

- Resolution to Approve the Regular Meeting Minutes of January 17, 2019 (Herman Stockinger)
- Resolution to Approve ROW Settlement Affirmations and Authorization Requests (Josh Laipply)

Discuss and Act on Condemnation Authorization Requests (Josh Laipply) – Passed unanimously on February 21, 2019

Discuss and Act on SB 267 Project Funding Modifications (Jeff Sudmeier) – Passed unanimously on February 21, 2019

- This budget reallocation covered costs for I-25 Gap project re-allocated from I-25 North; the budget for I-25 North is to be restored with the proposed upcoming budget amendment.

Discuss and Act on 8th Budget Supplement of FY 2019 (Jeff Sudmeier) – Passed unanimously on February 21, 2019

Discuss and Act on 2045 Revenue Projections (Jeff Sudmeier and Debra Perkins-Smith) – Passed unanimously on February 21, 2019

- Projections included low, medium and high revenue projection scenarios. This action proposes use of the high revenue scenario for fiscal constraint purposes.

Discuss and Act on Safe Routes to School FY 2019 and FY 2020 Project Selection (Debra Perkins-Smith) – Passed unanimously on February 21, 2019

- Two education projects and included a list of projects for infrastructure improvement projects.
- Commissioner Theibaut asked why CDOT is doing this for a two-year period instead of one as done previously.
- Betsy Jacobson, Bicycle and Pedestrian Section Manager, explained that CDOT staff conducted a strategic plan that recommended the change to a two-year cycle that would increase the project minimum budgets, and allow staff more time to evaluate projects.

Discuss and Act on Revised CDOT/HPTE Equipment Financing Agreement, including approval of WB PPSL equipment financing (David Spector and Jeff Sudmeier) – Passed unanimously on February 21, 2019
Get info from TC Packet.

Authorize Rulemaking for Chain Law Rules (2 CCR 601-14) (Herman Stockinger) – Passed unanimously on February 21, 2019

- By taking action on this rulemaking, the TC approves opening the process for Chain Law rulemaking to occur. Final approval of changes to the Chain Law Rules is anticipated to occur in June 2019.

Central 70 Quarterly Status Report and Northeast Transportation Connection (NETC) Video (Keith Stefanik) – Passed unanimously on February 21, 2019

- Keith noted no major issues to report for 70 Central this quarter.
- Showed a video about the work of the NATC with providing Transportation Demand Management initiatives provided to residents and business owners in the neighborhoods being impacted by the Central 70 project.
- NETC is a transportation management association to help residents and local businesses impacted with mobility and access issues. HPTE contracted with NETC to help mitigate impacts along I-70 Central project corridor.
- NETC Goal is to provide alternative transportation options for residents, student and others.
- NETC team is talking with Community members, and asking what do they need to maintain or improve mobility and access in their neighborhoods.
- Programs being provided include:
 - Free bicycle libraries
 - Walking Program – install walking culture – to transit stops also.
 - Community shuttle (via van) programs, including senior programs.
 - Bike Tours of Community
 - Attended many community events to solicit participation and input on needs.
- Commissioners Hall and Connell expressed their appreciation for this work.

Environmental Awards (Debra Perkins-Smith and CDOT RTDs)

For over twenty years, CDOT has recognized excellence in environmental stewardship. There are opportunities to do so in all aspects of our organization: planning, design, construction, operations and maintenance. This year, there was a strong class of candidates, which made the selection of the following winners, even more impressive.

SH 9 Project

Iron Springs--This project flipped the script for this segment of state highway and bikeway. It flip-flopped alignments to provide a quality solution for a popular high traffic mountain community. It moved SH 9 away from the Dillon reservoir, replacing it with the Blue River Bikeway. This option became available after the beetle pine decimated a portion of the US Forest Service (USFS) land. The project widened SH9 to four lanes, straightened out a tight curve, cut wetland impacts in half and moved traffic away from Dillon Reservoir improving water quality for a major Denver water supply. Three large underpasses accommodate the bikeway and natural drainage patterns maintain wildlife connections under SH9. These wildlife migration paths both benefit the environment and reduce the safety hazard of wildlife crossing the highway. This was a collaborative effort with CDOT, FHWA, USFS and local communities.

SH 9 Project Award Recipients

Grant Anderson (Project Manager) (Region 3)

Chuck Attardo (Region 1)

Vanessa Henderson (Region 1)

Jen Klaetsch (Region 3)

Leslie Modrick (Region 3)

Kevin O'Reilly (Region 3)

Jeff Peterson (HQ)

Rebecca Pierce (HQ)

Tom Scheuermann (Region 3)

Stephanie Gibson (FHWA)

Thor Gjelsteen (FHU)

Ashley Nettles (USFS)

Thad Noll (Summit County)

Jason Laabs (Cirque Civil)

Paul Semmer (USFS)

Patrick Stein (FHU)

Maintenance Category for the Flagger Lighting System

Todd Natale (Region 2)

Todd has adopted and championed a more efficient way to light nighttime flagger stations. Currently, we use fuel-powered light plants that 1) need to be trailer mounted and 2) require an additional vehicle to haul it. It does not respond well to quick changes in the field. These motorized light plants can run from 8-10 hours which uses a lot of fuel and emits exhaust. This new idea is a portable battery powered light plant. It provides the needed light which is more accessible. It is a lightweight unit that can be moved easily, uses no fuel, and gives off no exhaust.

Innovative Process Category for Utilization of 2D Hydraulic Modeling

Brian Varrella (Region 4)

The switch from 1D modeling to 2D modeling for hydraulic considerations in projects has not only saved millions of dollars; it also significantly reduced CDOT's environmental impact for hauling riprap on Transportation Projects. These models create virtual rivers and roads to calculate the distribution of velocity and depth of waterways near infrastructure features. In 2018, the use of 2D hydraulic modeling saved CDOT \$4.4 million and prevented \$16 million worth of projects from being abandoned. A 2D model analyzes waterways at thousands or tens of thousands of points, while a 1D model estimates waterway conditions between a dozen or so cross sections. This is a critical when waterways meander or have changing depths.

Special Contributor Category for Championing the Clear Creek Ecological Restoration**Rebecca Pierce (HQ)**

For her role in shepherding the development of the Clear Creek Ecological Restoration Project, which involves ecological restoration of a segment of Clear Creek. This project realigned the creek channel and improved the floodplain immediately next to I-70. It can now function as a location for advanced mitigation for wetland impacts for future CDOT projects within the watershed, including those on I-70.

Restoring this parcel was met with several local challenges over the years: disputes with adjacent property owners; negotiations with Clear Creek County over its recreational use; and trespassing issues. Becky faced those challenges with dedication, professionalism, stewardship, tenacity, and vision. Becky has been a consistent champion and steward of the restoration project, going above and beyond her regular job duties. While Region 1 constructed the project, Becky represented the continuity that made this project possible.

**COLORADO**

Department of Transportation

Region 5

Environmental and Planning
3803 N. Main Avenue
Durango, CO 81301

DATE: March 22, 2019
TO: Statewide Transportation Advisory Committee
FROM: Tony Cady, Region Planning and Environmental Manager, CDOT Region 5
SUBJECT: Colorado Wildlife and Transportation Alliance, and the West Slope Wildlife Prioritization Study

Purpose

The purpose of this memo is to provide STAC with information regarding the Colorado Wildlife and Transportation Alliance, and the recently completed West Slope Wildlife Prioritization Study.

Action

Informational only - no action is required.

Background and Details

Over the past four years the state has seen a rise in the number of reported wildlife-related collisions. State agencies track reported collisions with all types of wildlife, from raccoons and skunks to moose and elk. However, the most significant number of wildlife vehicle collisions (WVC) occur with deer. Last year, agencies reported more than 4,600 deer killed on Colorado highways. The Colorado Wildlife and Transportation Alliance is a collaborative effort of over a dozen agencies with the aim of improving human safety, while integrating wildlife movement needs into Colorado's transportation system. This includes measures that institutionalize wildlife considerations into transportation projects, and builds partnerships to protect wildlife movements across landscapes, with the goal of reducing WVCs while maintaining wildlife populations.

Several concurrent efforts are occurring, both nationally and within the state. One such effort is the West Slope Wildlife Prioritization Study (WSWPS). This research project emerged from a commitment to increased collaboration between CDOT and Colorado Parks and Wildlife (CPW) to address wildlife conflicts on roads, with the objective of identifying wildlife-highway conflict areas where targeted mitigation could have the greatest impact on reducing WVCs. Fewer WVCs translate to fewer human injuries and fatalities, fewer wildlife mortalities, healthier wildlife populations, and a cost savings for CDOT, individual motorists, insurance companies, and society at large.

Next Steps

The Alliance was created in direct response to Action Items identified in the statewide Colorado Transportation and Wildlife Summit, which was held in the summer of 2017. The Alliance would like to begin the process of planning, funding and scheduling a follow-up Summit for the summer/fall of 2019. STAC support and assistance in this process would be helpful.



**Colorado
Wildlife &
Transportation
Alliance**

**STAC
March 22, 2019**

Effective Coordination & Implementation

1. **Wildlife Summit Action Plan**
2. **Creation of the Colorado Wildlife & Transportation Alliance**
3. **Creation of Technical Teams**
4. **Concurrent Efforts**
5. **Next Steps**



2017 Colorado Wildlife & Transportation Summit

Participants identified key themes, goals and suggested strategies (Action Plan):

- Develop a Wildlife and Transportation Steering Committee
- Establish Partnerships and Outreach Strategy
- Determine Consistent Funding
- Advance Public Education of Wildlife and Transportation Issues
- Consolidate and Integrate Data and Technology



Colorado Wildlife & Transportation Alliance: Wildlife on the Move

Mission: Provide safe passage for people and wildlife in Colorado.

Vision: A collaborative effort **to improve human safety** while fully **integrating wildlife movements into Colorado's transportation system**. This will include measures that institutionalize wildlife considerations into transportation projects, **build partnerships and awareness** to protect wildlife movements across the landscape, reduce wildlife-vehicle collisions while maintaining wildlife populations.



Education & Outreach

Technical Team: Strategies

Members: CPW, CDOT, USFWS, Consultant, NGO's

- Identify Similar Initiatives
- Engagement and Communication Strategies
- Identify Audiences & Events
- Brand/Logo
- Develop Collateral
 - Website
 - Meeting in a Box Development
 - Slide deck
 - Fact sheets
 - Messaging matrix



Funding & Partnerships

Technical Team: Strategies

Members: CPW, CDOT, CDR, GOCO, Mule Deer and Elk Foundations, USFWS, BLM

- Identify Funding Needs and Opportunities
- Identify Current & Potential Partners
- Establish Champions
- Mechanisms for Partnership
 - Intergovernmental Agreements
 - Dedicated Staff/Resources
 - Ongoing Operating costs
 - Non-Profit Organization - 501(c)(3)
- Joint Workshop with CPW/CDOT Commissions



Data Technical Team: Goals

Membership: CPW, CDOT, USFWS, FHWA

- Leverage data to demonstrate benefits in:
 - Safety
 - Cost savings
 - Habitat Connectivity
 - Herd Health & Diversity
- Data driven solutions: Use most updated technology to define priorities and develop mitigation solutions
- Consolidate and integrate existing data



Data Technical Team: Strategies

Membership: CPW, CDOT, USFWS, FHWA

- Research best practices related to facilities' design, construction, operations, maintenance using FHWA State Planning & Research (SPR) funds
- Identify data gaps
- Compile different data sets
- Develop a centralized data sharing system



Next Steps

- Identify candidate projects in need of design or construction funding. Shape strategies and partnerships that align with wildlife prioritization study results.
- Participate in local and regional education events
- Launch website
- Coordinate with similar and parallel initiatives
- Host targeted follow-up Wildlife Summits



Images from Hwy 9

Concurrent Efforts : Federal, State and Local Partnerships in Colorado

USGS: Assisting states in mapping their wildlife migration data and conflict points.

USFS: Researching wildlife migration patterns and transportation issues. School-based education on Wildlife and Transportation issues this winter.

Summit County Safe Passages: Planning & prioritization effort among local agencies, NGOs, CPW, CDOT, USFS. Created a non-profit fiscal sponsor and formed countywide partnerships and momentum



Concurrent Efforts : West Slope Wildlife Prioritization Study

- Collaboration between CPW and CDOT to analyze:
 - wildlife populations,
 - wildlife movement patterns,
 - roadway infrastructure and travel demand overlap.
- Looks at current and projected scenarios to highlight regional mitigation priorities.
- Better understand goals and processes related to increasing mule deer populations and wildlife-vehicle collision mitigation decision-making. Project planners can tailor the most cost-effective mitigation strategy for each context.
- Efforts underway to conduct similar exercise for remainder of State





Questions?

Pattern Recognition and Diagnostic Tools

Diagnostic Normative Percentages (Rural Flat and Rolling 2-Lane Highway)

CO - Rural Flat and Rolling 2-Lane UnDivided Highways - AADT All Totals (2016)		CO_RFRR2UH_A
<i>Crash Information & Contributing Factors</i>		<i>Percentage of Total</i>
Crash Type	Overturning	18.22%
	Other Non Collision	1.44%
	Pedestrian	0.18%
	Broadside	0.00%
	Head On	1.50%
	Rear End	4.48%
	Sideswipe Same Direction	1.43%
	Sideswipe Opposite Direction	3.29%
	Approach Turn	0.12%
	Overtaking Turn	0.51%
	Parked Motor Vehicle	0.49%
	Railway Vehicle	0.02%
	Bicycle	0.14%
	Motorized Bicycle	0.00%
	Domestic Animal	4.41%
	Wild Animal	35.45%
	Unknown Crash Type	0.00%
	Total Fixed Objects	25.35%
	Total Other Objects	2.98%

National Safety Council
(www.nsc.org)

Estimating the Costs of Unintentional Injuries, Average Economic Cost, 2013

Death - \$1,500,000

Injury - \$80,700

Property Damage Only (PDO) Crash - \$9,300

Total Economic Cost of 2016 Crashes = \$68.1M

Source: David Swenka, CDOT13



Safety Analysis Annual Average Cost to Society in South Dakota for Reported WVC Crashes = 107.9 million dollars

Crash Injury Type	Average Reported Crashes per Year	SDDOT Average \$ Value per Crash of This Type Based on US DOT Estimates	Total Monetary Value per Crashes of Each Severity Type (Number x Cost)
Fatal	1.5	\$ 370,800*	\$ 556,200
Serious, Visible, and Possible Injury	73.5	\$ 370,800*	\$ 27,253,800
Property Damage Only	4,621	\$ 17,343	\$ 80,142,003
Totals	4,696		\$107,952,003

Source: Patricia Cramer

Concurrent Efforts : Dept of Interior Secretarial Order 3362

Instructs BLM, NPS and USFWS to prioritize the improvement of large animal migration corridors and winter range throughout the West. 11 Western states (including CO) work together to make big game habitat more sustainable.

Big Game & Highways Workshop: January 29-31 in Salt Lake City

Workshop Goals:

- Improve public safety
- Enhance or restore migration corridors
- ID policy & funding needs
- Develop relationships

Workshop Outcomes:

- Identify Barriers
- Next Steps to advance SO 3362
- Develop policy needs at State & Federal level
- (DOT programs and elsewhere)
- Develop Communication Strategy to decision & public

1. What percentage of the overall state fleet does the 940,000 EVs by 2030 represent?

CDOT forecasts that in 2030 the total light duty fleet in the state of Colorado will total 5,745,445 vehicles. In this context, the 940,000 EVs identified as a goal in the Executive Order represent **16.4%** of the total light duty fleet.

CDPHE is also working with a contractor to develop accurate estimates for the total Colorado fleet and anticipated EV adoption moving forward.

2. What are the current / anticipated emissions benefits of EVs powered via the electrical grid versus gasoline vehicles (i.e. is "burning coal" to charge cars actually better than gas)?

There are 53 utilities that operate in Colorado (2 investor owned, 29 municipal, and 22 rural cooperatives) and the generation mix varies between these significantly. Therefore, it is challenging to answer comprehensively whether electricity provides an emissions benefit in contrast to gasoline since it depends on the generation mix in a given utility area.

However, in 2013 the Southwest Energy Efficiency Project (SWEET) conducted an analysis of the emissions reduction benefits of EVs in the Denver Metro and North Front Range areas of the state based on Xcel Energy's generation mix from 2012. The results indicated that as of 2013, EVs provided a 13.3% GHG reduction, 99.4% CO reduction, and 4.5% NOx reduction compared to a new gasoline vehicle. Additionally, this benefit was projected to grow to 32.6% GHG reduction, 99.4% CO reduction, and 70.1% NOx reduction by 2020 as the electrical grid became cleaner.

Therefore, at least within the Xcel Energy service area, an EV already provides a greener option than a gasoline vehicle. Further analysis would be required to determine whether this is true outside of the Xcel Energy service area and which geographic areas provide the greatest and least benefit. However, unlike conventional vehicles, the emissions benefits of EVs will grow as the overall grid becomes less coal focused and integrates greater percentages of renewables. Several Colorado utilities, including Xcel Energy, Platte River Power Authority, and Holy Cross Energy, have already committed to achieve 60% - 100% carbon-free electricity generation between 2030 and 2050 (pledges vary by utility).

More Information:

<http://www.swenergy.org/data/sites/1/media/documents/publications/documents/Denver%20Metro%20Air%20Quality%20Analysis.pdf>

3. How much do EVs currently pay into the Highway Users Tax Fund (HUTF)?

Currently EVs pay a \$50 per year registration fee in the State of Colorado. \$30 from each fee is directed to the Highway Users Tax Fund (which supports the maintenance and operations of the state highway system) and the remaining \$20 goes to the Electric Vehicle Grant Fund (which supports grant programs for EV charging infrastructure).

More information:

https://www.leg.state.co.us/clics/clics2013a/csl.nsf/fsbillcont3/0602C7EBF986A79387257AEE00574BCD?Open&file=HB1110_f1.pdf

4. Where is the EV Cost-Benefit Analysis referenced in the Executive Order?

The Executive Order does not call for a new cost-benefit analysis, but in 2017, M.J. Bradley & Associates completed an Electric Vehicle Cost-Benefit Analysis for Colorado that:

“if the state meets long-term goals to reduce light-duty fleet GHG emissions by 80 percent from 2005 levels by 2050, which requires even greater PEV penetration, the net present value of **cumulative net benefits from greater PEV use in Colorado could exceed \$43 billion state-wide by 2050**. Of these total net benefits:

- \$4.1 billion will accrue to electric utility customers in the form of reduced electric bills
- \$29.1 billion will accrue directly to Colorado drivers in the form of reduced annual vehicle operating costs, and
- \$9.7 billion will accrue to society at large, as the value of reduced GHG emissions”

More Information:

https://mjbradley.com/sites/default/files/CO_PEV_CB_Analysis_FINAL_13apr17.pdf

5. Is there a specific economic impact analysis for the proposed Colorado ZEV Rule? What about anticipated GHG reductions from the rule? If not, will one be completed prior to rulemaking?

CDPHE is currently developing a ZEV Cost-Benefit Analysis that will be ready for public release in summer 2019, prior to the potential ZEV Rule hearings of the AQCC.

6. Was there a CDPHE study (perhaps a few years ago) on the sources of ozone in Colorado? If so, where? Does it show (as stated by a STAC member) that the majority of ozone comes from outside of state and/or outside of the country?

In 2017, the National Center for Atmospheric Research (NCAR) developed a report with the support of colleagues from NASA that sought to identify the sources of ground-level ozone along the Front Range. They concluded that the two largest contributors to local ozone production are mobile sources (i.e. vehicles) and oil and gas production. Motor vehicles emissions predominate from the southern Denver suburbs to the area around Boulder, while oil and gas operations are the primary local contributor between Boulder and Ft. Collins.

Background ozone levels (i.e. those that naturally occur or are generated outside of the Front Range) are between 40 and 50 ppb. A 2015 study by NASA identified atmospheric pollutants from China as one contributor (alongside periodic weather events such as El Nino) to the fact that ozone levels in Western states have failed to decrease by 2% as expected based on the 21% decline in US emissions between 2005 and 2010. Of this 2% “offset”, NASA concluded that 43% was accountable by Chinese emissions.

More Information:

<https://news.ucar.edu/129774/scientists-pinpoint-sources-front-range-ozone>

<https://www.jpl.nasa.gov/news/news.php?feature=4685>

DRAFT