



COLORADO

Department of
Transportation

**Statewide Transportation Advisory Committee (STAC)
September 22, 2017
9:00 AM – 12:00 PM
CDOT HQ Auditorium, 4201 E. Arkansas Ave., Denver, CO
Agenda**

- 9:00-9:05** Welcome and Introductions – Vince Rogalski, STAC Chair
- 9:05-9:10** Approval of August Meeting Minutes – Vince Rogalski (Pages 2 – 17)
- 9:10-9:20** Transportation Commission Report (Informational Update) – Vince Rogalski
- Summary report of the most recent Transportation Commission meeting.
- 9:20-9:40** TPR Reports (Informational Update) – STAC Representatives
- Brief update from STAC members on activities in their TPRs.
- 9:40-9:50** Chief Engineer Update – Josh Laipply, CDOT Chief Engineer
- Brief updates from the Chief Engineer.
- 9:50-10:05** 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.
- 10:05-10:15** Break
- 10:15-10:25** Central 70 Project Update (Informational Update) – Tony DeVito, Central 70 Project Director
- Update on the status of the Central 70 project.
- 10:25-10:55** Policy Directive 14 (Informational Update) – Jeff Sudmeier & William Johnson, CDOT Division of Transportation Development (DTD) (Pages 17 – 27)
- Overview and update on the annual performance of PD 14 objectives.
- 10:55-11:15** INFRA, TIGER and Senate Bill 267 (Discussion) – Debra Perkins-Smith, CDOT DTD and Herman Stockinger, CDOT OPGR (Pages 28 – 30)
- Discussion of new discretionary grant program (Infrastructure for Rebuilding America (INFRA), recent release of TIGER NOFO, and SB 287.
- 11:15-11:25** STIP Lessons Learned Results (Informational Update) – Jamie Collins, Office of Financial Management and Budget (OFMB) (Pages 31- 41)
- Overview of results from the recently completed STIP Lessons Learned Effort.
- 11:25-11:30** Other Business- Vince Rogalski
- 11:30** Adjourn

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

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

**Draft STAC Meeting Minutes
August 25, 2017**

Location: CDOT Headquarters Auditorium

Date/Time: August 25, 2017, 9:00 a.m. – 12:00 p.m.

Chairman: Vince Rogalski, STAC Chair

Attendance:

In Person: Vince Rogalski (GV), Michael Yohn (SLV), Todd Hollenbeck (GVMPO), Peter Baier (GVMPO), Todd Hollenbeck (GVMPO), John Adams (PACOG), John Adams (PACOG), Norm Steen (PPACG), Andy Pico (PPACG), Elise Jones (DRCOG), Roger Partridge (DRCOG), Jacob Riger (DRCOG) Bentley Henderson (SW), Terri Blackmore (NFRMPO), Becky Karasko (NFRMPO), Thad Noll (IM), Walt Boulden (SC), Stephanie Gonzeles (SE), Gary Beedy (EA), Barbara Kirkmeyer (UFR), Sean Conway (NFRMPO), Adam Lancaster (CFR).

On the Phone: Chuck Grobe (NW), Trent Bushner (EA), Katie Sickles (GV), Sallie Clark (PPACG).

Agenda Items/ Presenters/Affiliations	Presentation Highlights	Actions
<p>Introductions & July Minutes / Vince Rogalski (STAC Chair)</p>	<ul style="list-style-type: none"> • Review and approval of July STAC Minutes. No corrections or additions. 	<p>Action: <i>Minutes approved.</i></p>
<p>Transportation Commission Report / Vince Rogalski (STAC Chair)</p>	<p>Presentation</p> <ul style="list-style-type: none"> • <u>HPTE</u> <ul style="list-style-type: none"> ○ Kiewit-Meridiam has been awarded the Central 70 project – an exciting and significant step in this ongoing multi-year process. ○ HPTE is working on developing a system-wide approach to tolling lanes to help identify future projects and identify points of coordination with surrounding states. <p>Presentation</p> <ul style="list-style-type: none"> • <u>Transportation Commission</u> <ul style="list-style-type: none"> ○ The Transportation Commission had the opportunity to visit Panasonic’s facility in northeast Denver and ride in a fully-automated vehicle. 	<p>No action taken.</p>

TPR Reports / STAC Representatives	<p>Presentation</p> <ul style="list-style-type: none"> • <u>DRCOG</u>: Approved TIP amendments for I-25 South, C-470 express lanes, and more; starting on TIP process for next cycle including set-asides for funding categories, upcoming retreat will help develop goals; received a briefing on Vision Zero Action Plan by Denver; heard a report from DTR on long-range transit planning efforts; partnering with CDOT and RTD on the Mobility Choice Blueprint effort, with an RFP currently open for the project. • <u>GVMPO</u>: Projects underway and on schedule. • <u>NFRMPO</u>: Design-build for N I-25 express project will be announced on 8/31, notice to proceed for design will come in October and notice to proceed for construction will be released in January; ramp metering on N I-25 Harmony Road – Windsor is now active and helping to alleviate problems there; NFRMPO will be submitting an INFRA application for the N I-25 “gap” (phases 5 and 6); the US 34 PEL is being reviewed and the US 34 coalition will be briefed on that in October; the TLRC visited Greeley earlier this month and it went very well; the E-470 board waived several hundred thousand dollars in tolls resulting from the recent truck crash diversion and Executive Director Bhatt was in attendance to give an update on that response; E-470 Parker Road ramps will be closed September 15-17, so plan accordingly. • <u>PACOG</u>: Working on SH 45 (Pueblo Blvd) and on-schedule for an October completion; US 50 project moving along nicely; I-25 ILEX delayed based on redesign made necessary railroad coordination issues; new draft public participation plan should be approved in September; Pueblo West metro district awarded 3 highway safety projects. • <u>PPACG</u>: Board working on 2045 objectives and targets for safety, mobility, and connectivity; 3 TIP amendments (relating to issues of storm water, bridge on-system, and unspent balance); working on bylaw changes around transit representation at the MPO; I-25 Cimarron in final configuration, some median work underway and it’s on-schedule and under budget; still searching for a new Executive Director, hoping for a decision in time for the November PPACG Board Meeting. 	No action taken.

- Central Front Range: Wrapped up new IGA and Bylaws work, looking forward to new officer elections later this year; gearing up for the next statewide and regional planning process; a number of overlays underway in the region; US 24 PEL is close to wrapping up; access control planning is also ongoing on US 50.
- Eastern: Starting SH 71 study of design options for freight reliever routes; discussed Bustang Outrider program at last TPR meeting and how feasible it is for the Eastern TPR area; attended the JPAC meeting earlier this week and discussed how to educate the public and elected officials about the importance of freight to the economy and how land use decisions impact that, would ask this group to work with your municipalities on how to better consider freight in their decision-making and not restrict it unnecessarily.
- Gunnison Valley: The next TPR meeting will be on September 14th; finishing up the usual resurfacing projects and working on some US 550 safety improvements.
- Intermountain: Finishing up the TPR's new IGA; two more months of construction left and the frost this morning is inspiring the contractors to hurry up.
- Northwest: All projects moving along nicely; no recent TPR meetings.
- San Luis Valley: Chip seal completed on US 160 west of Monte Vista turned out quite nicely, emphasizes the importance of maintaining our existing infrastructure; striping underway throughout the Valley, not always recognized by the public for how important it is.
- South Central: All projects are on or ahead of schedule; meeting with CDOT soon on TAP study for bike/pedestrian issues on SH 12.
- Southeast: Passing lane project scheduled for Lamar – Springfield passing lanes; recent TPR meeting had presentations on the RUC and Transportation Planning Toolkit, both very informative and inspired good conversations.
- Southwest: Summer construction is hot and heavy.
- Upper Front Range: Next TPR is meeting next week and will discuss RTP project list update and CMAQ call for projects; upcoming Pedal the Plains event from September 14th - 17th, running from Kersey to Hudson to Keansburg to Fort Morgan and then back to Kersey; eclipse traffic handled by Emergency Operations Center in coordination with CSP and CDOT,

	<p>things went very smoothly until Nebraska closed I-80 and dumped all that traffic onto smaller roads in NE Colorado.</p> <ul style="list-style-type: none"> • <u>Southern Ute Indian Tribe</u>: <i>No update provided.</i> • <u>CDOT Deputy Director Mike Lewis</u>: Very pleased with selection of the Kiewit-led team for Central 70, coming in below budget and with an aggressive schedule roughly 1 year ahead of our estimates; appreciate the collaboration with the E-470 Board as well as with our local partners and CSP on the eclipse event management; RoadX and the Division of Maintenance debuted the automated crash attenuator vehicle as a way of using technology to improve the safety of our road crews, traditionally we have had a crash truck behind these road crews driven by a CDOT employee, who is very exposed to that risk, with this automated vehicle you can have the crash truck follow the work crew vehicle and provide the same safety benefit without risking a driver's life, continued improvements will be needed but this is an opportunity that other DOTs are likely to jump on; Governor Hickenlooper will be attending the Pedal the Plains event, as will Josh Laipply. • <u>FHWA Colorado Division Administrator John Cater</u>: Moving towards annual appropriations for FY18 through the month of September; FHWA has operating authority for next year whether or not there is a government shutdown; there is a new acting administrator for FHWA Colorado; announcements for FASTLANE/INFRA awards came out last month and US 160 / US 550 connection in La Plata County was awarded \$12 million. • <u>HPTE Director David Spector</u>: A major milestone in the Central 70 project yesterday by announcing the preferred vendor, will need to tweak the project agreement and sign within the next few months, but still a lot of work to go. 	
<p>Federal and State Legislative Report / Herman Stockinger, Andy Karsian, and Ron Papsdorf (CDOT Office of Policy &</p>	<p>Presentation</p> <ul style="list-style-type: none"> • <u>State</u> <ul style="list-style-type: none"> ○ Gearing up for the start of the next legislative session. ○ The TLRC had a great visit to Northeast Colorado, and a visit to the Northwest is up next. • <u>Federal</u> 	<p>No action taken.</p>

Government Relations)	<ul style="list-style-type: none"> ○ CDOT staff are keeping an eye on what Congress will do when they return from the August recess, though we don't anticipate any short-term effect of a potential federal government shutdown. ○ The President's executive order on environmental reviews is being examined by CDOT staff to assess potential state impacts. 	
INFRA Grant Program / Debra Perkins-Smith and Jeff Sudmeier (CDOT Division of Transportation Development)	<p>Presentation</p> <ul style="list-style-type: none"> • Continuing the conversation on this topic from last month. • INFRA is replacing FASTLANE, with some minor changes. • La Plata County was awarded \$12 million towards the US 160 / US 550 connector from the last FASTLANE small projects call. • With INFRA, \$1.5 billion will be available for large projects (\$100 million and up) and only \$60 million for small projects (less than \$100 million). • There was discussion at the last TC meeting about what CDOT should submit, with a decision to focus efforts on the large projects pool. <ul style="list-style-type: none"> ○ Also suggested submitting two projects rather than one (as in the past). • Applications are due on November 2nd, 2017. • CDOT is setting an internal construction readiness deadline of June 2021. • Key program criteria referenced in the NOFO language include: <ul style="list-style-type: none"> ○ <i>Economic Vitality</i> – significant role in the movement of goods regionally or nationally. ○ <i>Mobility</i> – address service gaps, congestion, or private economic development. ○ <i>Environmental Streamlining</i> – opportunities to accelerate projects with a longer runway, including via the FHWA liaison program. ○ <i>Innovative Project Development and Contracting</i> – potential for P3s, design-build, or other innovative approaches. ○ <i>Technological Innovation</i> – focused on CAVs, safety, fiber optics, etc. • Staff have developed a spreadsheet showing potential candidate projects and how they compare in terms of characteristics and the above program criteria to help narrow down the list to the 2 or 3 most competitive applications. <p>STAC Comments</p> <ul style="list-style-type: none"> • <u>Barbara Kirkmeyer</u>: When does this need to be done by? • <u>Jeff Sudmeier</u>: The due date is November 2nd. 	No action taken.

- Debra Perkins-Smith: We're talking about going to the TC with a short list in September for further discussion and then come back to STAC the same month before identifying final applications. Regional staff will be working with locals to see whether there are any partnership and match opportunities. We need a little extra time for the application itself because there is a larger narrative element to the application than is typical.
- Barbara Kirkmeyer: I have some questions about one specific project and its cost estimate, which puts it into the large project category when it could be more competitive in the small project category.
- Debra Perkins-Smith: Yes, we have several projects that could be scaled larger or smaller, so that's a decision we need to make on where the best fit would be.
- Barbara Kirkmeyer: We may want the regions to narrow the projects down to their top two since we're not likely to submit multiple from the exact same area. I also think from the economic vitality criterion we need to be looking at tourism, agriculture, energy, and other factors apart from freight movement.
- Terri Blackmore: I think that in Region 4 the locals will probably take the lead in finding local match and then bring that back to the RTD, instead of vice-versa.
- Debra Perkins-Smith: We are also happy to provide support to local applications, as we did with La Plata's successful US 160 / US 550 project.
- Roger Partridge: It looks like P3s aren't specifically called out in the NOFO section on leveraging funding. Are you surprised by that?
- Jeff Sudmeier: I think you'll see that it is included in there, albeit in the innovative project development section rather than the funding section. But overall we consider that to be a pretty central concept for the program.
- Thad Noll: We may want to consider combining the maximum number of funding types into an application to make it the most competitive.
- Peter Baier: The I-70 Business Loop project should be included in the "economic vitality" section – it's the biggest regional economic center between Denver and Salt Lake City.
- Debra Perkins-Smith: Thanks, that's the type of local input we're looking for.
- Norm Steen: Are these federal scoring criteria or state?
- Jeff Sudmeier: These are based on the federal criteria, which we've applied at the state level.

	<ul style="list-style-type: none"> • <u>Norm Steen</u>: Are they weighted at all? • <u>Mike Lewis</u>: We don't know at this point whether the federal reviewers are planning to weigh project criteria. • <u>Norm Steen</u>: Are you planning to rank the submissions? • <u>Debra Perkins-Smith</u>: We are allowed to submit up to 3 applications and will probably only do a maximum of 2, so we're waiting to see what rises to the top in that regard. • <u>Herman Stockinger</u>: CDOT would intend to rank our applications internally, including local projects, before presenting the list to the TC for approval. • <u>Peter Baier</u>: If we can submit 3 applications, then why wouldn't we? • <u>Debra Perkins-Smith</u>: The feeling in the past is that if you submit too many applications then the feds don't know which ones you really are prioritizing. But it's a judgement call. There could be hundreds or even thousands of applications in the mix, so how do you make yours stand out? 	
<p>Volkswagen Settlement / Chris Colclasure (Colorado Department of Public Health & Environment)</p>	<p>Presentation</p> <ul style="list-style-type: none"> • Staff from CDPHE, CEO, and the RAQC are here to provide an update on the Volkswagen Settlement and their collaboration with CDOT on the draft Beneficiary Mitigation Plan to be released for public review on Monday, August 28th. • Volkswagen Settlement Summary: <ul style="list-style-type: none"> ○ \$10.3 billion for vehicle buy-backs (direct to customers) ○ \$2 billion for zero-emission vehicle (ZEV) investments (VW-controlled) ○ \$2.9 billion environmental mitigation fund (state-controlled) • We are awaiting the Trust Effective Date (TED), after which a number of important deadlines will start. <ul style="list-style-type: none"> ○ Colorado is developing its draft Beneficiary Mitigation Plan now so that we can submit quickly following the TED. • Terms of the VW Settlement Trust in Colorado: <ul style="list-style-type: none"> ○ \$68.7 million anticipated ○ 3-10 years to draw funds and 15 years to spend them ○ Accounting and reporting required ○ State selects projects but Trust must approve funding requests ○ Colorado goals for VW Settlement funds: <ul style="list-style-type: none"> ○ Maximize air quality benefits 	<p>No action taken.</p>

- Encourage ZEV adoption
- Distribute funds quickly
- Benefit areas of disproportionate impact
- Be efficient by funding cost-effective projects, utilizing existing processes, and minimizing administrative costs
- Ensure transparency and accountability
- Statewide eligibility, no geographic criteria or restrictions at this time
- Proposed allocation of VW Settlement funds:
 - \$18 million for alternative fuel medium/heavy duty trucks
 - \$18 million for alternative fuel transit vehicles
 - \$10.3 million for EV charging infrastructure
 - \$5 million for Diesel Emissions Reduction Act (DERA) programs
 - \$5 million for administrative costs
 - \$12 million for flexible funding (i.e. future projects)
- Next Steps:
 - August 28th – publish draft Beneficiary Mitigation Plan for comment
 - September 18th – public hearing hosted at CDOT HQ
 - October 13th – public comment period closes
 - November – finalize the Beneficiary Mitigation Plan
 - Late 2017 / Early 2018 – submit Beneficiary Mitigation Plan to the VW Trust

STAC Comments

- Barbara Kirkmeyer: Will there be a match required for school bus purchases? That can be a major barrier for school districts to participate in this type of program.
- Chris Colclasure: We are requiring some matching funds for that project type.
- Barbara Kirkmeyer: I agree that there should be some match, but you may consider making it lower for school buses given the financial limitations of many schools.
- Chris Colclasure: We have structured the incentives to be appropriate for public versus private fleets, but haven't been specific between county versus school district levels.

- Elise Jones: How are you planning to set the criteria for how funds will be distributed?
- Chris Colclasure: We will use existing programs as much as possible, and make our incentive levels consistent with those programs. That will make it easier for the applicants who only need to go to one contact, while also maintaining consistency of incentives between programs.
- Andy Pico: You mentioned earlier that “they” would own the electric vehicle charging stations – can you define who “they” would be?
- Chris Colclasure: For the \$2 billion portion of the settlement, Volkswagen’s “Electrify America” program will build and own EV charging infrastructure across the country. This is separate from any EV charging stations funded through Colorado’s \$68.7 million portion of the funding – those stations would be owned and operated by private companies or public entities.
- Andy Pico: You also talked about environmental justice – can you define what that means?
- Chris Colclasure: There are some definitions that CDPHE uses and others used by the federal EPA. We would do outreach to those communities so I don’t know if the precise definition is that important.
- Andy Pico: I think it is – we need to know who that environmental justice definition applies to because it will impact how we develop and select applications.
- Debra Perkins-Smith: That would be a good comment to submit in writing to CDPHE as part of the public comment period.
- Andy Pico: I will do that.
- Elise Jones: Is RTD eligible for the transit bus funding?
- Chris Colclasure: Yes.
- Thad Noll: You said that the majority of the dollars would be spent in non-attainment areas, so what would that look like for the other parts of the state?
- Chris Colclasure: We are not setting any criteria for a specific geographic distribution of funds. As you can see, most of the vehicles were located in the Front Range non-attainment areas and we expect that the majority of applications will naturally come from those areas given the high population levels. That said, we are reserving the right to establish some criteria in the

	<p>future if we find that the funds are not going to the parts of the state with the greatest need for air quality improvement.</p> <ul style="list-style-type: none"> • <u>Terri Blackmore</u>: Will you be selecting projects based on their potential emissions benefit, or some other way? • <u>Chris Colclasure</u>: It will be more of a first-come, first-serve approach because all of the project types have been reviewed by the Trust and we have done our own emissions analysis showing that they all provide a benefit. That said, to do an individual analysis of each specific project proposal would be very inefficient so instead we set different incentive levels for project types to achieve the best results. • <u>Norm Steen</u>: What ozone standard is being applied here, new or old? • <u>Chris Colclasure</u>: The ozone standard is 75 ppm and is going to 70 ppm, but we're not tying the funds directly to that. Instead we tie the incentive levels to specific project and fuel types. Ozone levels have many factors, including sunlight, weather, etc. that we can't tie them back to specific vehicles. • 	
<p>Alt Fuels Colorado Update / Christian Williss (Colorado Energy Office)</p>	<p>Presentation</p> <ul style="list-style-type: none"> • Update on progress to-date and proposed improvements to the Alt Fuels Colorado (AFC) Program. • Program goals were to establish a sustainable statewide alt fuels market in Colorado and remove barriers to AFV adoption • <u>Vehicle Program</u> <ul style="list-style-type: none"> ○ 842 AFVs – great majority are CNG, heavy-duty, and for private fleets ○ 37 unique fleets ○ 71 unique projects ○ \$11.6 million awarded ○ Next round opens October 1st, 2017 • <u>Infrastructure Program</u> <ul style="list-style-type: none"> ○ Progress to Date: <ul style="list-style-type: none"> ▪ \$5.7 million awarded, \$9.3 million remaining ▪ 7 CNG stations awarded and open ▪ 1 CNG station to open next week in Gunnison ▪ 3 CNG stations awarded but yet to break ground ▪ 3 CNG stations awarded but terminated at developer request 	<p><i>Proposed Alt Fuels Colorado Program improvements approved by the STAC.</i></p>

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| | <ul style="list-style-type: none"> ▪ 4 EV and propane co-location applications awarded, 3 terminated at developer request and the last one likely to do the same ▪ Now using a rolling bid period, at request of developers. ▪ Station renovations are now eligible for funding, at request of developers. ○ Reasons for improvements: <ul style="list-style-type: none"> ▪ Challenging market dynamics for CNG ▪ Co-location requirement not working ▪ Changes in the alt fuels landscape in Colorado and nationally ▪ Limited timeline ○ Proposed improvements: <ul style="list-style-type: none"> ▪ CNG infrastructure <ul style="list-style-type: none"> ❖ Keep rolling bid period ❖ Keep station renovation eligibility ❖ Prioritize investments ❖ Enhance community engagement (CEO/RAQC/Refuel Colorado) ▪ EV infrastructure <ul style="list-style-type: none"> ❖ Eliminate co-location requirement ❖ Use portion of remaining grant funds for investment in EV charging corridors ❖ Coordinate with FAST Act, Charge Ahead Colorado, and VW Settlement planning to ensure alignment and fill in gaps ❖ Base incentives and locations on recent Denver EV study and NREL BLAST-V analysis ▪ Propane infrastructure <ul style="list-style-type: none"> ❖ Eliminate co-location requirement ❖ Engage industry to better meet their needs ❖ Develop appropriate incentive levels ▪ Program Timeline <ul style="list-style-type: none"> ❖ Extend AFC Program end date to June 2020 to allow program improvements to take effect ● In summary, CDOT, CEO, and RAQC want to remain responsive to the alternative fuels market and are requesting the STAC's endorsement of the proposed changes. | |
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	<p>STAC Comments</p> <ul style="list-style-type: none"> • <u>Barbara Kirkmeyer</u>: Is Charge Ahead Colorado a statewide program, or just for the metro area? • <u>Christian Williss</u>: RAQC manages the metro area program and the CEO does the statewide program. We anticipate that the incentives for EV projects under Alt Fuels Colorado would mirror those in Charge Ahead Colorado, the Volkswagen Settlement, and other funding programs to ensure alignment. • <u>Barbara Kirkmeyer</u>: When is FHWA going to resolve the Buy America waiver situation? It's been more than a year since waivers have been approved and it prevents us from advancing alternative fuel projects. • <u>John Cater</u>: The waivers are stalled at the Office of the Secretary, we aren't able to do anything from our position. It may require political pressure. • <u>Elise Jones</u>: The AFC Advisory Committee saw this presentation last week and we unanimously supported the recommended program improvements. We encourage the STAC to do the same. • <u>Thad Noll</u>: Glad to see a standalone EV offering, which makes a lot more sense than co-location. • <u>Barbara Kirkmeyer</u>: While I still think there should be an emphasis on CNG, I do think increased offerings on EV and propane are a good thing. Just keep in mind that focusing on Tier I and Tier II alt fuel corridors doesn't capture every Coloradan, which is your stated goal. <p>STAC Action</p> <ul style="list-style-type: none"> • Elise Jones moved to approve the recommended program improvements. • Thad Noll seconds the motion. • STAC members vote – the motion carries. 	
<p>Multimodal Freight Plan / Evan Enarson-Hering (Cambridge Systematics), Barbara Kirkmeyer (Weld County / Upper Front Range TPR),</p>	<p>Presentation</p> <ul style="list-style-type: none"> • Update on the Multimodal Freight Plan – a joint effort of DTD and DTR. • Extensive engagement and surveys to identify state and local priorities. <ul style="list-style-type: none"> ○ Great engagement with business community – a much closer partnership than in the past. • Strategies & Recommendations (shared priorities among stakeholders and between highway and freight participants): 	<p>No action taken.</p>

<p>and Terri Blackmore (North Front Range MPO)</p>	<ul style="list-style-type: none"> ○ <i>Enhance Economic Connections</i> <ul style="list-style-type: none"> ▪ Improve coordination between CDOT, OEDIT, and local government partners. ○ <i>Prioritize Infrastructure Constraints</i> <ul style="list-style-type: none"> ▪ Bridge heights, weight limits, oversize/overweight limits, roadway condition. ▪ Use federal freight dollars to fund these improvements. ▪ Educate the private sector stakeholders on the planning process. ○ <i>Address Urban Freight Issues</i> <ul style="list-style-type: none"> ▪ A unique set of challenges – competing uses and sometimes opposition to the presence of trucks. ▪ Not just Denver – Gunnison, Limon, Julesburg, and beyond. ▪ Land use planning, innovative technologies, and better coordination. ○ <i>Integrate Planning Processes</i> <ul style="list-style-type: none"> ▪ Closely integrating multimodal freight and rail issues into every other planning effort we do. ▪ Coordinate with other state agencies and partners to build freight issues into their processes as well. ○ <i>Advance Front Range Passenger Rail</i> <ul style="list-style-type: none"> ▪ Southwest Chief Commission integrating study finding and drafting legislation by the end of the year. ○ <i>Address Freight Rail Needs & Issues</i> <ul style="list-style-type: none"> ▪ Develop inventory of short-line rail service and capacity constraints. ▪ Design & develop a Short Line Assistance Program. ▪ Expand SB37 Abandonment process. ○ <i>Strengthen Rail Coordination</i> <ul style="list-style-type: none"> ▪ Establish a regular and recurring consultation process between CDOT and its rail partners. ▪ Coordinate with PUC, railroads, and local planning partners to fund rail crossing improvements. ● Next Steps: <ul style="list-style-type: none"> ○ Plan review and approval by spring 2018. ○ Implementation planning will be ongoing after that point. <p>STAC Comments</p>	
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	<ul style="list-style-type: none"> • <u>Mike Lewis</u>: Thanks so much to Barbara, Terri, Norm, Gary and all of the industry participants in this process. Their engagement makes the final product so much better than if it's just a CDOT-centric effort. 	
Fiscal Year 2018-2019 Budget / Louie Barela (CDOT Division of Accounting & Finance)	<p>Presentation</p> <ul style="list-style-type: none"> • CDOT staff will present a revenue forecast and draft one-sheet of the FY19 budget to the Transportation Commission in September. <ul style="list-style-type: none"> ○ Schedule is based on a statutory deadline. • Will return to this group for a briefing in the future. 	No action taken.
2045 Revenue Projections / Louie Barela (CDOT Division of Accounting & Finance)	<p>Presentation</p> <ul style="list-style-type: none"> • We discussed the draft 2045 Revenue Projections last month and at that time we had a pending question about a reasonable assumption for alternative fuel vehicle penetration rates. We would like to return to that issue today. • At the end of today's presentation, the STAC may choose to make a formal recommendation to the TC, or you could wait another month for that if you need more time for consideration. • Baseline Scenario Assumptions <ul style="list-style-type: none"> ○ VMT to track with 1.4% average annual population growth ○ 4% personal income growth ○ 2.3% CPI (inflation) ○ 1.25% MPG annual increase ○ 1.7% vehicle registration annual increase ○ 17% alt fuel vehicle market penetration by 2045 ○ State and federal gas tax amount remain static through 2045 ○ FASTER fees remain intact at current levels through 2045 ○ SB 228 general fund transfers cease after FY17/18 ○ \$1.88 billion in proceeds from SB17-267 ○ No permanent federal rescissions. ○ Updated Baseline Parameter: 25% EV fleet penetration by 2045 (originally 17%). • Baseline Scenario Results <ul style="list-style-type: none"> ○ Original: <ul style="list-style-type: none"> ▪ \$1.945 billion in FY20/21 	<i>Proposed Low, Baseline, and High ("State Sales Tax or Equivalent") Scenarios approved by the STAC.</i>

- \$1.752 billion in FY44/45
- Updated with 25% EV Penetration:
 - Reduction of \$90 million by FY45.
 - Gradual decrease over time, but more significant when accounting for inflation.
- Low Revenue Scenario
 - Assumes federal rescission in 2019-20
- High Revenue Scenarios
 - Federal Gas Tax Increase (10 cents)
 - State Gas Tax Increase (10 cents)
 - State Sales Tax Increase (or \$300 million equivalent)
- Change in the assumed EV fleet penetration rate has a minor impact on the long-term funding scenarios.
- Based on assumption that EV owners are paying only a \$30 fee rather than the gas tax.

STAC Comments

- Norm Steen: How did you come up with the rate of EV increase over time?
- Louie Barela: We used a linear increase with the end target of 25% by 2045 – in the real world it would not be that smooth, but this is a quick-and-dirty way of modeling that impact.
- Terri Blackmore: From the perspective of NFRMPO, we would like the “rosiest” future scenario since that gives us the greatest flexibility in the planning process in terms of what projects with can include.
- Herman Stockinger: The two questions before the STAC are whether the baseline assumption is a reasonable one, and then which High Scenario you would prefer to adopt of the three options.
- Terri Blackmore: We need to recognize that it’s likely there will be some increase in revenues at either the federal or state level given the fact that we’re approaching a point where we simply can’t continue otherwise.
- Louie Barela: The Revenue Projections Committee was leaning towards the \$300 million sales tax or equivalent option as the preferred High Scenario, but we wanted to share all three options with this group for your consideration.
- Terri Blackmore: I would say that’s the minimum that we should consider.

	<ul style="list-style-type: none"> • <u>Sean Conway</u>: I agree with the idea that the minimum increase should be \$300 million. • <u>Vince Rogalski</u>: Given the state of the system and recent history, there was a consensus that something is likely to happen. • <u>Terri Blackmore</u>: I just want to remind everyone that this is a planning effort, not a budgeting exercise. Budgeting should be conservative, but planning should be optimistic to allow for the full range of options and avoid a situation where we have more funding than available projects. • <u>Barbara Kirkmeyer</u>: Why can't we just use all three high scenarios? It would be more illustrative of the range of possibilities. • <u>Jeff Sudmeier</u>: That's an interesting idea and we can explore it, but from a process standpoint we do need to have some consistency between CDOT and the MPOs. • <u>Sean Conway</u>: Is the request at this point to get a recommendation from the STAC to the TC? • <u>Jeff Sudmeier</u>: Yes, we would ask you to endorse the updated baseline, the Low Scenario, and one of the three High Scenarios for the TC to adopt. However, if you are not ready to do that at this point we can allow more time for deliberation. <p>STAC Action</p> <ul style="list-style-type: none"> • Sean Conway moves to adopt the Low, Updated Baseline, and State Sales Tax or Equivalent High Scenario as STAC's recommendation to the TC. • Thad Noll seconds the motion. • STAC votes – the motion passes. 	
<p>Other Business / Vince Rogalski (STAC Chair)</p>	<p>Presentation</p> <ul style="list-style-type: none"> • The TransPlanning Partnership effort will help us lay the ground work for the next SWP and will include 3 technical working groups. The Scenario Planning Working Group is seeking STAC representatives. <ul style="list-style-type: none"> ○ Thad Noll, Keith Baker, and Gary Beedy volunteered to participate. • The next STAC Meeting will be held on September 22nd at CDOT Headquarters. 	<p>No action taken.</p>

STAC ADJOURNS



COLORADO
Department of Transportation

Office of the Chief Engineer
 Performance and Asset Management Branch
 Multimodal Planning Branch
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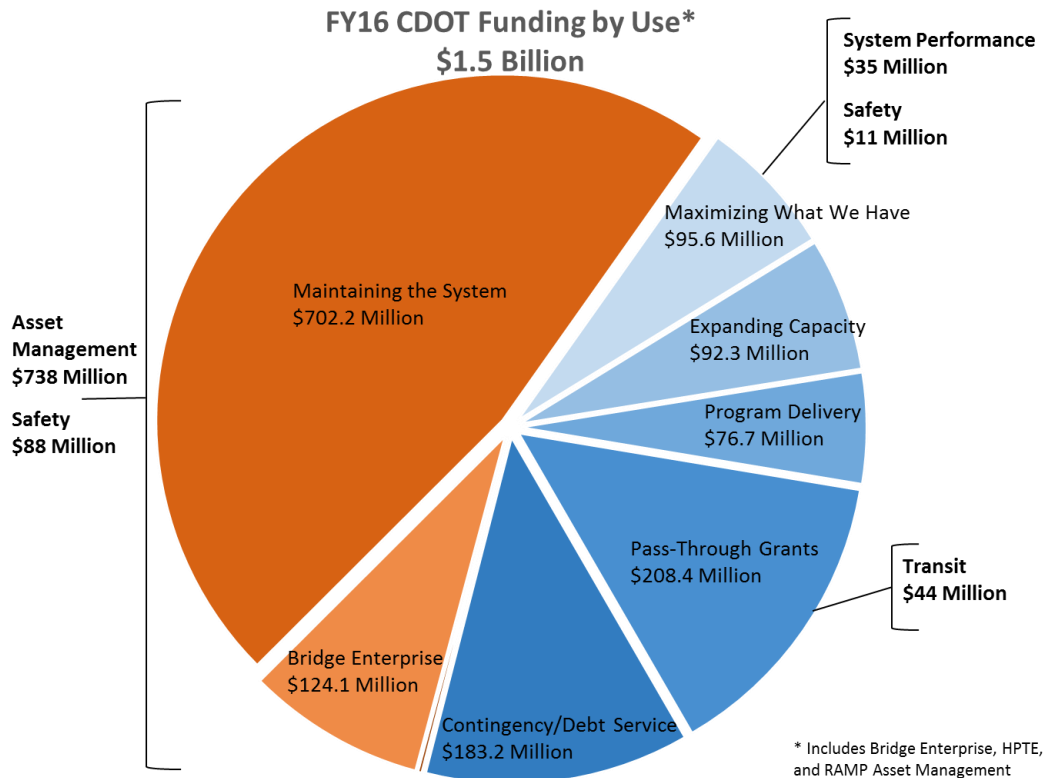
DATE: September 20, 2017
TO: Statewide Transportation Advisory Committee (STAC)
FROM: Joshua Laipply, Chief Engineer
 Debra Perkins-Smith, Director, Division of Transportation Development
 William Johnson, Performance and Asset Management Branch Manager
SUBJECT: Policy Directive 14 Current Performance and Proposed Changes

PD 14 provides a framework for development of the Statewide Transportation Plan (SWP) and guides the distribution of resources in the SWP, the Statewide Transportation Improvement Program (STIP), and the annual budget. To better align budget setting with PD 14, the Commission annually reviews the performance of PD 14 objectives to determine if there is a need to modify objectives or realign resources to meet an objective(s).

Attachment A: 2016 PD 14 Scorecard graphically summarizes the performance of PD 14 objectives for the current and prior year. Since most performance measures generally lag by roughly a year, the current performance year is 2016. Attachment A also includes information on the dedicated funding sources and funding levels associated with each objective. The notes column provides additional background, technical details, and recommended next steps, where applicable.

The August Transportation Commission workshop focused on System Performance and Transit performance measures and objectives. The September Transportation Commission workshop will include a review of highway performance measures for Safety, Infrastructure Condition, and Maintenance. As shown in Chart 1, these performance areas comprise roughly 60% of CDOT's total Budget (excluding Senate Bill 228 transfers).

Chart 1.



Current performance of PD 14 goal areas are described below. Staff will review proposed changes to performance measures and objectives for Infrastructure Condition. No changes to performance measures and objectives for the Maintenance or Safety goal areas are proposed at this time.

Safety - All Highways: Safety performance data and economic impact of crashes for 2016 is preliminary and will not be finalized until the end of the calendar year (this is due to delayed reporting of some crashes, data incompleteness due to data system upgrade and transition, and 2016 data not being official until late 2017). Performance objectives for fatalities were not met in 2016. Fatalities continue on an upward trend, increasing to 608 in 2016 as compared to a target of 452. The increase in fatalities can largely be explained by an 11% increase in vehicle miles traveled (VMT) between 2013 and 2016. However, the rate of fatalities also increased from 1.085 per 100 million VMT in 2015 to 1.169 in 2016. Objectives were met for serious injuries, with a reduction in the number of serious injuries from 3,209 in 2015 to 2,855 in 2016 (still preliminary). The rate per 100 million VMT also decreased from 6.362 in 2015 to 5.48 in 2016. While the significant increase in fatalities in recent years is concerning, staff are not recommending changes to the performance objective at this time. The current objectives still reflect the statewide and CDOT commitment to Toward Zero Deaths and to Colorado's 2015-19 Strategic Highway Safety Plan to halve fatalities by 2030 and reduce fatalities to single digits by 2050. While safety targets have not been met, rapid improvements in vehicle technology and CDOT's plan for connected vehicle and infrastructure technology have the potential to improve vehicle safety in the future.

Safety - Bike & Pedestrian: Safety performance data for 2016 is preliminary and will not be finalized until the end of the calendar year. Both the number of bicyclist and pedestrian fatalities and serious injuries involving motorized vehicles increased in 2016. The increase in bike and pedestrian fatalities and serious injuries is likely the result of an increase in VMT and bike/ped activity, as well as possible growth in distracted driving. As with the highway measures, staff is recommending that current objectives be retained despite the increase. Advances in technology have the potential to also improve safety for bicyclists and pedestrians. Additional efforts to improve the safety of bicyclists and pedestrians include implementation of CDOT's bike/ped policy, Share the Road Campaign, and bicycle-friendly motorist training.

System Performance - Highway: As the Colorado population, transportation demand, total crashes and incidents, and vehicle miles traveled (VMT) increase, the travel reliability performance of both Interstate corridors and National Highway System (NHS) corridors continues to decline. However, the rate of travel time performance decline has been mitigated by operational improvements and strategic improvements to capacity. In 2016, CDOT improved travel time reliability in some corridors with the implementation of Tolloed Express Lanes, expanded Safety Patrol services, enhanced winter operations coordination, and improved Traffic Incident Management with corridor First Responders. The PD 14 measure is based on the Planning Time Index (PTI), a measure of travel time reliability. In general terms, PTI identifies the extra time needed to arrive on-time for a trip 19 times out of 20. For example, for a PTI of 1.5, a worker should plan 45 minutes for a trip that takes 30 minutes in free-flow conditions in order to arrive on time 19 out of 20 times.

System Performance - Transit: 2016 data for the transit System Performance goal area is not currently available. For 2015, ridership of small urban and rural transit grantees exceeded the target, with 23.3 million riders compared to a 2015 target of 22.1 million. The second System Performance measure, total number of revenue service miles, has not been reported on previously. Data, however, will not be available until later this fall.

Infrastructure Condition - Transit: The transit measure for condition of the rural transit fleet was exceeded in 2016, with 68.7% of vehicles in fair, good, or excellent condition compared to a target of 65%. Achievement of the target is supported by a grant selection process administered by the Division of Transit and Rail (DTR) which strategically prioritizes the replacement of older and high mileage vehicles. The 2016 performance appears to be a significant reduction in performance from 2015, in which 81% of vehicles were reported in fair, good, or excellent condition. However, 2015 was the first year of reporting by transit grantees, with incomplete data. As such, the reported performance in 2015 is not considered an accurate reflection of fleet condition. The second Infrastructure Condition measure was originally a percentage target, based on a requirement that rural transit grantees complete transit asset management plans (i.e. % of rural transit grantees with completed transit asset management plans). This requirement was subsequently changed to a requirement that DOTs develop a single transit asset management plan for all rural transit providers. Since DTR is on track to complete by early to mid 2018, this measure is recommended for removal from PD 14.

Infrastructure Condition - Highway: This is our Transportation Asset Management (TAM) program. Performance targets for pavement, culverts, geohazards, and tunnels were achieved in 2016. Bridge, which has seven performance metrics, achieved targets related to structural deficiency and load restriction;

however, all other targets were not met. Performance targets for buildings, ITS, road equipment, signals, and walls were not achieved. Staff have evaluated the efficacy of the current performance metrics and targets and are requesting that the Commission refine some targets as described in the *Target Refinement* section below. Many of the original targets were established before many programs had the data, analysis methodology, and tools we currently have. Proposed changes are discussed in more detail in Attachment B.

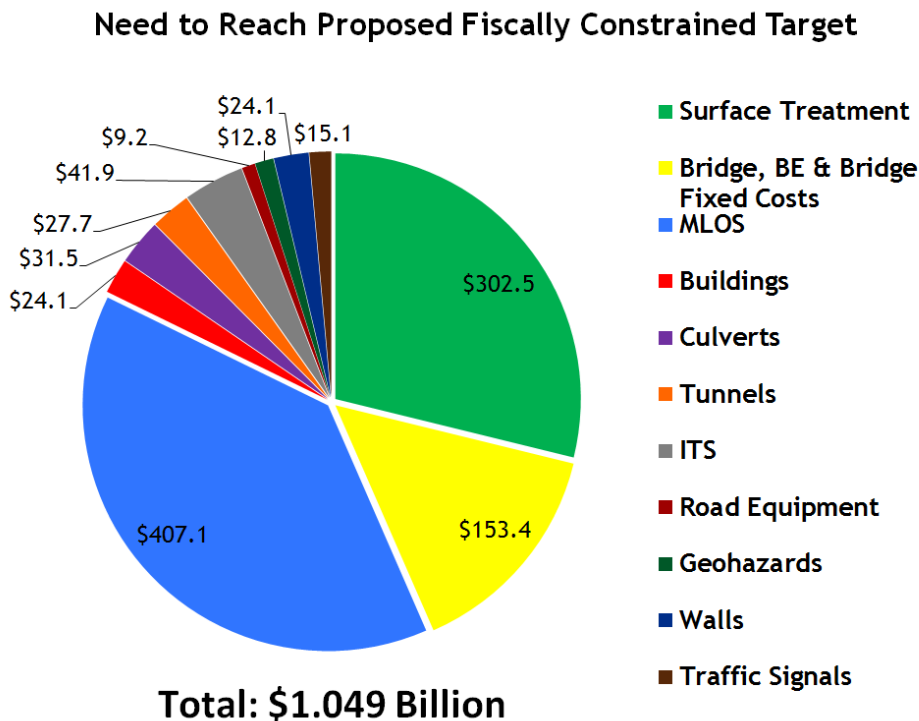
Maintenance: This is part of our TAM Program. Maintenance has two performance objectives in PD 14: to maintain an overall Maintenance Levels of Service (MLOS) B minus for the statewide system, and to maintain an LOS B grade for snow and ice removal. The snow and ice objective was met, however, the overall MLOS objective was not. The cost of achieving a B minus for MLOS over the next 10 years is \$4.07 billion, requiring an average annual budget of \$407 million compared to current funding of roughly \$273 million. The level of current funding and staff resources limit our ability to achieve the current maintenance performance objectives.

TAM Target Refinement

Attachment B: TAM Metric and Target Change Matrix graphically summarizes the proposed changes to Infrastructure Condition performance measures and objectives. In 2013, as staff was developing the first generation of performance measures and objectives, some programs had limited data sets and analysis capabilities that could be used in target setting. To advance the asset management program, staff made a decision to use the best available information to get started in applying asset management principles.

Staff now have a few years of experience in asset management, better inventories and condition assessments, more advanced analytical capabilities, and the Asset Investment Management System (AIMS) and is now better able to set realistic targets more closely aligned with fiscal constraint. Staff therefore recommends refining some of the performance measures and targets adopted by the Commission in PD 14. The refinements represent a reduction in overall need from an annual average of \$1.09 billion over ten years to an average of \$1.05 billion annually over ten years, as shown in Chart 2. While the change seems small, it is important to remember that staff are not making a recommendation to change the targets for CDOT’s largest asset categories: surface treatment, MLOS, or bridge structural deficiency.

Chart 2.



The proposed changes to PD 14 for Infrastructure Condition are outlined in Attachment B. Staff anticipate returning to the Transportation Commission in October for approval of updates to PD 14.

Impact of Changes on FY 2018-19 Planning Budget and Future TAM Need

Table 1 shows the proposed FY 2018-19 budget and the need to achieve proposed targets. The planning budget is \$755 million and the total need is \$1.05 billion, leaving a shortfall of \$294 million.

Table 1.

TAM Planning Budgets vs. Need

Asset Class	FY2018-19	FY2019-20	FY2020-21	Estimated Average Yearly Need to Reach Proposed Target by 2026
Surface Treatment	\$225.4	\$222.0	\$223.2	\$302.5
Bridge and BE	\$142.5	\$151.2	\$155.3	\$153.4
MLOS	\$272.8	\$265.7	\$260.7	\$407.1
Road Equipment	\$26.8	\$22.1	\$18.1	\$24.1
ITS	\$23.5	\$29.2	\$8.3	\$31.5
Geohazards	\$8.4	\$9.7	\$10.0	\$27.7
Buildings	\$20.2	\$17.6	\$24.9	\$41.9
Tunnels	\$8.4	\$10.3	\$21.6	\$9.2
Culverts	\$7.6	\$7.5	\$12.3	\$12.8
Walls	\$4.6	\$5.1	\$5.5	\$24.1
Traffic Signals	\$14.8	\$14.6	\$15.1	\$15.1
TOTAL	\$755.0	\$755.0	\$755.0	\$1,049.4

Note: Bridge estimate includes cost to meet risk targets

Next Steps

- Transportation Commission approval of proposed changes to PD 14
- Consideration of PD 14 in development of FY 2019 CDOT Budget

Attachments










- Attachment A: 2016 PD 14 Scorecard
- Attachment B: TAM Metric and Target Change Matrix






























2016 Policy Directive 14 Scorecard











Revised August 2017

PD 14.0 Objectives	2016				2015				Dedicated Funding Sources ¹	Notes	2017 Proposed Metric Changes
	Budget	Target	Results	Target Met?	Budget	Target	Results	Target Met?			
Safety											
All Highways											
Reduce fatalities by 12 per year from 548 in 2008 to 344 in 2025	\$98.7 million	452	608	●	\$97.4 million	464	547	●	FASTER Safety HSIP Highway Safety Education Hot Spots	2016 performance data is preliminary and is not final until December 31, 2017. The 2016 economic analysis is an estimate at this time. Due to pending 2016 records, an estimate of the economic impact of those estimated crashes was made based upon past years averages).	N/A
Reduce the fatality rate per 100 million VMT by 0.02 per year from 1.03 in 2013 to 0.79 in 2025		0.97	1.169	●		0.99	1.085	●		The increase in fatalities can be largely explained by an 11% increase in VMT between 2013 and 2016.	N/A
Reduce the serious injuries by 90 per year from 3,200 in 2013 to 2,120 in 2025		2930	2855	●		3020	3209	●		Because a third of our fatalities involve occupants not wearing seat belts, significant numbers of lives could be saved if Colorado had a primary seat belt law.	N/A
Reduce the serious injury rate by 0.2 per 100 million VMT per year from 6.86 in 2013 to 4.46 in 2025		6.26	5.48	●		6.46	6.362	●		Recommended next steps - Continued improvement and application of safety analysis, and more strategic use of safety funding for safety projects. The SHSP identified eight strategic emphasis areas for CDOT, as well as other safety stakeholder agencies, to focus safety improvement efforts. In CDOT's dedicated safety programs, HQ and Regions are collaborating to use state of the art safety analysis techniques to find the most effective locations for crash reduction, and fund those projects in a strategic four-year plan. (SHSP)	N/A
Reduce the economic impact of crashes annually by 1% over the previous calendar year		\$4.76 B	\$4.97	●		\$4.52 B	\$4.81 B	●			N/A
Bike & Pedestrian											
Reduce the number of bicyclist and pedestrian fatalities involving motorized vehicles, from 67 in 2013 to 47 in 2015	N/A	62	100	●	N/A	64	78	●	N/A	2016 performance data is preliminary and is not final until December 31, 2017.	N/A
Reduce the number of bicyclist and pedestrian serious injuries involving motorized vehicles from 469 in 2013 to 311 in 2025		430	449	●		443	482	●		Recommended next steps - Implement PD 1602.1 as a means to incorporate bicycle and pedestrian accommodation in all that we do. Work to identify High Priority Bicycle Corridors so that bicyclists have a better understanding of which facilities are best for riding. Revamp the Share the Road Campaign by implementing Bicycle-Friendly Motorist training that teaches drivers how to interact with bicyclists on the road. Update Bicycle and Pedestrian Facility Design classes to ensure the latest safety strategies are understood by designers and planners.	N/A

PD 14.0 Objectives	2016				2015				Dedicated Funding Sources ¹	Notes	2017 Proposed Metric Changes
	Budget	Target	Results	Target Met?	Budget	Target	Results	Target Met?			
System Performance											
Highways											
Prevent the spread of congestion by maintaining a Planning Time Index (PTI) of 1.05 or less on 90% or greater of Interstate centerline miles	\$34.5 million	90%	88.1%		\$36.0 million	90%	90.7%		ITS Maintenance ITS Investments TSMO Performance Program Congestion Relief	As the Colorado population, transportation demand, total crashes and incidents, and vehicle miles traveled (VMT) increase, the travel reliability performance of both Interstate corridors and National Highway System (NHS) corridors continues to decline. However, the rate of travel time performance decline has been mitigated by operational improvements and strategic improvements to capacity. In 2016, CDOT improved travel time reliability in some corridors with the implementation of TOLLED Express Lanes, expanded Safety Patrol services, enhanced winter operations coordination, and improved Traffic Incident Management with corridor First Responders.	N/A
Prevent the spread of congestion by maintaining a PTI of 1.16 or less on 90% or greater of National Highway System (NHS) centerline miles, excluding Interstates		90%	82.4%			90%	86.0%				N/A
Prevent the spread of congestion by maintaining a PTI of 1.12 or less on 90% or greater of Colorado Freight Corridor centerline miles		90%	85.6%			90%	91.6%				Recommended next steps-Continue deployment of operational solutions, new technology, targeted capacity improvements, improved signal phase and timing, corridor specific traffic incident management, improved public information, and other strategies to incrementally mitigate the speed at which congestion growths on the interstate and NHS.
Transit											
Increase ridership of small urban and rural transit grantees by at least an average of 1.5%, per year, statewide over a five-year period beginning in 2012	\$44.2 million	22,459,084	N/A	N/A	\$42.1 million	22,127,177	23,333,274		FTA Programs FASTER Transit	Ridership targets are generated from a compounding 1.5% increase from the base ridership in 2012 of 21,160,595. The target at the end of the five year period, in 2017, is a ridership of 22,795,970, a 7.7% increase from 2012 ridership. Ridership and revenue service mile results come from the National Transit Database. FY16 ridership data and revenue service miles data is anticipated in late 2017 to early 2018.	N/A
Maintain or increase the total number of revenue service miles of CDOT-funded regional, inter-regional, and inter-city passenger service over that recorded for 2012		N/A	N/A	N/A		N/A	N/A	N/A			Recommend next steps - Division of Transit and Rail (DTR) worked with the small urban and rural transit grantees to develop a new funding allocation methodology, which will accommodate new transit providers and maximize the ridership achieved with available funding. Additional next steps include the retention of consultant support to assist with revenue service miles data collection, among other tasks.
Infrastructure Condition											
Transit											
Maintain the percentage of vehicles in the rural Colorado transit fleet at no less than 65% operating in fair, good, or excellent condition, per Federal Transit Administration Guidelines	\$44.2 million	65%	68.7%		\$42.1 million	65%	81%		FTA Programs FASTER Transit	The 2016 results for percentage of fleet operating in fair, good, or excellent condition reflects data as of August 2017. 2015 results are not considered accurate due to incomplete data, 2015 being the first year grant partners were asked to provide vehicle condition data. Positive performance in 2016 can be attributed to a grant selection process that strategically prioritizes replacing older and higher-mileage vehicles. Recommended next steps - DTR to continue to encourage rural Colorado transit agencies to update inventory and condition of their fleet annually, according to the Federal Transit Administration (FTA) guidelines on age and mileage of vehicles.	N/A
CDOT completion of a group transit asset management plan, with the involvement and participation of CDOT transit grantees, by December 2017		N/A	On Track	N/A		N/A	On Track	N/A			Whereas, FTA previously required rural grantees develop their own asset management systems, DOTs are now tasked with developing a single Group Asset Management Plan for all rural providers. All Colorado grantees will be in compliance as CDOT completes the plan in early to mid 2018.

PD 14.0 Objectives	2016				2015				Dedicated Funding Sources ¹	Notes	2017 Proposed Metric Changes
	Budget	Target	Results	Target Met?	Budget	Target	Results	Target Met?			
Highways											
Achieve 80% High/Moderate Drivability Life for Interstates based on condition standards and treatments set for traffic volume categories	\$235.9 million	80%	94%		\$235.2 million	80%	91%		Surface Treatment Program RAMP Funding	Although targets were met in 2016, given the current planning budgets, it is anticipated that targets for pavement condition will not be met beginning next year, and will continue to remain below the target through 2026. In 2026 it is anticipated that only 69% of the state highway system will have high or moderate Drivability Life. \$302.5 million per year is needed annually beyond FY 2021 to achieve the target by 2026. Recommended next steps - Staff will work to improve/tighten the link between pavement maintenance and pavement model recommendations, and evaluate the effect of pavement preventive maintenance on DL to identify strategies.	N/A
Achieve 80% High/Moderate Drivability Life for NHS, excluding Interstates, based on condition standards and treatments set for traffic volume categories		80%	85%			80%	84%				N/A
Achieve 80% High/Moderate Drivability Life for the state highway system based on condition standards and treatments set for traffic volume categories		80%	80%			80%	79%				N/A
Bridges											
Maintain the percent of NHS total bridge deck area that is not structurally deficient at or above 90%	\$164.1 million	90.0%	95.5%		\$168.2 million	90.0%	94.9%		Colorado Bridge Enterprise On-System Bridge RAMP Funding	A structurally deficient bridge is typically one where corrosion or deterioration has resulted in a portion of the bridge being in poor condition; for example, where water leaking through an expansion joint has caused the end of a steel girder to rust. Currently exceeding target and will continue to exceed target through 2026; however, the bridge program has 7 metrics geared towards mitigation of risks (below), and five of those are not achieving their target. (% of CDOT-owned bridges over waterways that are scour critical, % of CDOT-owned bridges posted for load, % of leaking expansion joint by length on CDOT-owned bridges, and % of CDOT-owned bridge deck area that is unsealed or otherwise unprotected.) Recommended next steps - for the five risk mitigation metrics not achieving their target, staff are working to identify additional strategies that can be implemented with no additional funding. Current strategies include identifying bridges that can easily be repaired or remedied with the most cost-effective treatment.	N/A
Maintain the percent of state highway total bridge deck area that is not structurally deficient at or above 90%		90.0%	95.1%			90.0%	94.5%				N/A
Percentage of bridge crossings over Interstates, U.S. Routes and Colorado state highways with a vertical clearance less than the minimum design requirement of 14 feet-6 inches		0.4%	1.7%			0.4%	2.5%				N/A
Percentage of bridge crossings over Interstates, U.S. Routes and Colorado state highways with a vertical clearance less than the minimum design requirement of 16 feet-6 inches		4.8%	19.8%			4.8%	20.9%				N/A
Percentage of CDOT-owned bridges posted for load		0.0%	0.2%			0.0%	0.1%				N/A

PD 14.0 Objectives	2016				2015				Dedicated Funding Sources ¹	Notes	2017 Proposed Metric Changes
	Budget	Target	Results	Target Met?	Budget	Target	Results	Target Met?			
Percentage of CDOT-owned bridges with a load restriction		3.0%	1.6%			3.0%	2.5%			Permit loads (as defined in the Colorado Bridge Weight Limit Map/CDOT Bridge Rating Manual) are typically heavier and longer than the legal loads and require an approved permit in order to travel on Colorado highways. Older bridges may need to be restricted for passage since some of these bridges were not designed for permit loads. Permitted loads have a certain combination of axle weight and spacing that distributes the load in an acceptable combination for crossing over structures. \$6.1 million per year is needed annually beyond FY 2021 to achieve the updated target of 0.9% by 2026.	N/A
Percentage expansion joints in poor condition by length on CDOT-owned bridges		15.0% or less	25.3%			15.0% or less	18.4%			Leaking expansion joints allow water and deicing chemicals onto superstructure and substructure elements which can accelerate corrosion and lead to early onset of a structural deficiency. Keeping expansion joints sealed slows the rate of bridges dropping into structurally deficient.	N/A
Percentage of CDOT-owned bridge deck area that is unsealed or otherwise unprotected		30.0% or less	44.5%			30.0% or less	45.6%			Unsealed bridge decks deteriorate faster than sealed bridge decks.	N/A
Buildings											
Statewide letter grade (Percent C or better) of CDOT Buildings	\$12.9 million	90%	74%		\$20.8 million	90%	80%		Property Allocation Program RAMP Funding	Given the current planning budgets, buildings will not achieve its target between now and 2026. In 2026 the expected performance is 69%. \$41.9 million per year is needed annually beyond FY 2021 to achieve the updated target of 85% C or better by 2026. Recommended next steps - Staff will improve awareness of preventive maintenance as a priority, and determine level of funding needed for building preventive maintenance.	N/A
ITS											
Average Percent Useful Life of ITS Equipment	\$21.4 million	90% or less	N/A	N/A	\$27.6 million	90% or less	114%		ITS Maintenance RAMP Funding	Given the current planning budgets, ITS will not achieve its target between now and 2026. In 2026 the expected performance is 209%. \$31.5 million per year is needed annually beyond FY 2021 to achieve the target by 2026. Recommended next steps - Staff to refine inventory by breaking down devices into manageable maintenance pieces that can be tracked individually for cost savings advantages. Staff will also investigate the benefits of preventive maintenance for select devices, and further refine device useful life parameters by tracking asset service life to compare to manufacturer estimates.	N/A
Fleet											
Average Percent Useful Life of Fleet Equipment	\$18.4 million	70% or less	87%		\$14.0 million	70% or less	90%		Road Equipment Program RAMP Funding	Given the current planning budgets, road equipment will not achieve its target between now and 2026. In 2026 the expected performance is 77%. \$24.1 million per year is needed annually beyond FY 2021 to achieve the updated target of 75% by 2026. Recommended next steps - Staff will communicate the importance of fleet planning and develop regional fleet optimization recommendations, develop a fleet performance measure that reflects cost effectiveness rather than asset life, and monitor implementation of fleet preventive maintenance work orders.	N/A

PD 14.0 Objectives	2016				2015				Dedicated Funding Sources ¹	Notes	2017 Proposed Metric Changes
	Budget	Target	Results	Target Met?	Budget	Target	Results	Target Met?			
Culverts											
Percent of culverts that are in poor condition (have a rating of 4 or less)	\$8.2 million	5%	4.87%		\$9.6 million	5%	4%		Structures On-System RAMP Funding	Although the target is currently being met, given current planning budgets, it is expected that the target will not be met in the future. In 2026 the expected performance is 7.3%. \$12.8 million per year is needed annually beyond FY 2021 to achieve the target by 2026. Recommended next steps - Staff are undertaking analysis to identify strategies.	N/A
Geohazards											
Percent of segments at or above risk grade C	\$9.2 million	80%	92%		\$9.1 million	80%	78%		Rockfall Mitigation RAMP Funding	Increased data collection efforts have provided a better picture of actual performance. Current performance results in a \$40.5M annual risk from Geohazard events. \$27.7 million per year is needed annually beyond FY 2021 to achieve the updated target of 85% risk grade B or above by 2026. Recommended next steps - Continued improvement in data collection.	PROPOSED: Percent of segments at or above risk grade B
Tunnels											
Percentage of network tunnel length with all elements in equal or better condition than 2.5 Weighted Condition Index	\$5.2 million	80%	91%		\$12.4 million	80%	91%		Structures On-System RAMP Funding	Although the target is currently being met, given current planning budgets, it is expected that the target will not be met in the future. In 2026, the expected performance is 52%. \$9.2 million per year is needed annually beyond FY 2021 to achieve the updated target of 75% by 2026. Recommended next steps - Staff are undertaking analysis to identify strategies.	N/A
Traffic Signals											
Percent of intersections with at least one signal assembly beyond 100% useful life.	\$5.7 million	15%	N/A	N/A	\$1.5 million	15% or less	27%		Traffic Signals Program	Given the current planning budgets, signals is expected to achieve the target by 2026. Recommended next steps - Staff are undertaking analysis to identify strategies.	PROPOSED: Percent of Signal Infrastructure in severe condition (dollar weighted)
Walls											
Percentage of CDOT-owned walls, by square foot, that are in poor condition (have a rating of 4 or less)	\$2.4 million	1%	4.15%		\$0.0 million	1%	5%		Structures On-System RAMP Funding	Given the current planning budgets, walls is not expected to meet its target between now and 2026. In 2026 the expected performance is 92%. \$24.1 million per year is needed annually beyond FY 2021 to achieve the updated target of 2.5% by 2026. Recommended next steps - Staff are undertaking analysis to identify strategies.	N/A
Maintenance											
Maintain a LOS B grade for snow and ice removal	\$83.4 million	B	B		\$74.3 million	B	B		Snow and Ice Control Snow and Ice Reserve	The cost of achieving a B minus for MLOS over the next 10 years is \$4.07 billion, requiring an average annual budget of \$407 million compared to current funding of roughly \$273 million. The level of current funding and staff resources limit our ability to achieve the current maintenance performance objectives.	N/A
Maintain an overall MLOS B minus grade for the state highway system	\$254.4 million	B-	C+		\$251.3 million	B-	B-		Maintenance		N/A

¹ Additional flexible funding sources with a wide range of eligibility could be used to address multiple objectives. Examples include RPP, STP-M, CMAQ, and TAP

TAM Metric and Target Change Matrix



Asset	Measure	Fiscally Constrained Target	Proposed Fiscally Constrained Target	Aspirational Target	Proposed Aspirational Target	Reason for Target Change	
Bridges	Percentage of deck area on structurally deficient CDOT - owned bridges	10%	No Change	5%	No Change	No Change	
	Percentage of deck area on structurally deficient bridges on the NHS	10%	No Change	5%	No Change	No Change	
	Percentage of CDOT - owned bridges over waterways that are scour critical	5%	No Change	1%	No Change	No Change	
	Percentage of bridge crossings over Interstates, U.S. routes and Colorado state highways with a vertical clearance less than the statutory maximum vehicle height of 14 feet - 6 inches	0.40%	1.00%	0.00%	No Change	No Change	The number of bridges with vertical clearance issues is greater than originally projected. Current funding strategy is unable to address issues, so staff recommend adjusting the target.
	Percentage of bridge crossings over Interstates, U.S. Routes and Colorado state highways with a vertical clearance less than the minimum design requirement of 16 feet - 6 inches	4.80%	18.00%	2.00%	12.00%	12.00%	The number of bridges with vertical clearance issues is greater than originally projected. Current funding strategy is unable to address issues, so staff recommend adjusting the target.
	Percentage of CDOT - owned bridges posted for load	0.00%	0.10%	0.00%	No Change	No Change	Updated inventory found more bridges with lower than desirable conditions. Current funding strategy is unable to address issues, so staff recommend adjusting the target.
	Percentage of CDOT - owned bridges with a load restriction	3.00%	0.90%	1.00%	0.00%	0.00%	We are doing better than originally projected, so staff recommend adjusting the target.
	Percentage of leaking expansion joint by length on CDOT - owned bridges	15%	26%	5%	15%	15%	Updated inventory found more bridges with lower than desirable conditions. Current funding is unable to keep up with the rate of decline, so staff recommend adjusting the target.
	Percentage of CDOT - owned bridge deck area that is unsealed or otherwise unprotected	30%	35%	5%	20%	20%	Updated inventory found more bridges with lower than desirable conditions. Current funding is unable to keep up with the rate of decline, so staff recommend adjusting the target.
	Percentage high - moderate drivability life for Interstates based on condition standards and treatments set for traffic volume categories	80%	No Change	90%	No Change	No Change	No Change
Percentage high - moderate drivability life for CDOT - owned NHS, excluding Interstates based on condition standards and treatments set for traffic volume categories	80%	No Change	90%	No Change	No Change	No Change	
Percentage high - moderate drivability life for the State highway system based on condition standards and treatments set for traffic volume categories	80%	No Change	90%	No Change	No Change	No Change	
Statewide letter grade	B-	No Change	B-	No Change	No Change	No Change	
Statewide letter grade	90% C or Better	85% C or Better	100% C or Better	90% C or Better	90% C or Better	Analysis indicates that, given fiscal constraints, the old target is not achievable, so staff recommend adjusting the target.	
ITS	Average percent useful life	90%	No Change	85%	No Change	No Change	
Road Equipment	Average percent useful life	70%	75%	50%	70%	Analysis indicates that, given fiscal constraints, the old target is not achievable, so staff recommend adjusting the target.	
Culverts ^a	Percent culverts in poor condition (have a culvert rating of 4 or less)	5%	No Change	3%	No Change	Description of performance metric changed for clarification purposes.	
Geohazards ^b	Percent of segments at or above risk grade B	80%	85%	90%	90%	Staff recommends adjusting target based on better inventory data. Focusing investment based on the new target will result in a significant reduction in statewide risk exposure.	
Tunnels	Percent of network tunnel length with all elements in equal or better condition than 2.5 weighted condition index	80%	75%	100%	No Change	Tunnel condition is worse than originally projected, so staff recommend adjusting the target.	
Traffic Signals ^c	Percent of signal infrastructure in severe condition	15%	2%	0%	No Change	The new metric and target allows the program to focus on signals with the greatest performance deficiencies as opposed to all signals without regards to performance.	
Walls ^d	Percentage of CDOT - owned walls, by square foot, in poor condition (have a rating of 4 or less)	1%	2.50%	0.50%	1.00%	Description of performance metric changed for clarification purposes. Updated inventory found more walls with lower than desirable conditions. Current funding is unable to keep up with the rate of decline, so staff recommend adjusting the target.	

^a Previous Description: Percent of culverts that are structurally deficient (have a culvert rating of 4 or less)

^b Previous Metric: Percent of segments at or above risk grade C

^c Previous Metric: Percent intersections with at least one signal assembly beyond 100% Useful Life

^d Previous Description: Percent of CDOT-owned walls, by square foot, that are structurally deficient (have a rating of 4 or less)



COLORADO Department of Transportation

Division of Transportation Development
Multimodal Planning Branch
4201 E. Arkansas Ave, Shumate Bldg.
Denver, CO 80222

DATE: September 15, 2017
TO: Statewide Transportation Advisory Committee (STAC)
FROM: Herman Stockinger, Director, Office of Policy and Government Relations
 Debra Perkins-Smith, Director, Division of Transportation Development (DTD)
SUBJECT: INFRA and TIGER Discretionary Grant Programs / Senate Bill 17-267

Solicitations are currently open for two different federal discretionary grant programs: TIGER, and INFRA, with applications due on October 16, and November 2, respectively. Eligible applicants (which can be state DOTs or state, local, and tribal governments, including transit agencies, metropolitan planning organizations (MPOs), and other political subdivisions of State or local governments) can submit up to three applications under each program. Under both programs significant matching funds above the minimum are required in order to be competitive. As such, the Transportation Commission will need to consider not only which projects to put forward under each program but also commit to providing matching funds, should an application be successful. The timing of these solicitations aligns with recent discussions with the Transportation Commission regarding the identification of projects for funding with Senate Bill (SB) 17-267 funding and provides an opportunity to use SB 267 funds to leverage additional federal funds.

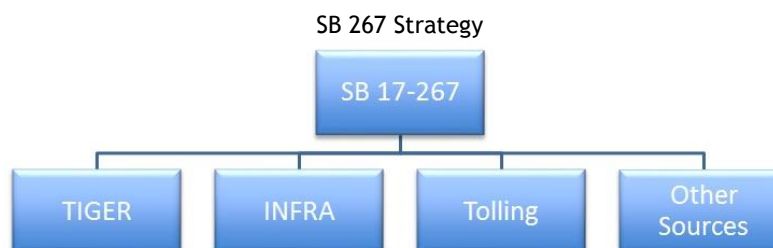
TIGER

- \$500 million available nationwide.
- Grants may be not less than \$5 million and not greater than \$25 million, except for projects located in rural areas where the minimum grant size is \$1 million.
- Selection criteria for TIGER remains fundamentally the same as previous rounds of TIGER.
- FY 2017 TIGER solicitation gives special consideration to projects which emphasize improved access to reliable, safe, and affordable transportation for communities in rural areas, such as projects that improve infrastructure condition, address public health and safety, promote regional connectivity, or facilitate economic growth or competitiveness.

INFRA

- \$1.56 billion available nationwide- \$1.5 billion for large projects > \$100 million, and \$60 million for small projects < \$100 million.
- Minimum grant of \$25 million for large projects, and \$5 million for small projects.
- Retains the same basic elements of the previous FASTLANE program, but with new selection criteria focused on economic vitality, leveraging funds, innovation, and performance and accountability.

Given significant unmet funding needs, and the relatively limited amount of funding available under SB 267, the ability to leverage other sources of funding was noted in previous Transportation Commission workshops as a key consideration in the identification of projects for SB 267 funding. The recent TIGER and INFRA solicitations have led staff to a strategy focused on maximizing such opportunities, beginning with these two grant programs.



Proposed TIGER and INFRA Projects

Staff developed criteria based on selection criteria identified in the INFRA and TIGER NOFOs and reviewed projects with the CDOT Regions to identify a suite of proposed projects that are likely to be competitive. A key element in

identifying proposed projects is local partnership. Local match will likely make a project more competitive. Additionally, several projects have the potential to be submitted by local agencies, who may prove more attractive as applicants than the state DOT. Eight projects have been identified- three for TIGER, and five for INFRA. Of these, three applications are likely to be put forth by CDOT, with the other five possibly being local applications, although the majority of matching funds would still need to come from CDOT as a commitment from the Transportation Commission. These projects, as well as the potential need for matching funds from the Transportation Commission, are described in the following table.

Project	Likely Applicant	Estimated Project Cost (\$ M)*	Estimated Grant Req. (\$ M)*	Estimated TC Commitment (\$ M)*	Source
TIGER					
Amtrak Southwest Chief - Track and grade crossing repair or replacement on Southwest Chief Amtrak line in Colorado. CDOT has been asked to pledge \$1 M in matching funds. Kansas and New Mexico DOTs have also pledged \$1M each. Amtrak has pledged \$3 M. BNSF has pledged \$3 Million plus maintenance of the track & signal investment for its useful life (>20 years).	City of La Junta	\$25	\$15	\$1	SB 228, with agreement to renew previous commitment of \$1 M made for TIGER 7.
SH 13 Reconstruction - Reconstruction and improvements on SH 13 at three locations between the Wyoming state line and the Town of Rifle.	CDOT	\$81	\$21	Up to \$60	SB 267
US 160 Towaoc Passing Lanes - Passing lanes and vehicle turnouts on US 160 in Montezuma County.	Ute Mountain Ute Tribe	\$11	\$2	Up to \$9	SB 267
INFRA					
I-25: Colorado Springs Denver South Connection - Construction of one new tolled express lane in each direction from Monument to Plum Creek Parkway.	El Paso County / Douglas County	\$350	\$75	Up to \$250	SB 267
I-70: Westbound Peak Period Shoulder Lanes - Construction of Peak Period Shoulder Lanes (PPSL) on westbound side from Twin Tunnels to Empire Junction. Possible inclusion of Empire Junction interchange.	CDOT	\$100	\$20	Up to \$80	SB 267
I-25: Colorado Springs Denver South Connection - Construction of one new tolled express lane in each direction from Monument to Plum Creek Parkway.	CDOT or El Paso County / Douglas County	\$350	\$75	Up to \$250	SB 267
US 85: Centennial Highway Improvements - Construction of grade separated interchange at 120th Avenue and at UPRR crossing just east of US 85, construction of new Peckham interchange, and railroad siding extensions.	Upper Front Range TPR and/or Weld or Adams County	TBD	TBD	Up to \$34.9	TC Program Reserve, per previous discussions with TC on railroad negotiations.
Connected Vehicle Eco-System - Development of V2X connected vehicle ecosystem in partnership with Panasonic.	CDOT	TBD	TBD	TBD	TBD

*Project scope and funding are being refined and may change. Additional funding sources such as local match may be identified and reduce grant request or TC commitment.

Given the timing of the TIGER NOFO and the October 16 application deadline, a decision on proposed TIGER projects is needed this month. The three proposed TIGER projects reflect a commitment of \$1 million in SB 228 transit funds, and up to \$69 million in SB 267 funding. The commitment is contingent upon award. When TIGER awards are announced, staff will return to the Commission to revisit these funding commitments and, for unsuccessful applications, determine whether or not to reaffirm or modify.

INFRA applications are not due until November 2. Based on STAC and Transportation Commission input, staff will move forward with application development and further refine details on project scope, cost, need for matching funds, and local partnership. The Commission will be asked for a decision on submittal of projects and matching funds in October. These five proposed INFRA projects reflect a commitment of up to roughly \$530 million in SB 267 funding. Previously approved funding from the TC Program Reserve can satisfy match requirements for the proposed US 85 application. As with TIGER, match commitments are contingent upon award and staff will return to revisit funding commitments with the Commission when awards are announced.

Additional SB 267 Projects

In previous workshops, the Commission provided direction to staff to focus on the identification of projects for the first two years of SB 267, as opposed to the full four years of funding provided by the bill. Funds anticipated in the first two years, FY 2018-19 and FY 2019-20, total approximately \$880 million, with a minimum of 10% reserved for transit projects. Of the \$880 million in funds available, at least 25% must be spent in rural counties with less than 50,000 in population. The proposed INFRA and TIGER projects include a commitment of SB 267 funds of up to roughly \$600 million. Based on input provided by STAC and the Commission on the proposed INFRA and TIGER projects, staff will return in October for additional discussion on potential projects for the balance of the \$880 million in initial SB 267 funding. This will include discussion of additional projects throughout the state that may not be competitive for TIGER or INFRA, but that represent significant needs and compelling projects for SB 267 funding, including transit projects. One such project, US 550/US 160 Connection, was the successful recipient of a FASTLANE grant. The Commission previously agreed to provide matching funds if successful, and now must consider the use of SB 267 funds to fulfill the match commitment, as well as optional additional project scope.

Next Steps

- September 21 - Approval of TIGER projects and commitment of matching funds
- October 16 - Submittal of TIGER applications
- October 18 - INFRA/SB 267 Workshop
- October 19 - Approval of INFRA projects and commitment of matching funds
- November 2 - Submittal of INFRA applications



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Lessons Learned – Survey Results Regarding the Annual STIP Update Process

August 25, 2017



Lessons Learned Survey

- **Survey was sent out in early June**
- **Who Responded**
- **Overview of Questions and Answers**
- **Next Steps**

Statewide Transportation Improvement Program

Fiscal Years 2018 – 2021



Adopted May 18, 2017

Colorado Transportation Commission





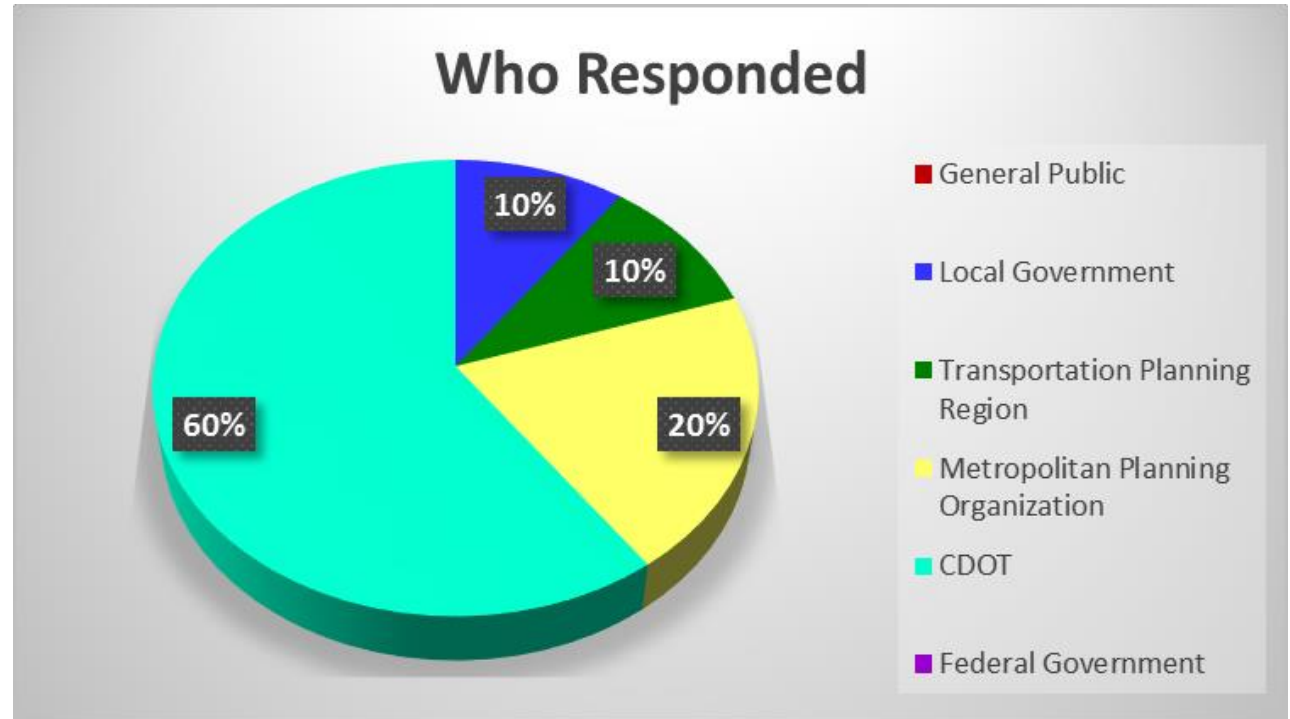
Lessons Learned – Who & What

■ Survey was sent out in June

- STAC
- CDOT
- Local Entities

■ 10 Responses

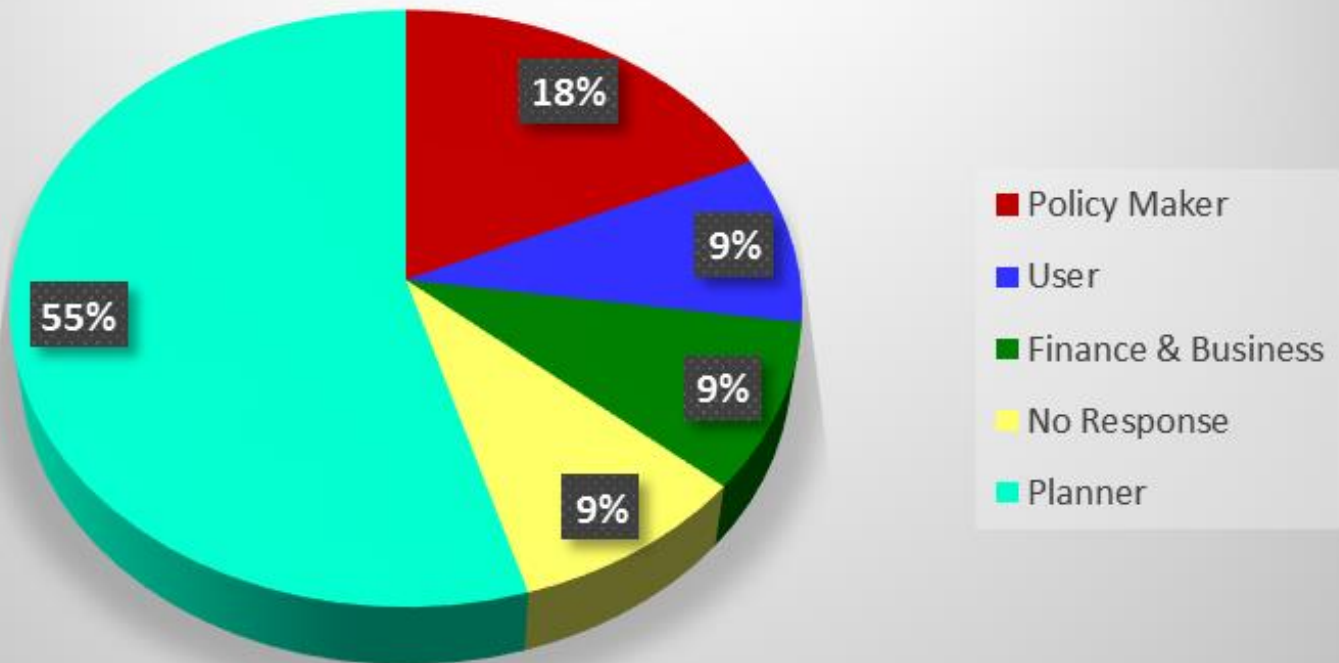
- CDOT
- TPRs/MPOs
- Local





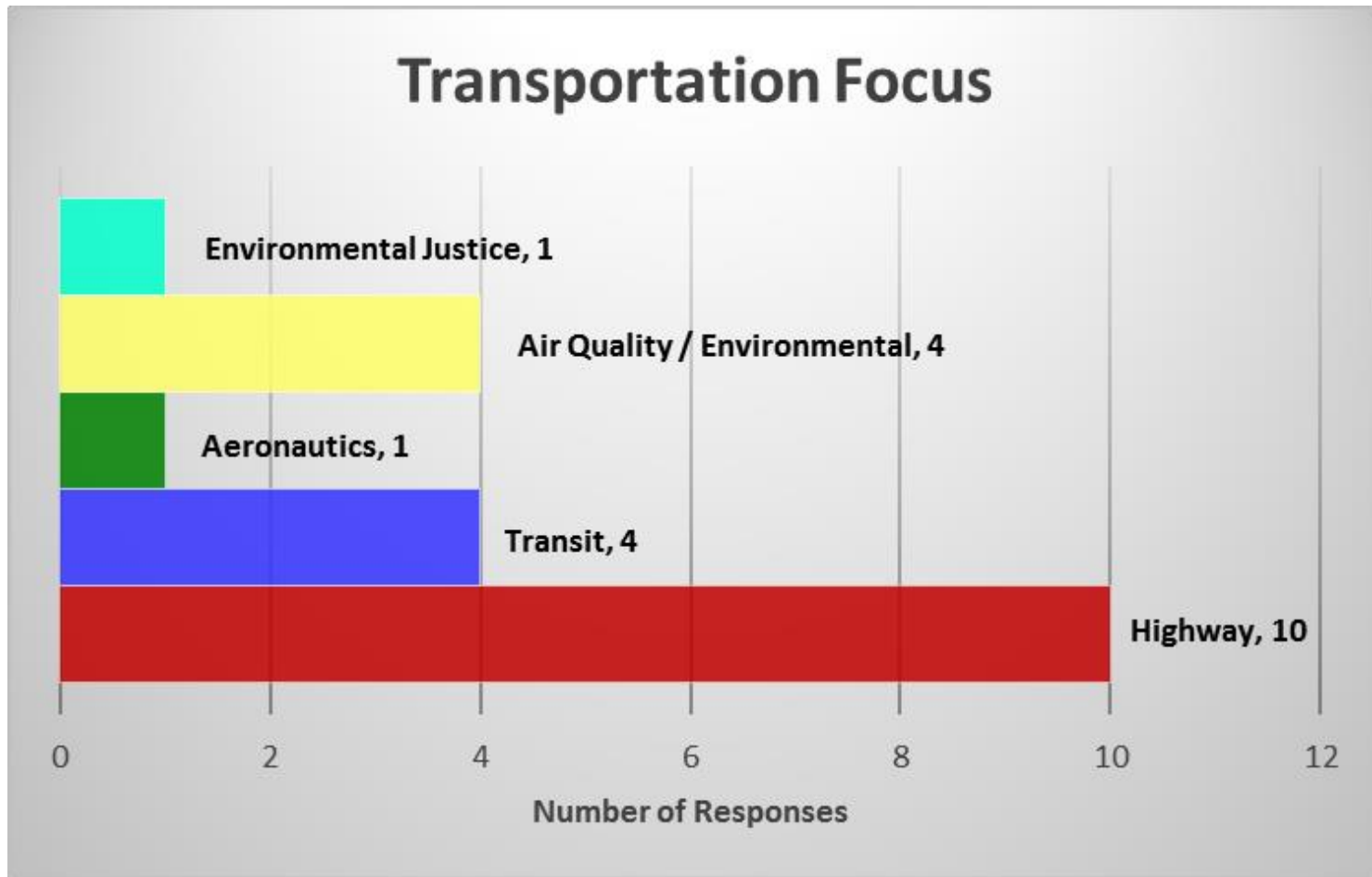
Lessons Learned – Who & What

Role in Transportation





Lessons Learned – Who & What

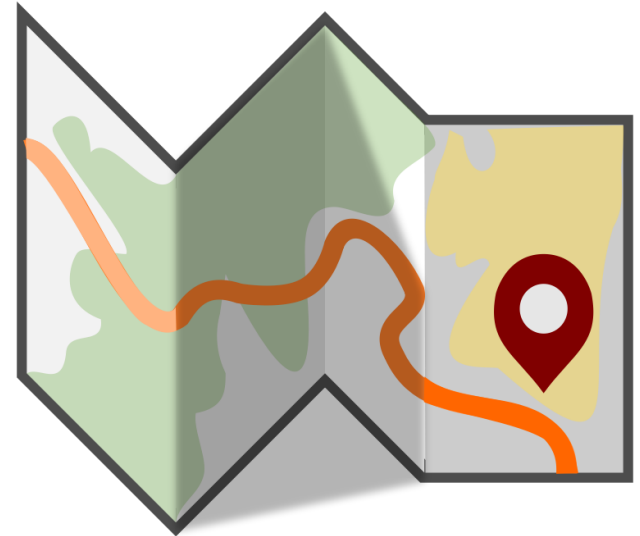




Lessons Learned – Feedback

STIP Content

- **How often do you use the STIP?**
 - Daily to monthly
- **How do you use the STIP?**
 - Planning and Local Agency outreach
 - Validate STIP accuracy
 - Confirm funding availability for budgeting
- **Does the STIP provide the right amount of content?**
 - Show link to Statewide Plan goals/strategies
 - Would benefit the public to show more project detail
 - Should show MPO references





Lessons Learned – Feedback

STIP Content (cont.)

- **Is the STIP easy to understand and use?**
 - Easy to understand if you have transportation background
 - Projects should be listed by name, not Region
- **Does the STIP provide guidance / value?**
 - More valuable to those with transportation background
- **Recommendations for improvement**
 - Use “plain” English
 - Provide more project detail
 - Sync developing schedules between STIP and Asset Management plans so that all years are represented



Lessons Learned – Feedback

STIP Development

- **What part of the 4P works best? Least?**
 - Good mechanism for locals to inform CDOT about needs
 - County and TPR meetings work well
 - Explain funding constraints
 - Improve incorporation of TIPs to STIP
 - All projects should go through a public scoring process
- **Do you feel you have a voice in the planning process?**
 - Process works well for those who are involved in it



Lessons Learned – Feedback

STIP Development (cont.)

- If you could make three changes that could improve the final STIP, what would they be?
 - Links to project information pages
 - Improve / provide better search engine
 - Improve the mapping function





Lessons Learned – Feedback

Communication and Involvement

- **Are you notified in a timely manner of the STIP public review and comment period and for STIP meetings?**
 - Yes
- **What type of public outreach worked best?**
 - Emails, Twitter, Facebook
 - Public meetings
 - Word of mouth
- **How could meetings be improved?**
 - Provide more time discussing projects selected through data driven priorities
 - Utilize updated technology
 - Use terms the public can understand





Lessons Learned – Next Steps

What's Next?

- **Development for FY2019 – FY2022 STIP**
- **Project Locator update**
- **STIP Reports**

Questions?

