



COLORADO

Department of  
Transportation



**I-25 South Gap Project  
Monument to Castle Rock  
Listening Sessions  
January/February 2018**

**Intro:**

- While the Gap has served its purpose for many decades, in the last few years, delays, crashes and congestion have jumped due to population growth along the Front Range.
- CDOT is in the study and design phase to widen the Gap and on track to have the project ready for construction by the end of the year, pending securing funding sources. We have funding identified funding sources but not not all sources secured. Our goal is to be ready to build once and should all funding become available. Projects is a key statewide priority.
- CDOT is in the study and design phase of project phase. We are conducting an Environmental Assessment, as required by the Federal Highway Administration. We are analyzing environmental impacts of widening the Gap by one lane in each direction and expanding the shoulders. We are further evaluating 2 options - making the new lane a General Purpose Lane or Express Lane. This presentation will be more focused on why we are considering adding an Express Lane due to public interest, questions and concerns.
- While the purpose of the project is to reduce delays and provide sustainable travel reliability - **a critical need is to improve safety. 1800 crashes occurred between 2011 and 2015.** We also know at this point - that adding an Express Lane will likely best meet travel reliability while improving travel times across all lanes. There will always be a free choice. Two lanes in each direction will always be free.



## I-25 South Gap Listening Sessions

Welcome to today's session!  
We will answer the following:

What is the Gap?  
How does CDOT plan to improve the Gap?  
How would an Express Lane work?  
Why consider an Express Lane?  
Where is the funding coming from?  
What are the next steps?

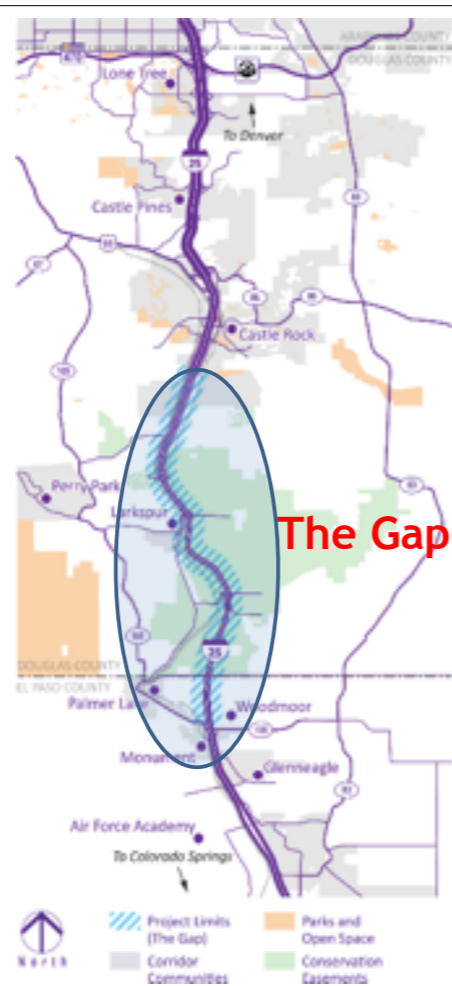


- Project is about saving lives, reducing congestion and providing travel reliability.

## What is the Gap?

The Gap is an 18-mile section of I-25 south of Castle Rock to just north of Monument

- Only remaining four-lane segment of I-25 between Colorado Springs and Denver
- Links Colorado's two largest cities
- No major widening in 60 years



- Crashes due to:
  - Severe congestion
  - High speeds and speed differential
  - Steep grade
  - Wildlife
- Incident/event related delays
  - Unreliable travel times
  - No good options (SH83 and CR105)
  - Poor shoulders for incident response
- One of state's top transportation priorities
- Broad local, regional and state support to improve the corridor.
- Links perhaps 60% of employment in Colorado - El Paso County and Denver Metro.

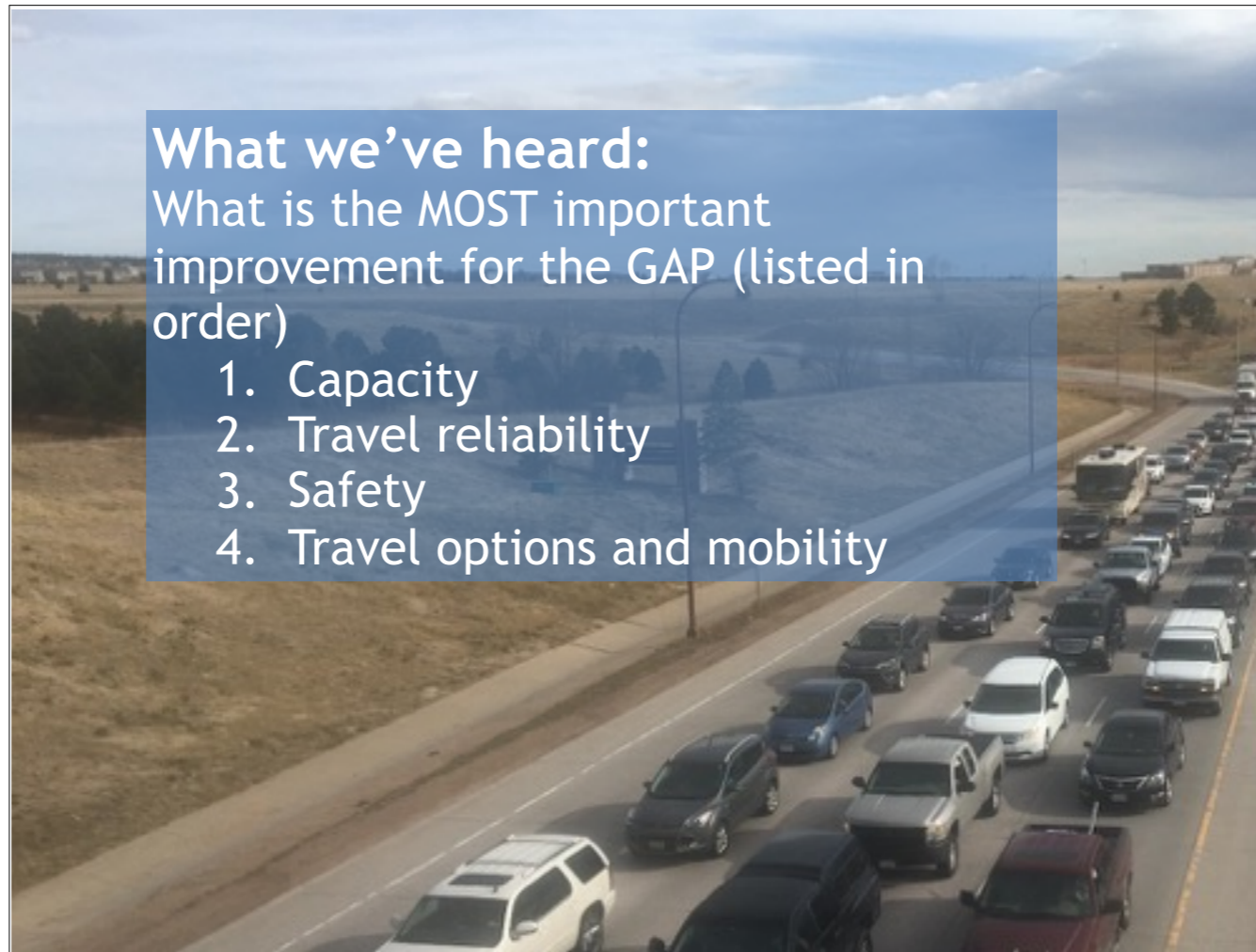


## Gap is an early action project

January 2017 - CDOT launches a Planning and Environmental Linkages (PEL) study for the 34-mile segment of I-25 South from Monument to C-470 - the goal is to develop a long-term vision for the corridor.

An early action project emerged for the 18-mile segment from Monument to Castle Rock called the “Gap”.

- Over a year of study... a PEL on I-25 from south Denver to Monument.
  - Goal to develop long-term vision for the 34-miles
- Evaluated 100+ alternatives
- Detailed engineering survey
- Environmental data collection
- Detailed traffic counts and travel demand model
- Extensive coordination with local governments and public involvement
- What we learned from PEL work:
  - **I-25 South Gap project (18-miles from Monument the Castle Rock) identified as most urgent and highest priority for an early action project.**



- **Improve capacity**
  - Add more lanes
- **Improve travel reliability**
  - Traffic has increased 20 percent in recent years and will grow over the next 20 years
  - No reliable trip option
- **Improve safety**
  - **Over 1,800 crashes from 2011 to 2015, 620 injuries, and 5 fatalities**
- **And provide more travel options/improve mobility**
  - Narrow shoulders, steep inclines and too many vehicles cause backups, crashes and further delays

About: saving lives, providing a reliable trip, improving mobility

#1 to #4 on slide are what we refer to as the Purpose and Need for the project





# What best meets project needs

<b>New Lane Options</b> Northbound and Southbound	<b>Safety</b> Reduce crashes, improve infrastructure deficiencies	<b>Mobility</b> Travel options, consistency with goals and future travel, diversion to local roads	<b>Reliability</b> Improve travel times, reduce delays, Improve predictability of travel times	<b>Incident Management</b> Improve response times and safety for workers and disabled vehicles
1 General Purpose Lane	Good	Fair	Fair	Good
1 Express Lane	Good	Good	Good	Good
1 Peak Period Shoulder Lane	Fair	Fair	Good	Fair
2+ Lane Combinations*	Good	Good	Good	Good

Wider shoulders are a necessary component for all of the base lane alternatives, and many of the safety and incident management benefits of all of the options are derived from shoulder improvements.

During the PEL process, we evaluated various option for the new lane:

- 1 General Purpose Lane
- 1 Express Lane
- 1 Peak Period Shoulder Lane (similar to the I-70 Mountain Corrdior)
- Combination of adding two lanes in each direction (one General Purpose lane and one Express Lane)

What we found is making the new lane an Express Lane best meets the project’s purpose and need - particularly when it comes to providing sustainable trip reliability.

The two-plus lane option meets all needs, but there is not the funding for a project of that scope - and would significantly delay construction start with the additional and extensive environmental work that would be necessary.

Adding one lane in each direction is expected to meet travel needs over the next several years.



## Travel Time Comparison

### I-25 South Gap operating concepts year by year average speeds - southbound weekday peak

Year	2 GP		3 GP			2 GP + Express Lane		
	EL	GP	EL	GP	GP	EL	GP	
2021	52	52	67	67	67	69	62	62
2022	50	50	65	65	65	68	61	61
2023	48	48	64	64	64	67	60	60
2024	46	46	62	62	62	66	58	58
2025	45	45	61	61	61	65	57	57
2026	43	43	59	59	59	64	55	55
2027	41	41	57	57	57	63	54	54
2028	39	39	56	56	56	62	53	53
2029	38	38	54	54	54	61	51	51
2030	36	36	52	52	52	60	50	50
2031	34	34	51	51	51	59	48	48
2032	32	32	49	49	49	58	47	47
2033	30	30	48	48	48	57	46	46
2034	29	29	46	46	46	56	44	44
2035	27	27	44	44	44	55	43	43
2036	25	25	43	43	43	54	41	41
2037	23	23	41	41	41	52	40	40
2038	22	22	40	40	40	51	39	39
2039	20	20	38	38	38	50	37	37
2040	18	18	36	36	36	49	36	36

No lane added - performance declines as seen in red

General Purpose Lane added in each direction - performance increases as seen in green and then declines in yellow and orange - no sustainable option for a reliable trip and high travel speeds only in the first couple of years

Express Lane added in each direction - motorists have an option for a reliable trip from day one to year 20. Continues to outperform other scenarios, balancing overall improvements

DRAFT TRAFFIC DATA from Plum Creek to Monument, source: Travel Demand Model, DRCOG/BRAC

DRAFT traffic analysis

Year on the far left

Outlined boxes are showing modeled and validated volumes and speeds based on existing conditions (2017), opening day (2021), and horizon/design year (2040)

This is one of the four peak periods - not the highest peak but not the “average” condition. On average, travel speeds will be much better most of the time.

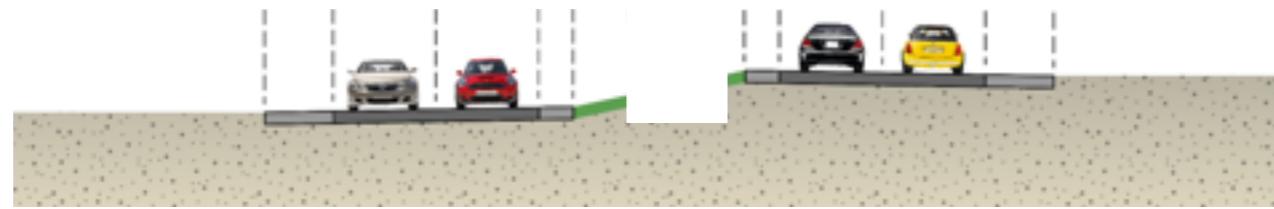
Express lanes give an option to manage travel choices in the peak periods.

Clear that doing nothing, things will get worse

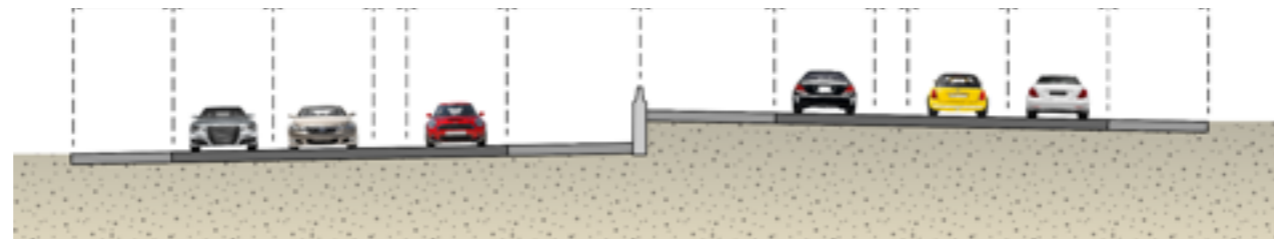


## How does CDOT plan to improve Gap?

Before



After



**Capacity:** Nearly double the pavement in the corridor

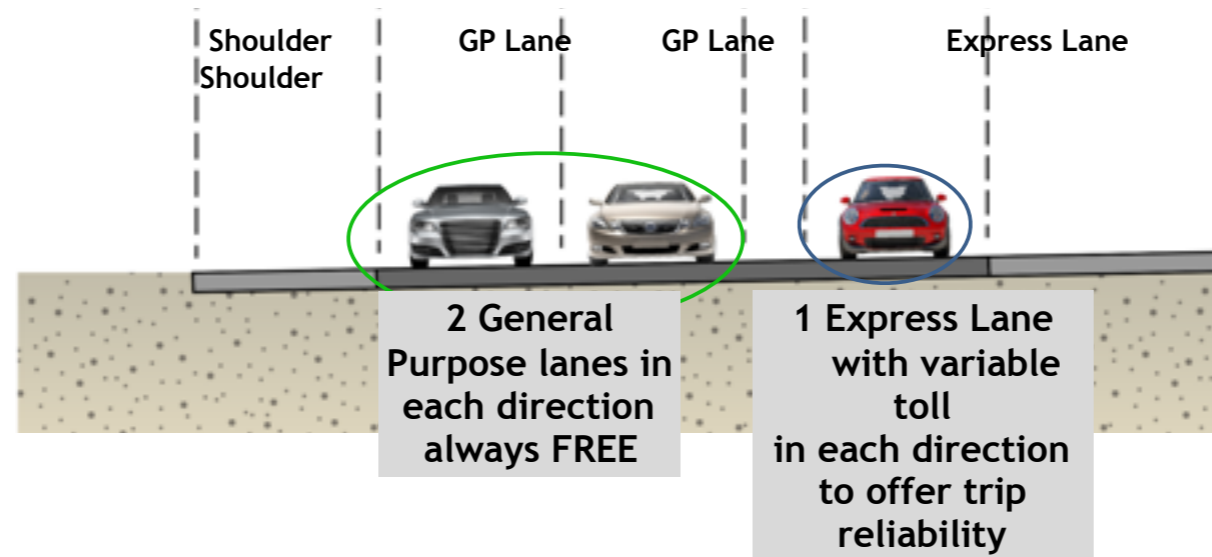
### How do we best meet purpose and needs - Expand capacity

- Today:
  - 2 lanes in each direction
  - Narrow shoulders
  - Rough pavement
  - Inadequate wildlife crossings
  - Safety issues
- After improvements:
  - Nearly double pavement - safety and capacity
  - New lane in each direction
  - Significantly widen inside and outside shoulders
  - Improve wildlife crossings and fencing
  - Technology improvements





## A closer look



### Travel Reliability: Express Lanes

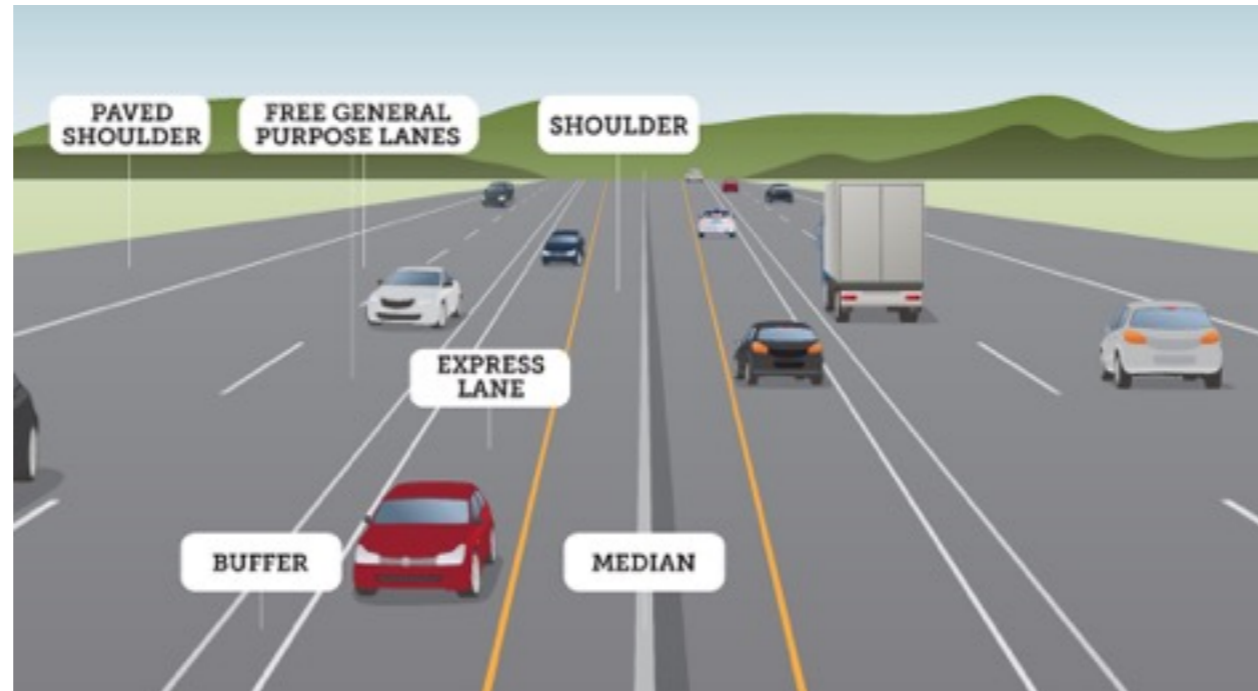
#### Closer look:

#### How do we best meet travel reliability: Express Lanes likely option - ALWAYS A FREE OPTION

- Two existing general purpose lanes today continue to be free
- New Express Lane in each direction. Flexible options for managing likely to include:
  - HOV 3+ free
  - motorcycles free
  - variable toll to use the Express Lane for a reliable trip
  - Limited entry-exit - prevents weaving in/out
  - Toll revenues to help pay for maintenance and operations within the I-25 Gap corridor. Rates set to manage traffic for trip reliability
- Wider shoulders on each side improve safety and response times
- Minimizes duration and extent of incident delays



## How would an Express Lane work?



### Safety, mobility: Express Lanes, wider shoulders

Rendering illustrates what road would look like

- **Wider shoulders for safety and incidents -**
  - Safe space for disabled vehicles
  - Room for enforcement and emergency responders to do their job
  - Maintenance and emergency detours
  - Room for truck chain up and safely pull off the highway
- **General Purpose lanes** - Repave entire 18 miles; rehabilitate pavement as needed
- **Express Lanes** - Choice for reliable trip in exchange for a toll

**CHOICE: GENERAL PURPOSE LANES ALWAYS FREE** - Express Lane variable toll, priced to keep lane congestion-free, travel times on all lanes expected to improve as a result of more capacity, wider shoulders and overall improvements, no toll booths, all electronic tolling.

Toll revenues go back into the Gap corridor to help pay for maintenance and operations.



## Why consider an Express Lane?



- This picture TREX project area I-25 south of Denver.
- Added lanes in 2006.
- Traffic outgrew new capacity AND there is NO option for a reliable trip on I-25.
- Likely to happen on I-25 South Gap should we continue to build general purpose lanes.
- Adding new lanes worked decades ago before rapid population growth, but that hasn't been the case for years.
- Transportation Commission adopted a policy in 2013 that requires CDOT to consider managed lanes or Express Lanes on corridors like I-25 South Gap.



## Express Lanes in Colorado

- US 36
- I-25 Central & North
- I-70 Mountain
- Coming Soon:
  - C-470, I-25 North from Johnstown to Fort Collins
  - Central 70



- Express Lane system in Colorado
- Drivers have the choice for a reliable trip on these corridors
- We have found travel times improve across all lanes.

Choice; always a free alternative; improved safety

None of the above operate like E-470 where all lanes are tolled



## US 36 Express Lanes



Travel times  
up to 29%  
faster across  
all lanes,  
compared to  
travel times  
before  
improvements



US 36 had significant improvements - Express Lane built in each direction and expanded shoulders among other improvements. Corridor is three lanes in each direction (two free general purpose lanes and one Express Lane in each direction), similar to proposed improvements for I-25 South Gap project.

- US 36 - comparing 2011 before Express Lanes to 2015 after they were built, traffic moves up to 29 percent faster.
- This stretch of US36 gets 20%-25% more traffic volume in the peak hour than I-25 Gap and traffic moves efficiently.





## I-70 Mountain Corridor



Up to 52% in reduced travel times across all lanes, compared to travel times before improvements

- I-70 Mountain Corridor  
Shoulder was converted to an Express Lane in the eastbound direction and is used only during peak travel times
  - Up to 52 percent reduced travel times for east eastbound traffic during the Martin Luther King holiday, one of the busiest weekends on the corridor.

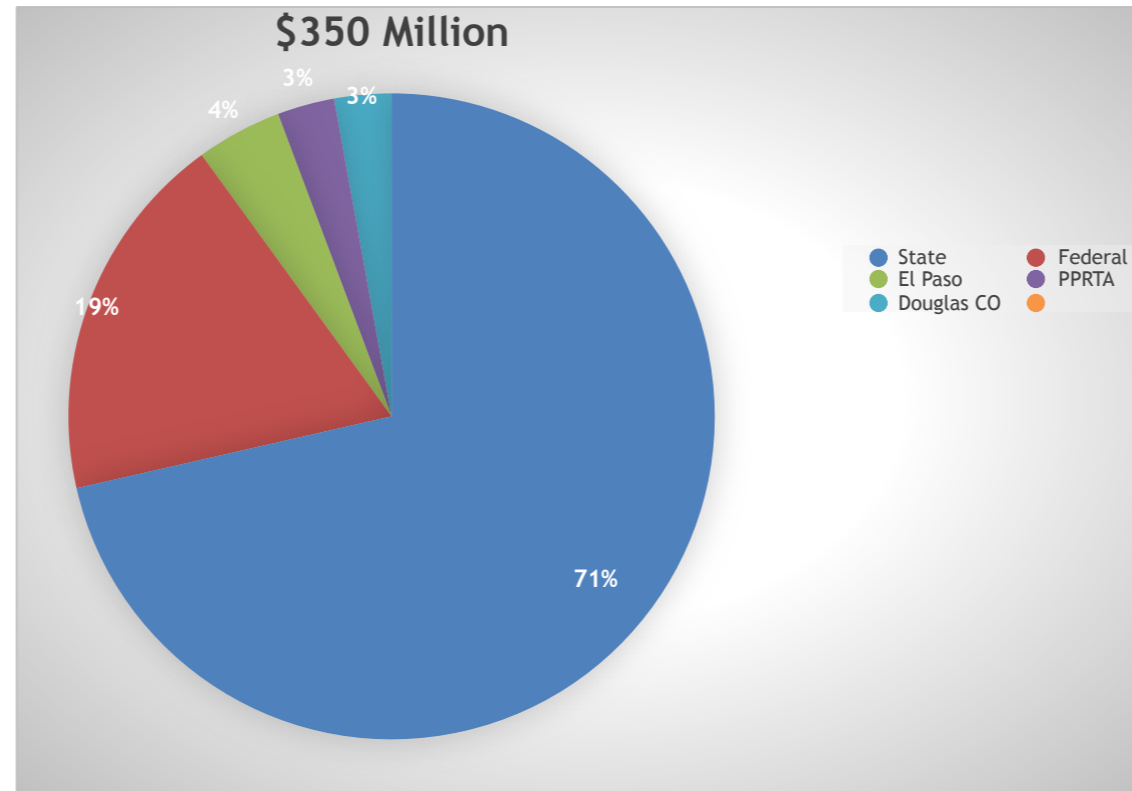


Express Lanes are **not**:

- Toll roads where every driver must pay to use any of the lanes. **Express Lanes are a choice and always offered adjacent to the free general purpose lanes.**
- “Lexus Lanes.” **Experience shows most users choose Express Lanes when trip reliability is most critical.**
- Owned by privately-held companies. **CDOT always owns the road.**



## Where is the funding coming from?



- Anticipated/planned funding:
  - \$250M of funds from CDOT source
  - \$65M INFRA federal grant - generally support innovative projects
  - \$35M local contribution from EPC, PPRTA and DougCo
- Funding must be looked at state-wide as projects across the state are competing for funding



## What are the next steps?

### Under way - Environmental Assessment (EA)

- A “no build” alternative (baseline study)
- A new travel lane:
  - Adding a general purpose lane in each direction
  - Adding an Express Lane in each direction
- Both options would have improved safety and roadway surface
  - Widened shoulders for incident response
  - Wildlife crossings and fencing
- Existing GP lanes unchanged - stay free



## What are the next steps?

Public Hearing and EA  
review - April/May 2018

EA Decision Document -  
May/June 2018

Complete Final Design -  
Fall 2018

Construction Begins -  
November 2018 or sooner







## How can you get more information?

- Website/survey [i25gap.codot.gov](http://i25gap.codot.gov)
- Project e-mail [i25gap@codot.us](mailto:i25gap@codot.us)
- Project hotline 719 297 5143
- Listening sessions through mid-February
- Telephone Town Halls in late February
- EA public hearings in the spring





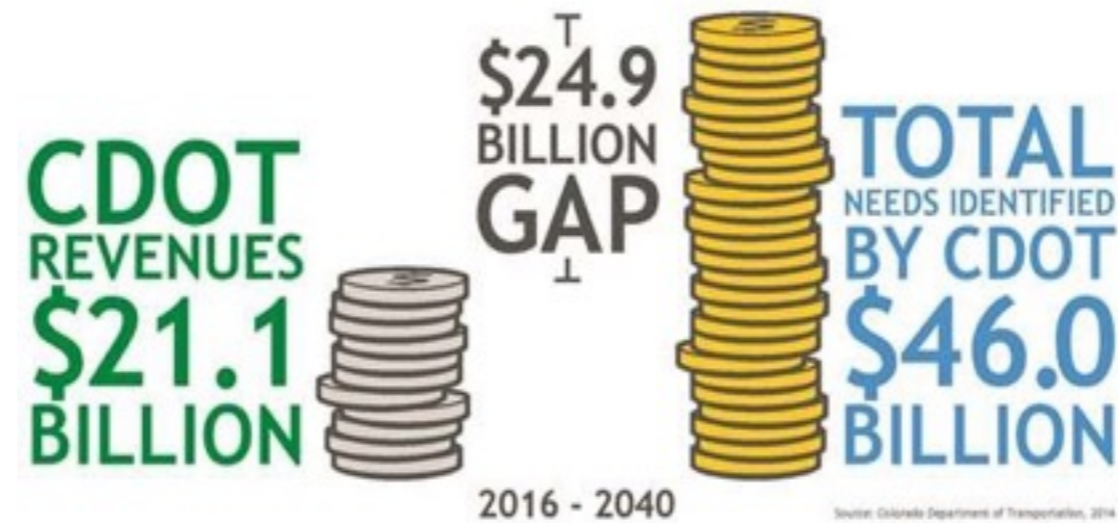
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## Funding gap

**\$1 billion annual  
shortfall**

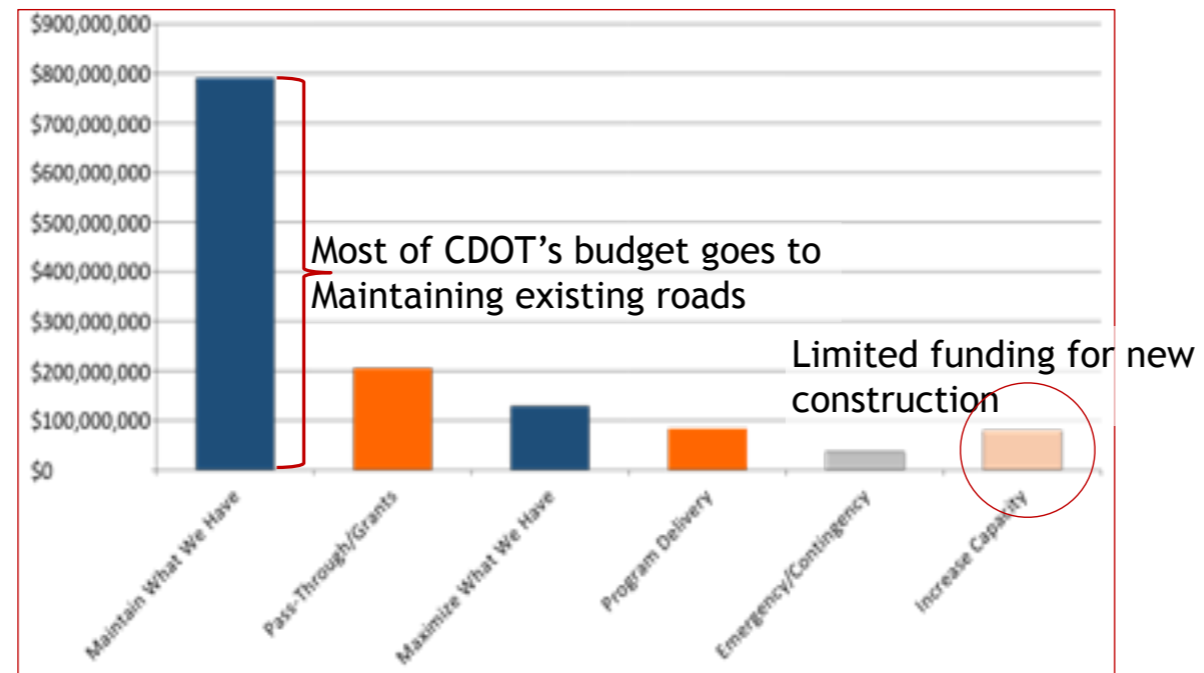


### Funding challenge:

- Our big challenge is an annual billion dollar funding gap.
- Over the next 24 years, CDOT expects to have \$21 billion in revenues.
- Our needs - maintain what we have and make the most critical improvements - total \$46 billion.
- That leaves a BIG gap of \$25 billion.



## Funding gap



- Here's how we spend current revenues (over \$1 billion/year):
  - Most of it goes - close to \$800 million - to maintaining what we have - those 23,000 lane miles and bridges.
  - Little left for new construction and capacity to decrease congestion.