



## **KDOT 101**

Julie Lorenz, Secretary

**Kansas Department of Transportation**



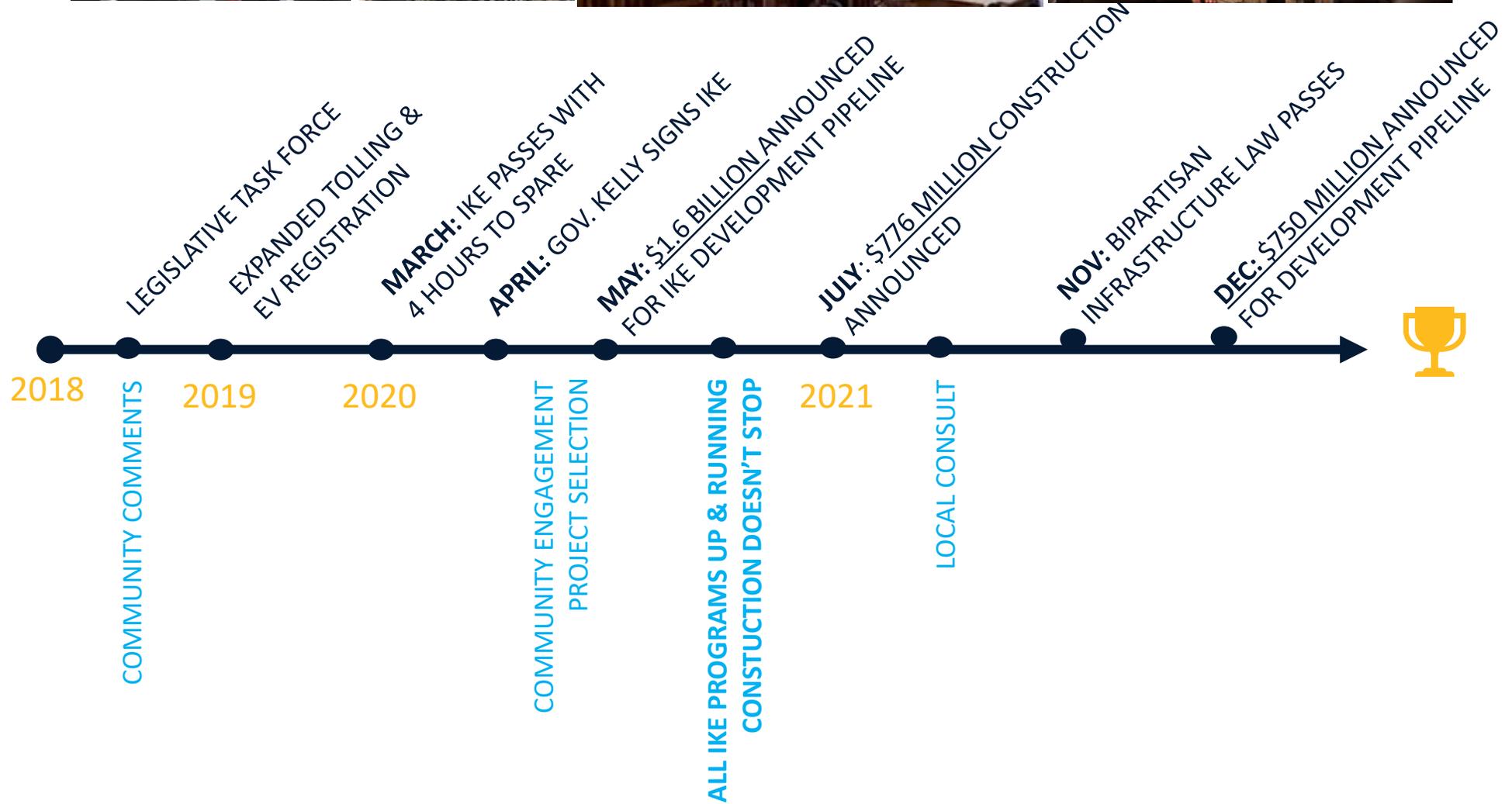
LESSONS FROM IKE

Transportation is  
a public good –  
leverage every  
investment.





# PROGRESS HAS MANY PARTNERS





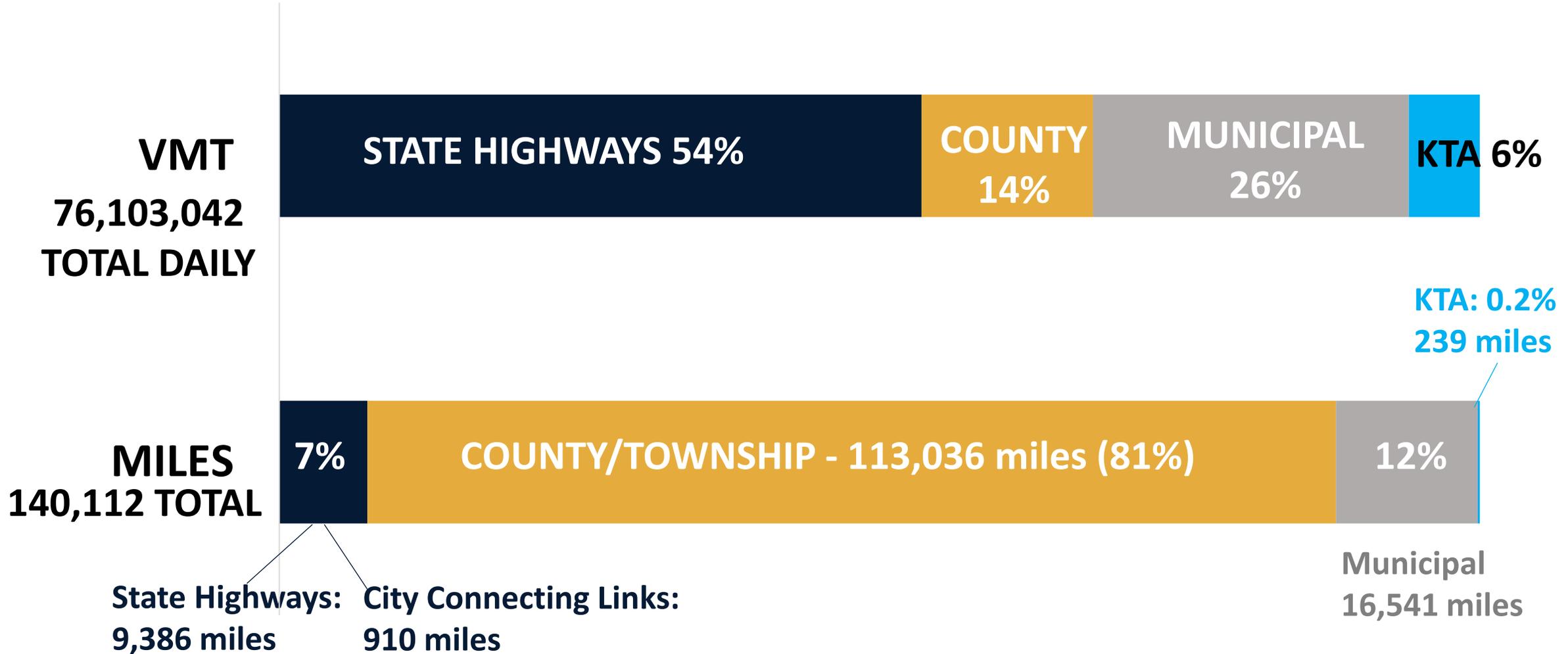
**Thank you.**



# KDOT Overview & Update



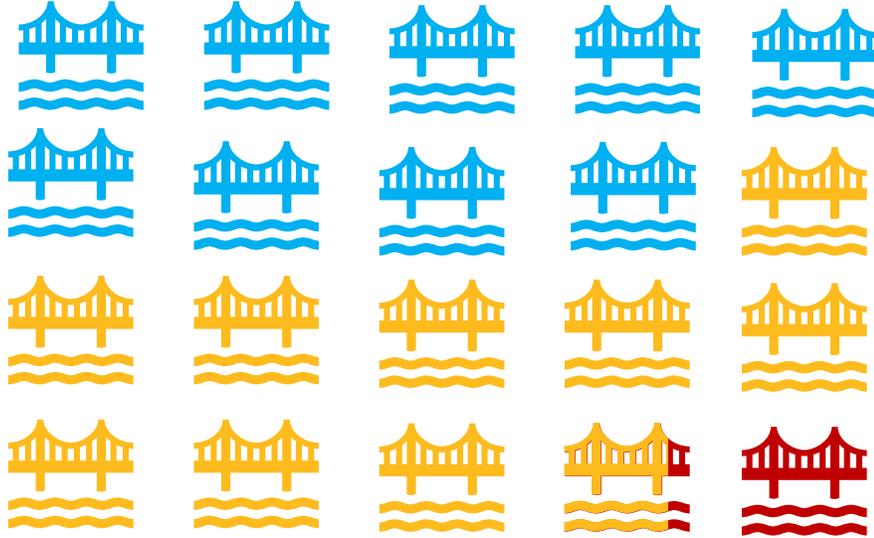
# Traffic disproportionate to system size



# Bridge conditions for state and local systems

19,323

Local  
Bridges



Good Condition



Fair Condition



Poor Condition

5,135

State  
Bridges



# Modal Programs

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Transit



**\$11 M**  
**annually**

9.7 million  
rides annually

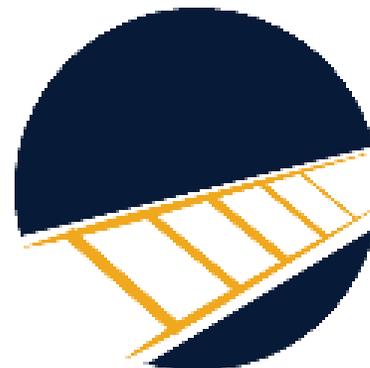
Aviation



**\$5 M**  
**annually**

138 public use  
airports

Rail



**\$10 M**  
**annually**

1,765 miles of short-  
line rail operated

Bike/Ped



**\$2 M**  
**annually**

300 miles of trails



# IKE added programs to increase flexibility for meeting local needs



## COST SHARE

110 Projects | \$96 Million State  
\$68 Million Local



## INNOVATION TECH

5 Projects | \$1.3 Million



## LOCAL BRIDGE

86 Projects | \$86 Million



## DRIVER'S ED

Nearly 1000 students enrolled

Progress to date.



**PRESERVATION**



**EXPANSION**

**Same**



**New/Reinstated**



**MODERNIZATION**



**AVIATION**



**TRANSIT**



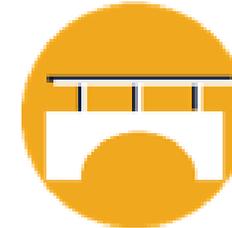
**PRESERVATION +**



**BROADBAND**



**COST SHARE**



**LOCAL  
BRIDGE**



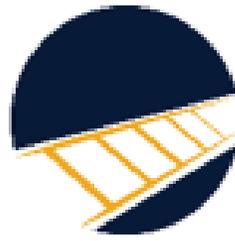
**STRATEGIC SAFETY  
IMPROVEMENTS**



**BIKE/PED**



**ECONOMIC  
DEVELOPMENT**



**RAIL**



**SHORT LINE**



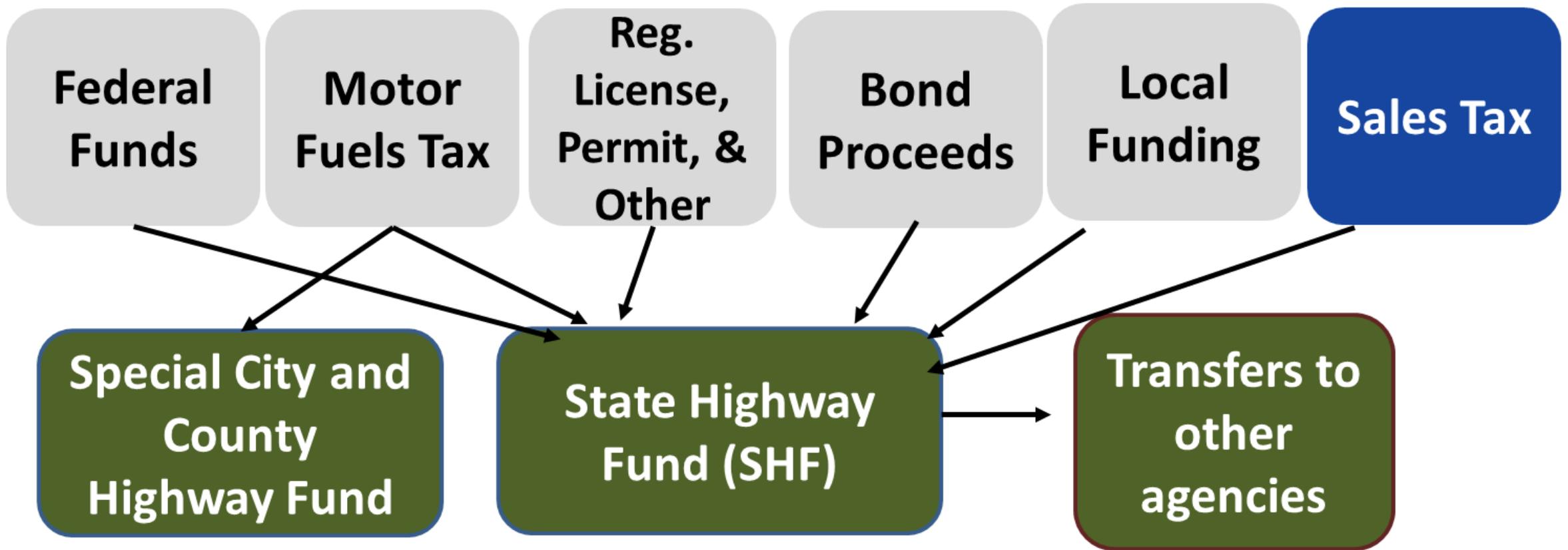
**INNOVATION TECH**



**DRIVER'S ED**

# How does Kansas fund transportation?

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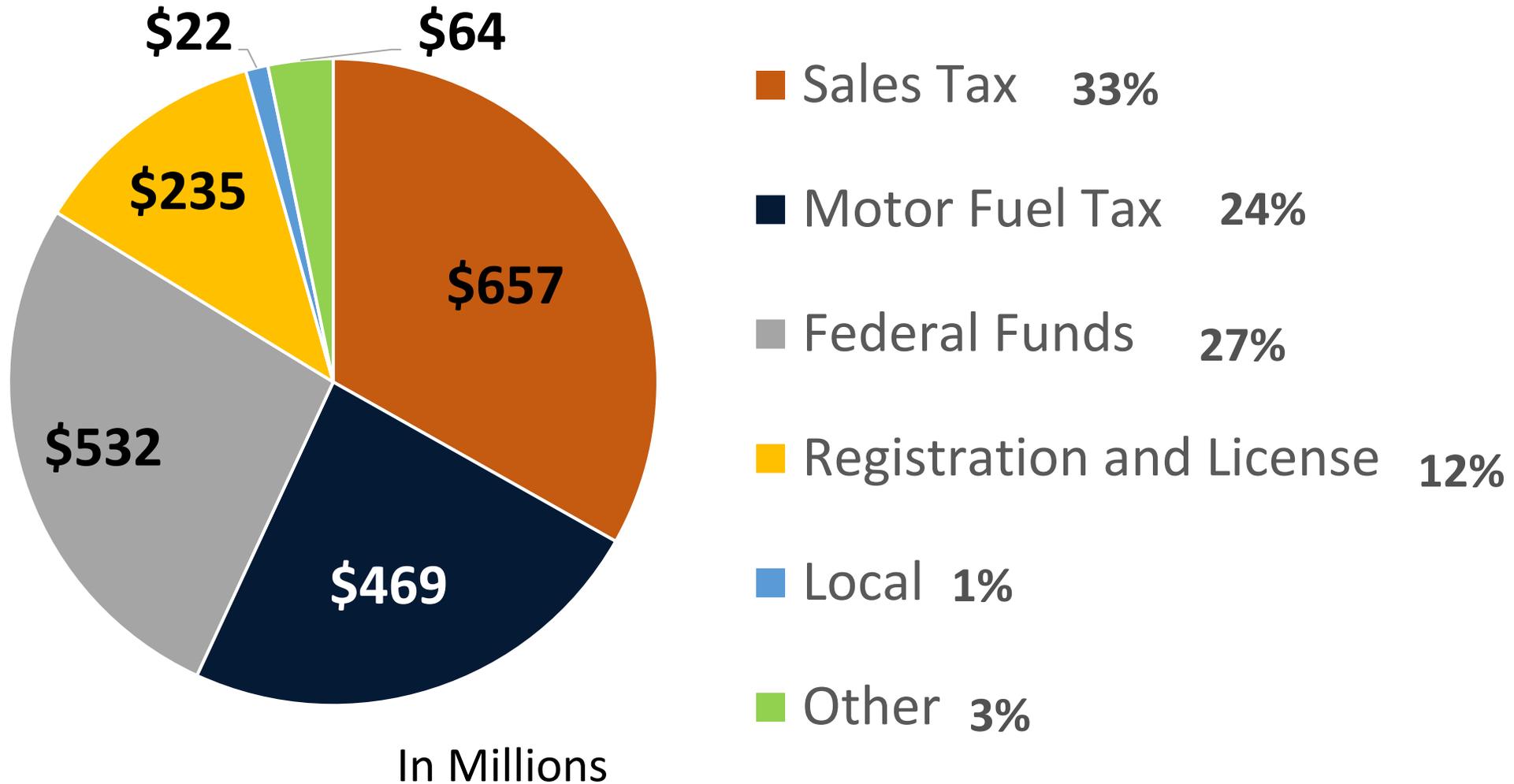


■ Protected Revenue

■ Unprotected Revenue

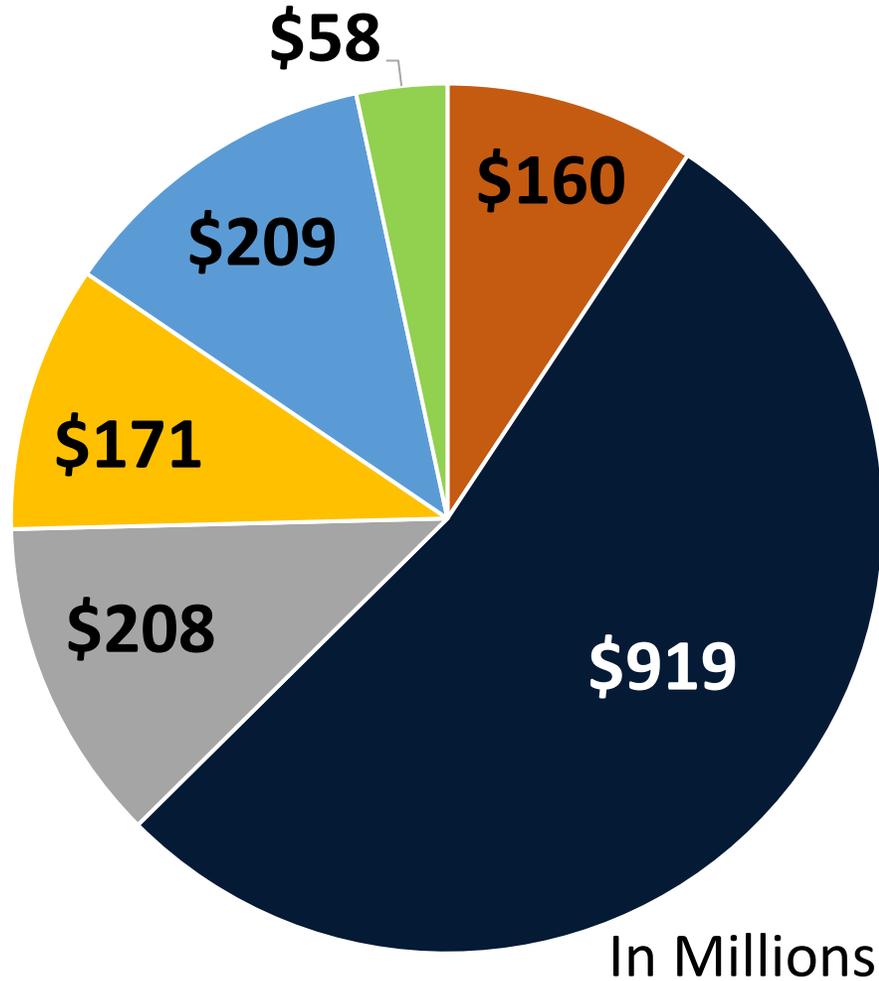
# FY 2022 Revenue Sources – (All Funds)

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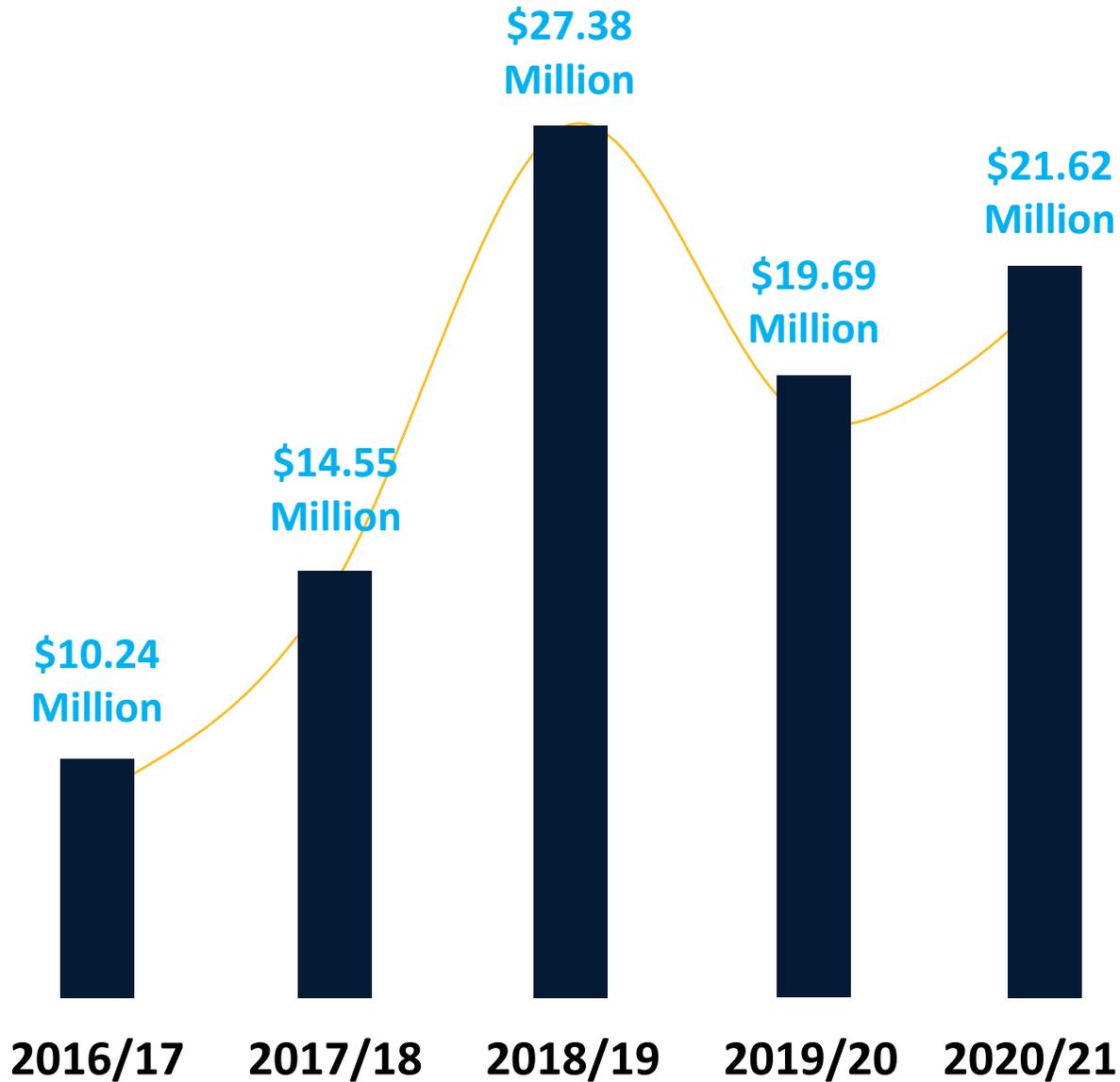
# FY 2022 Expenditures– (All Funds)

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■ Maintenance	9%
■ Construction	53%
■ Debt Service	12%
■ Planning & Modes	9%
■ Local Support	12%
■ Administration	3%

# Snow and Ice Removal Costs



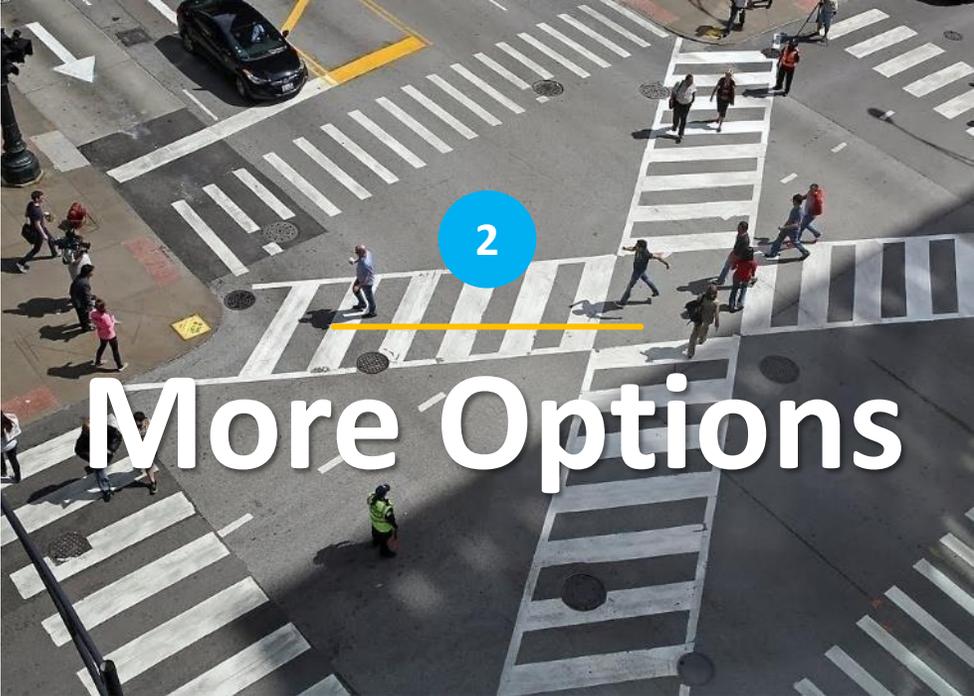
## WINTER 2020-2021 COST BREAKDOWN

Labor	\$ 8,365,387
Equipment	\$ 7,551,515
Materials	\$ 5,706,233
<b>Total</b>	<b>\$21,623,135</b>



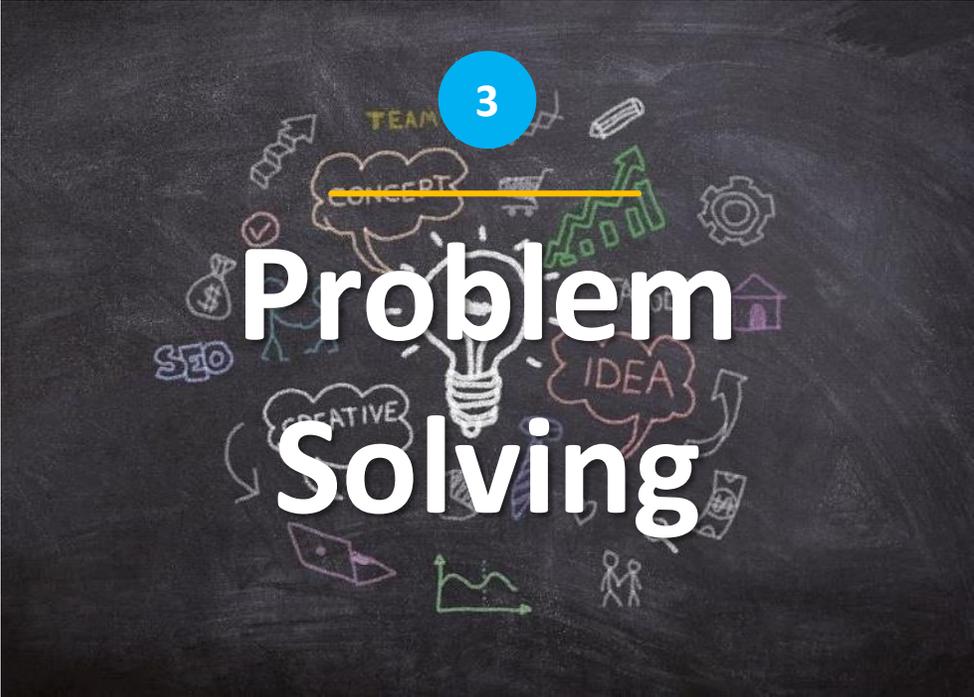
1

# Partnerships



2

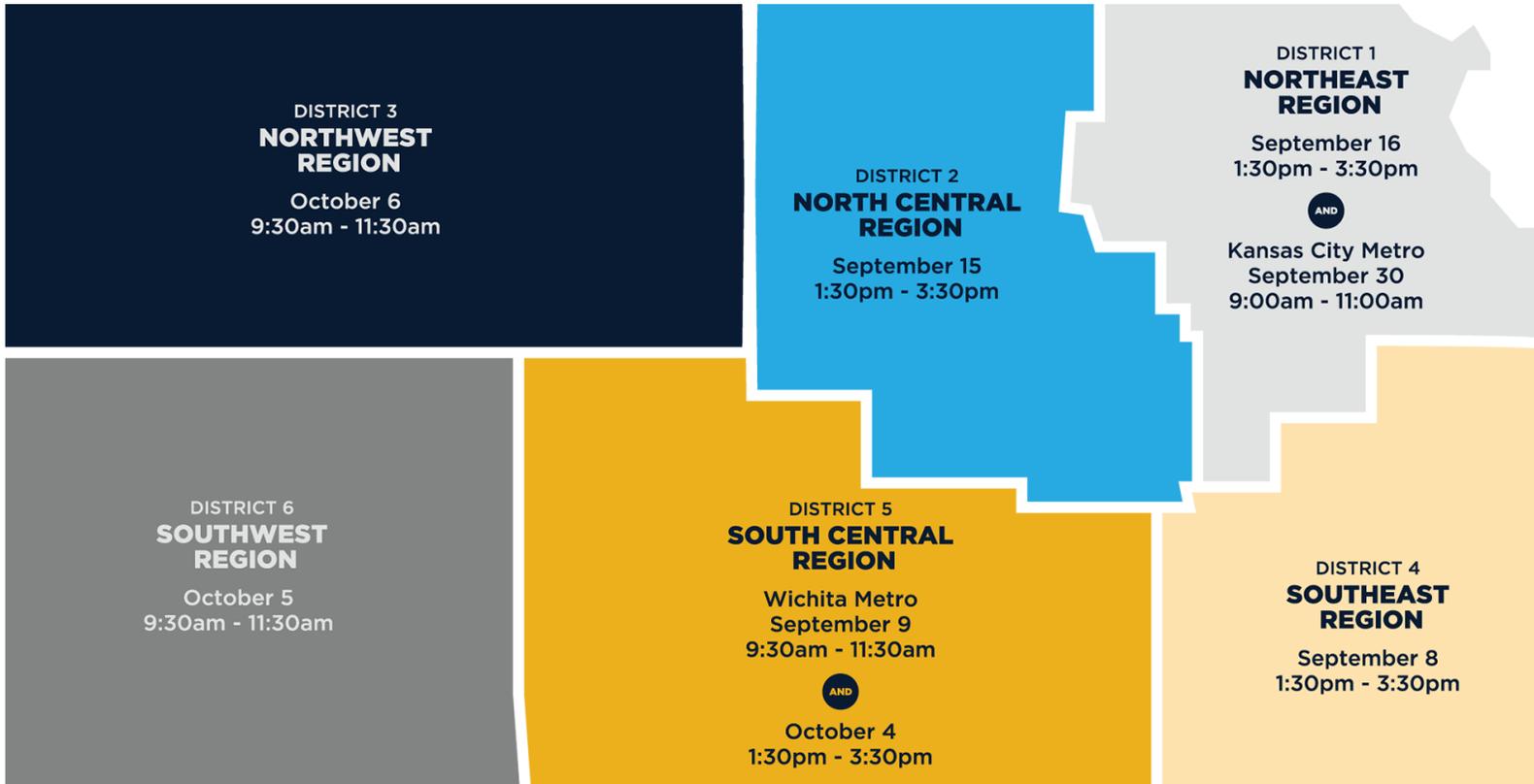
# More Options



3

# Problem Solving

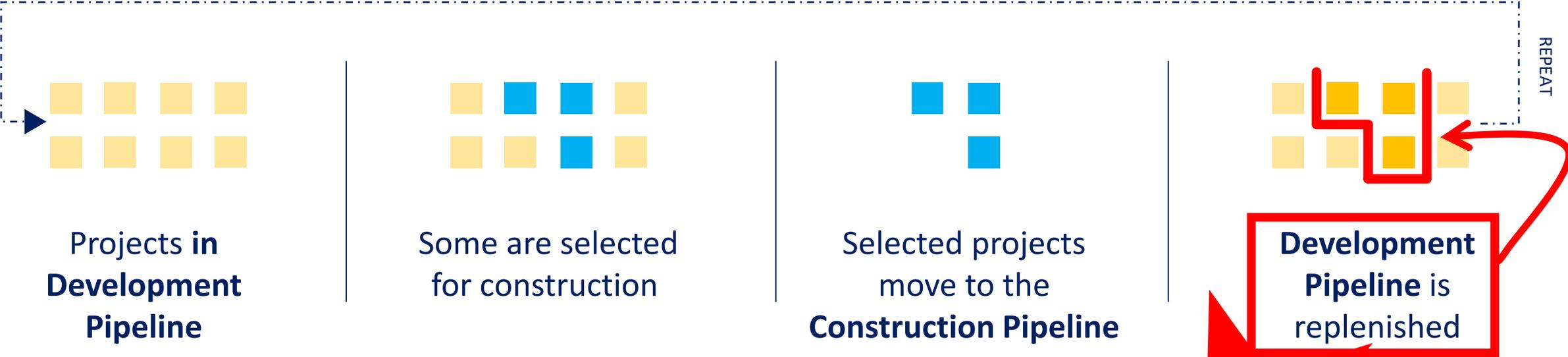
# Virtual Local Consult



2,569 Kansans participated virtually



# IKE delivered through a rolling approach to create more options for meeting emerging needs



**DEVELOPMENT PIPELINE:** Allows preliminary engineering work (the design and additional advance work) to begin.

**CONSTRUCTION PIPELINE:** When ready and budget allows, some of the projects from the development pipeline move to the construction pipeline.



## Strong Progress

✓ Workforce accidents decreased 46%



✓ \$1 million savings in reducing workers comp costs



# Preservation is top priority for Kansans and legislature



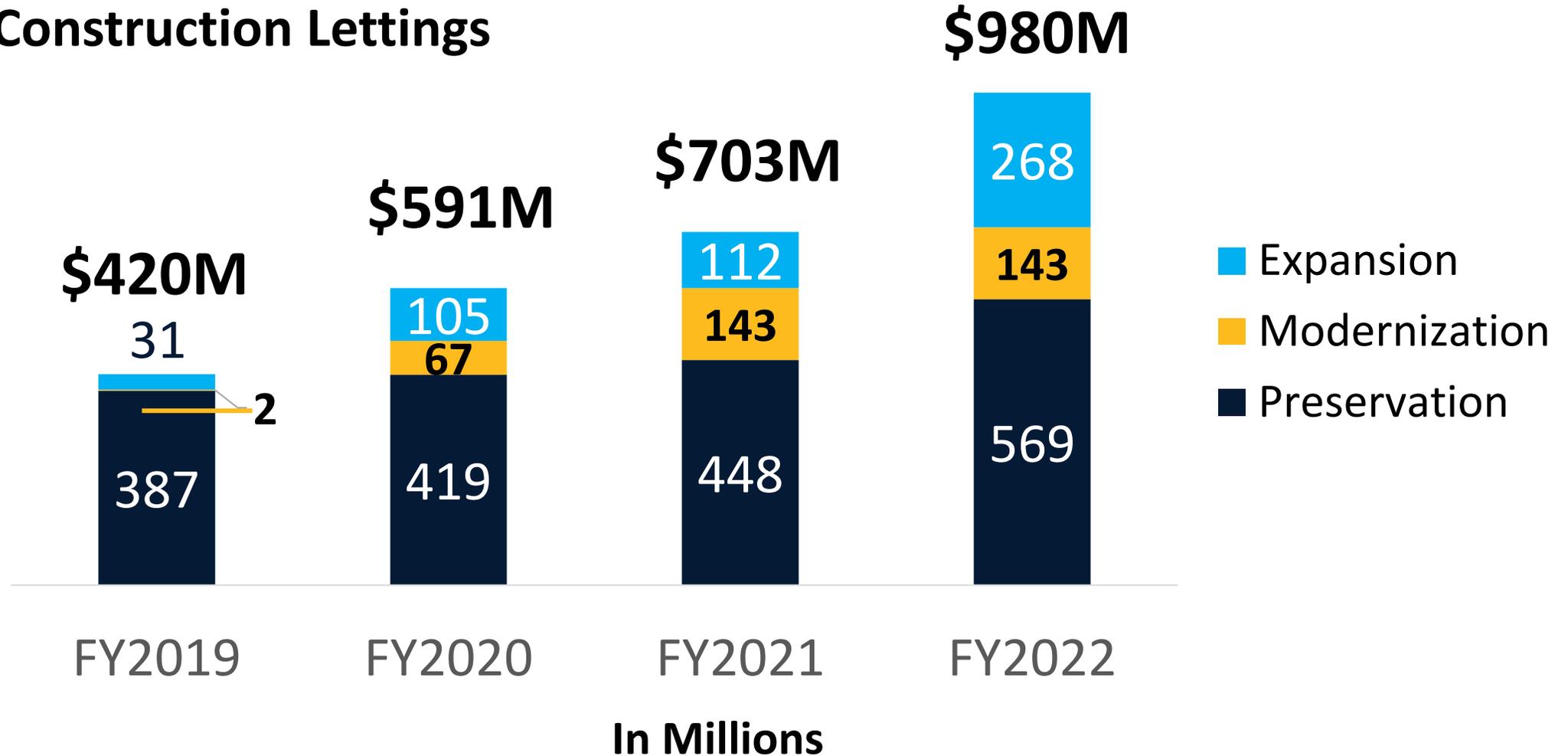
Pavement can be smooth....



But core's crumbling underneath

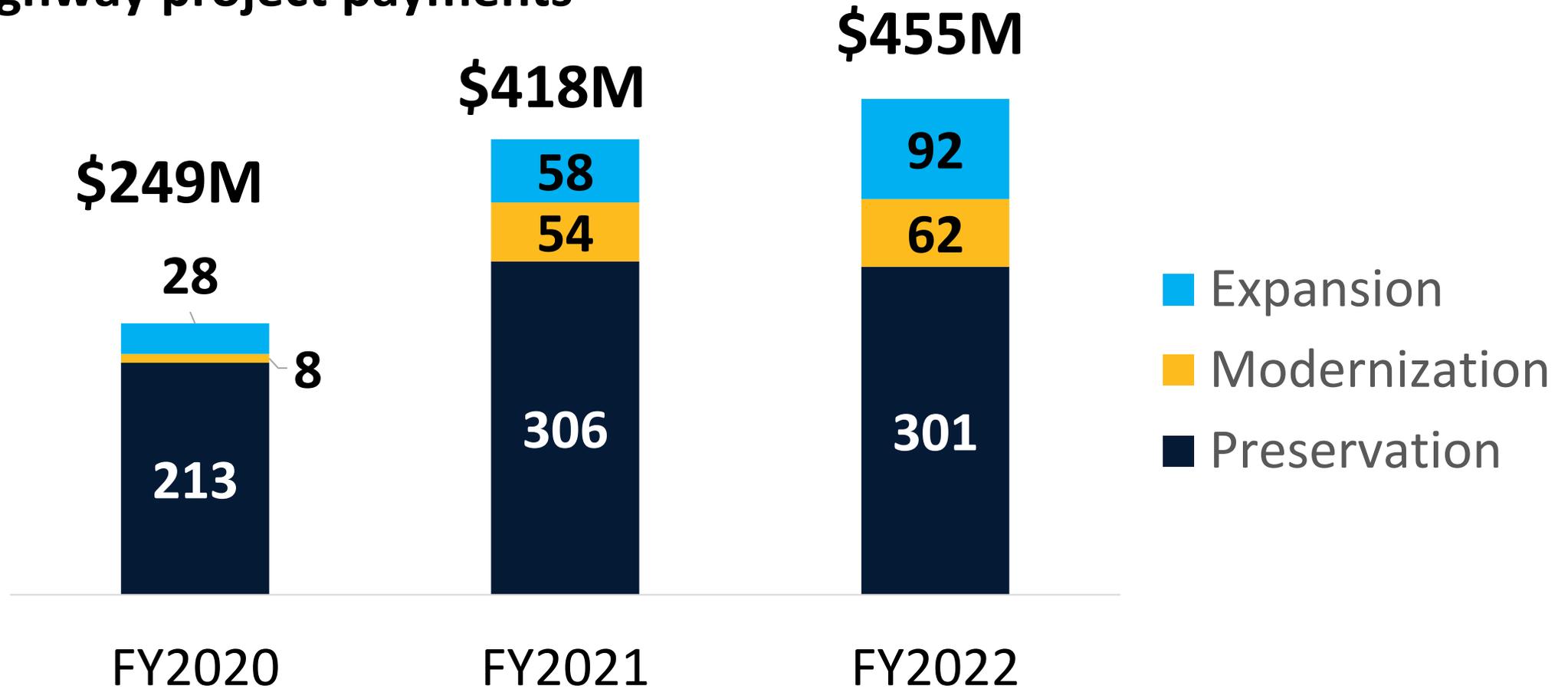
# Preservation is top priority for Kansans and legislature

## Construction Lettings



# Investments & Jobs for Kansas economy

## Highway project payments



In Millions



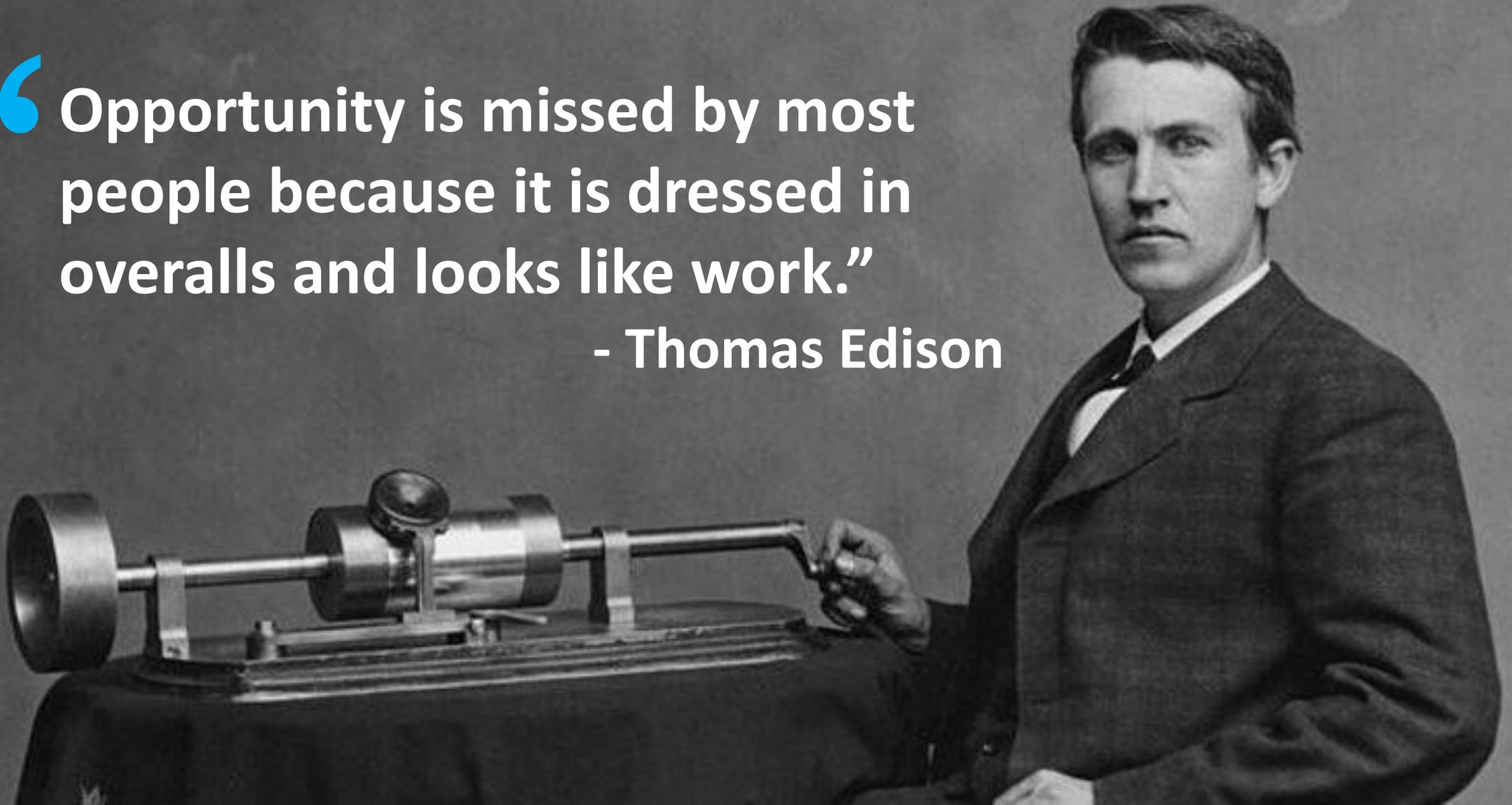
Looking  
Forward

OPPORTUNITIES

CHALLENGES

**“ Opportunity is missed by most people because it is dressed in overalls and looks like work.”**

**- Thomas Edison**





## Looking Forward

### Challenges

### KDOT efforts

**Workforce**

**Streamline hiring; improve business practices**  
**Public / private partnerships**

**Safety**

**Safety improvements: shoulders, striping, education campaigns**

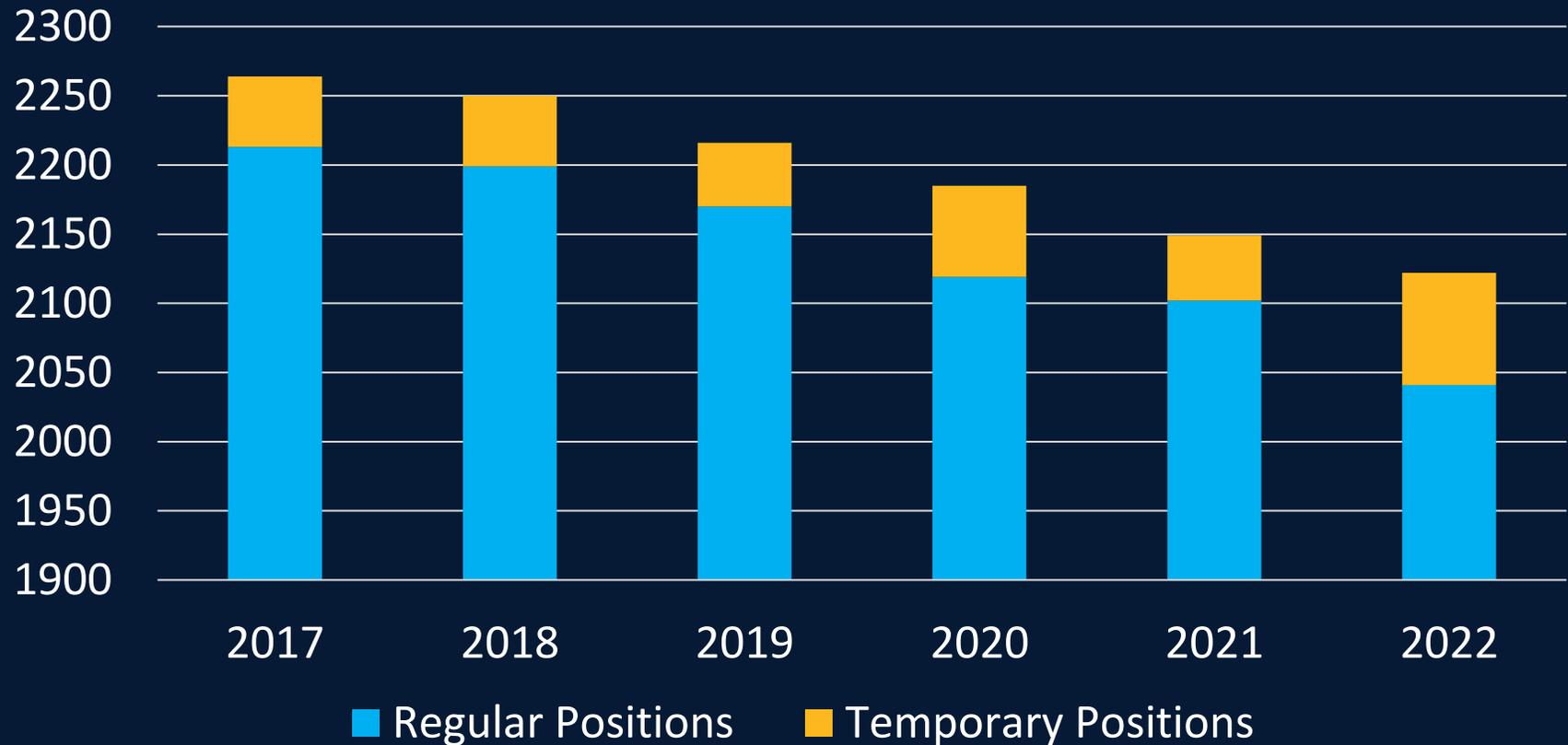
**Inflation**

**Monitor closely, improve business practices**



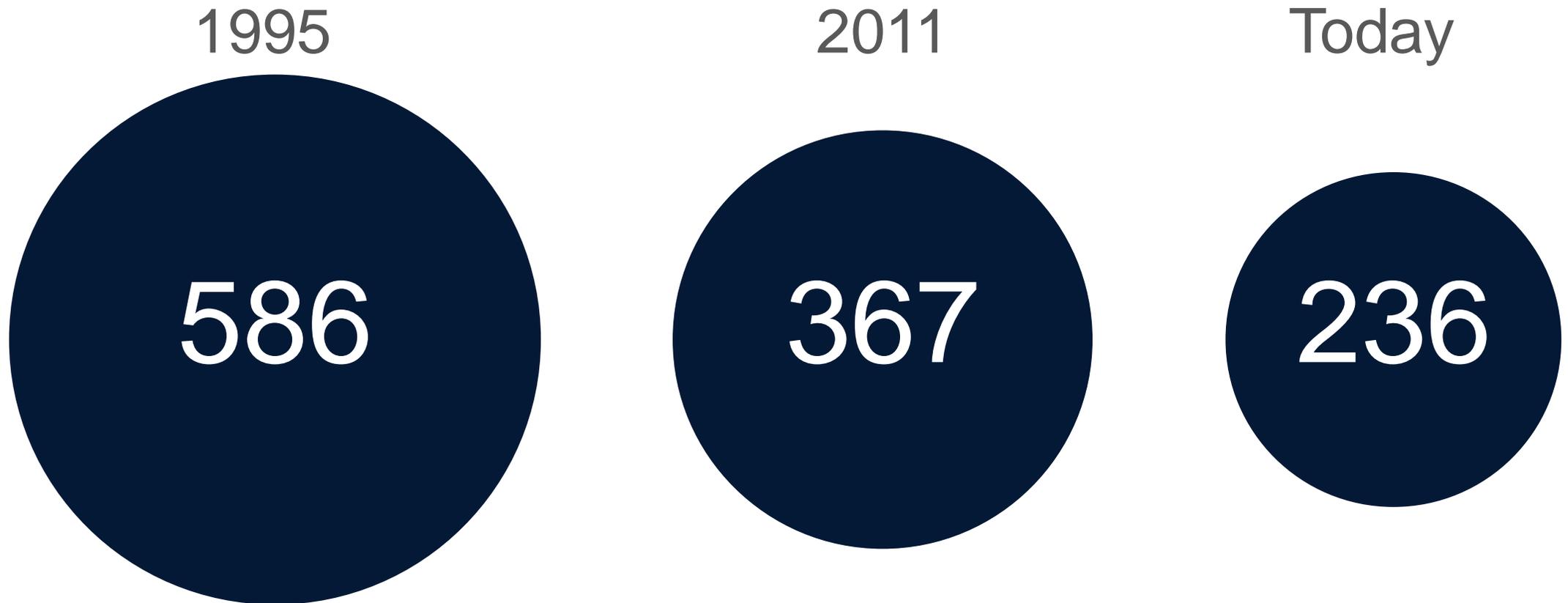
# Challenge: 142 fewer employees than 2017

## KDOT Total Filled Positions By Year



**Workforce**

# KDOT has 60% fewer inspectors than in 2011



# Estimate nearly 200 additional inspectors needed in 2022

Select a district.

**Districts**

- District 1
- District 2
- District 3
- District 4
- District 5
- District 6

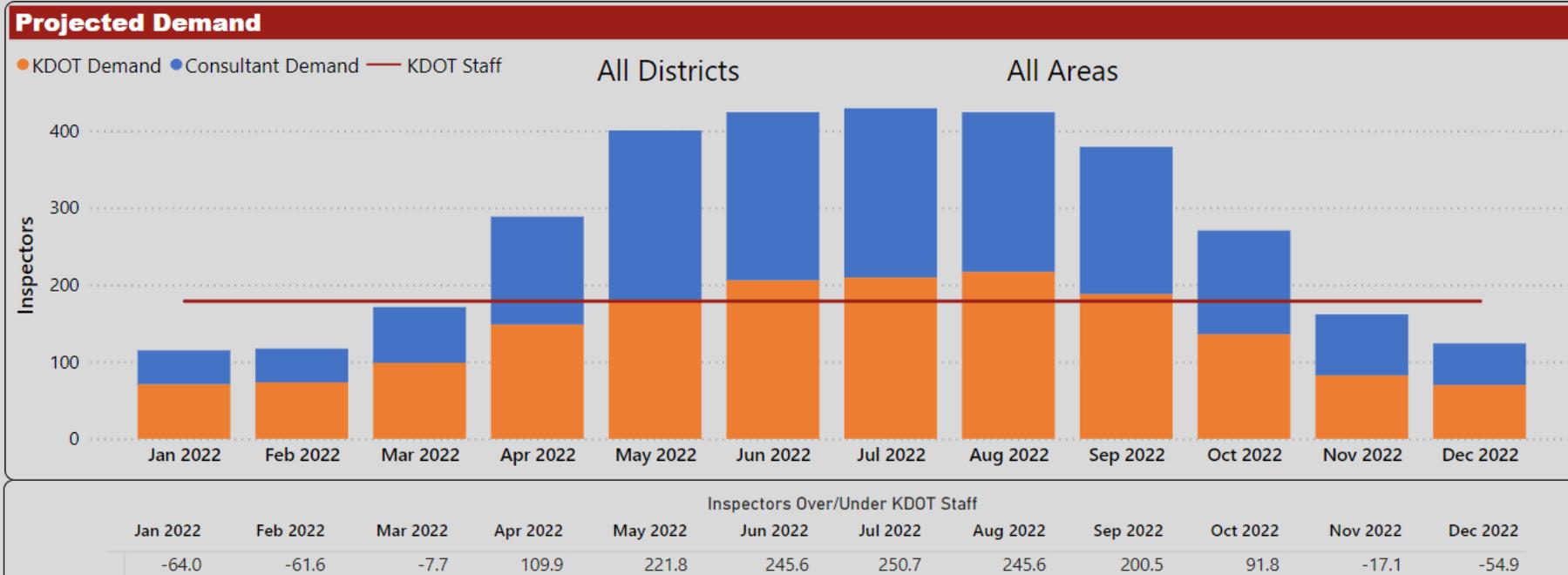
Select an area.

**Areas**

- Area 1
- Area 2
- Area 3
- Area 4
- Area 5



[Click For Timeline](#)



- KDOT Staff**
- 178.8
- Total Projects**
- 415
- Total Projects with Consultants**
- 192
- Average Inspectors Over KDOT Staff**
- 195.1
- April 2022 - October 2022



# The challenge is largely with the preservation program

## Workforce

Inspection jobs are difficult to propose on, because:

- Consultants don't have enough time to develop a strategy
- Start dates often aren't known
- Projects have short durations

What we are doing:

**Removing the requirement for firms to specifically name all proposed inspectors**



*Bob*



COMPLETED

# Implementing: Advance the 1R Letting Schedule

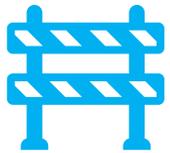
When we do it now ▶  OCT  NOV  DEC  JAN

 JUL  AUG  SEP  OCT ◀ **When we'd like to**

IMPLEMENTATION  
TIMELINE:  
 **2022**

More intentional process:

**Bundle inspection services into attractive packages for consultants to propose on**



Bundles would be based on:

- Which contractors have which jobs
- When jobs are expected to start
- Geographic location

IMPLEMENTATION

TIMELINE:



**2022**

What we would like to do:

**Hire more KDOT inspectors and/or increase wages for state inspectors**



KDOT inspectors make less today in real dollars than they did in the 1990s.

Explore:

## Embedding consultant inspectors at KDOT offices



- Concept is working at Headquarters
- District 6 is actively exploring

IMPLEMENTATION

TIMELINE:



**2022**

Explore technology:

**e-Ticketing**

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Explore with FHWA:

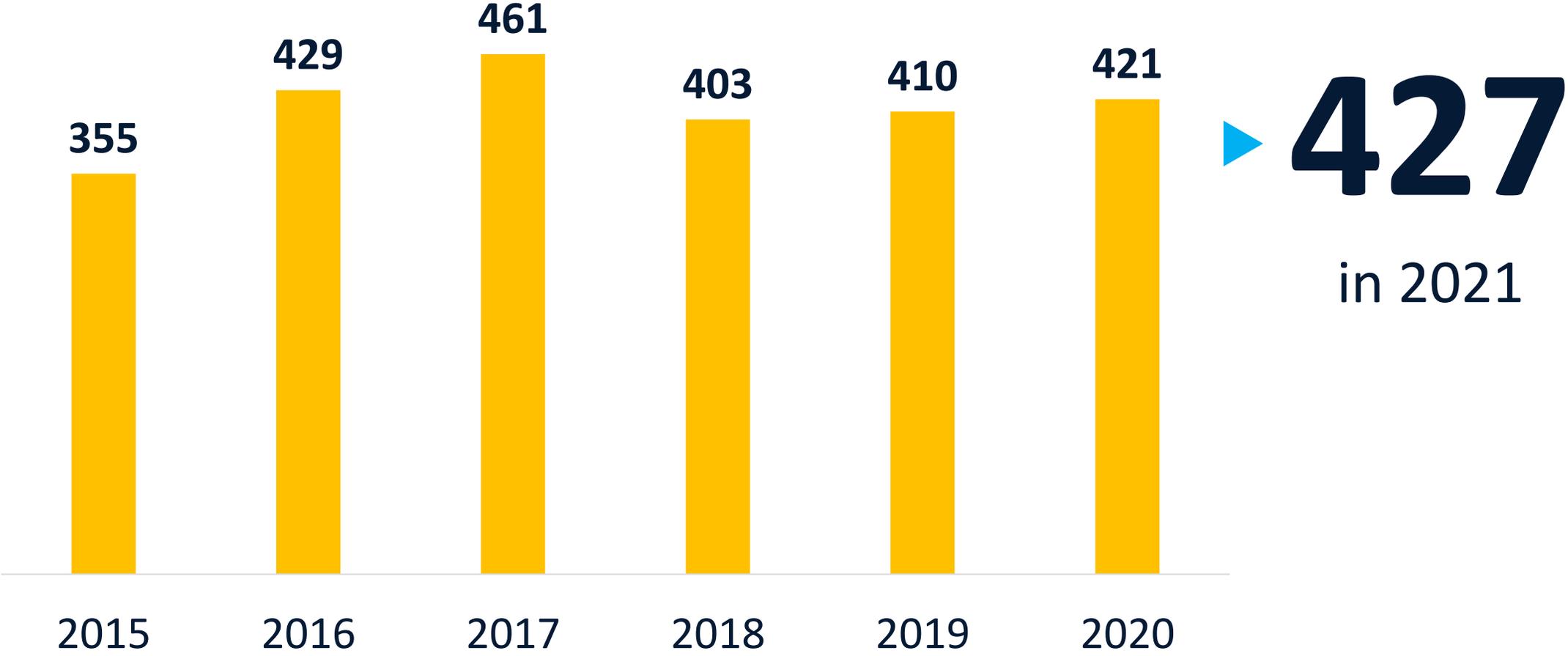
**Risk-based inspection strategy**



IMPLEMENTATION  
TIMELINE:  
**2023**

Challenge:

# Traffic fatalities have remained steady



# Implementing: **SSI Clear Zone Program**

- Makes shoulder additions/improvements
- Serves routes that do not have the traffic to warrant a full modernization project
- Cost-effective approach to make roads safer and improve infrastructure by performing preservation work concurrently

# Implementing: Safety Campaigns



# Challenge: Inflation/Prices

Historical  
Annual  
Inflation



4.5%

December  
letting vs.  
Program  
Estimate



19%

# Example of cost increase by comparing similar projects based on letting dates

## Light Preservation:

\$140,000 per mile for Dec. 2020 letting

\$190,000 per mile for Nov. 2021 letting

## Heavy Preservation:

\$250,000 per mile for March 2021 letting

\$345,000 per mile for Dec. 2021 letting



**There would be  
consequences to putting  
preservation work on  
hold**

# Pavement Preservation: All projects are not created equal

Action	Cost per Mile	Expected Life
Thin Overlay	\$X	4 years
Rehabilitation	\$XX	7 years
Reconstruction	\$XXX (asphalt)	13 years (asphalt)
	\$XXXX (concrete)	30 years (concrete)

**Ideally, we're doing a mix of these – applying the right treatment at the right time**

# One way to think about pavement health

We have 10,000 miles of highways

Every year we lose one year of expected life on each mile

Just to stay even, we need to add 10,000 mile-years of life to the system

# In 2021, we added enough mile-years to achieve steady state – IF we had started in steady state

Type of Preservation	Expected Life	Miles completed in 2021	Mile-years added
Very light actions	3 years	600	1,800
Light Rehabilitation	7 years	492	3,358
Heavier Rehabilitation and Reconstruction	9 years	598	5,382
<b>Total Mile Years Added</b>			<b>10,540</b>

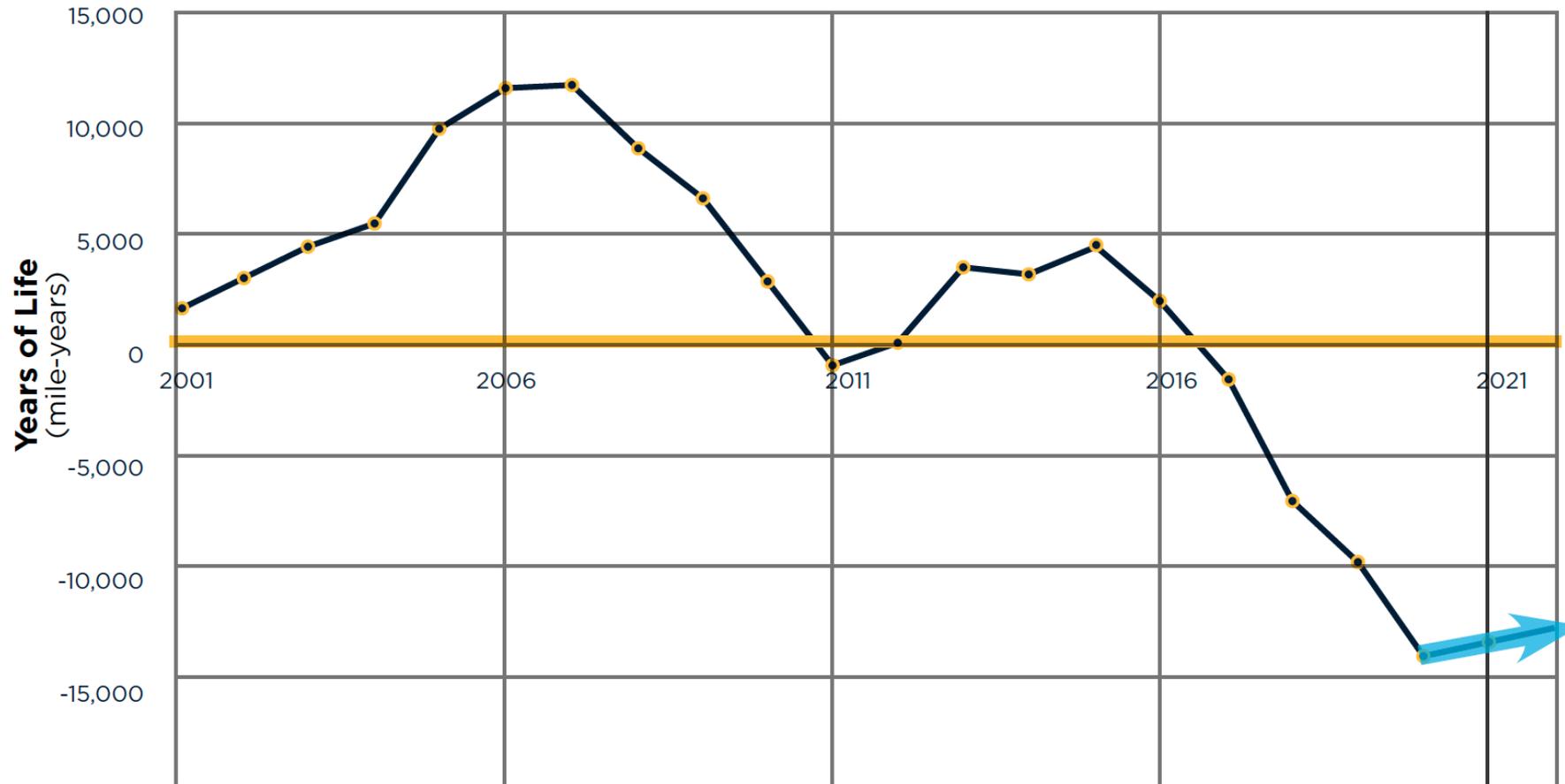
# We're paying from the under-investment in previous years

## 2017 Example

Type of Preservation	Expected Life	Miles completed in 2017	Mile-years added
Very light actions	3 years	331	993
Light Rehabilitation	7 years	563	3,941
Heavier Rehabilitation and Reconstruction	9 years	122	1,098
		<b>Total Mile Years Added</b>	<b>6,032</b>

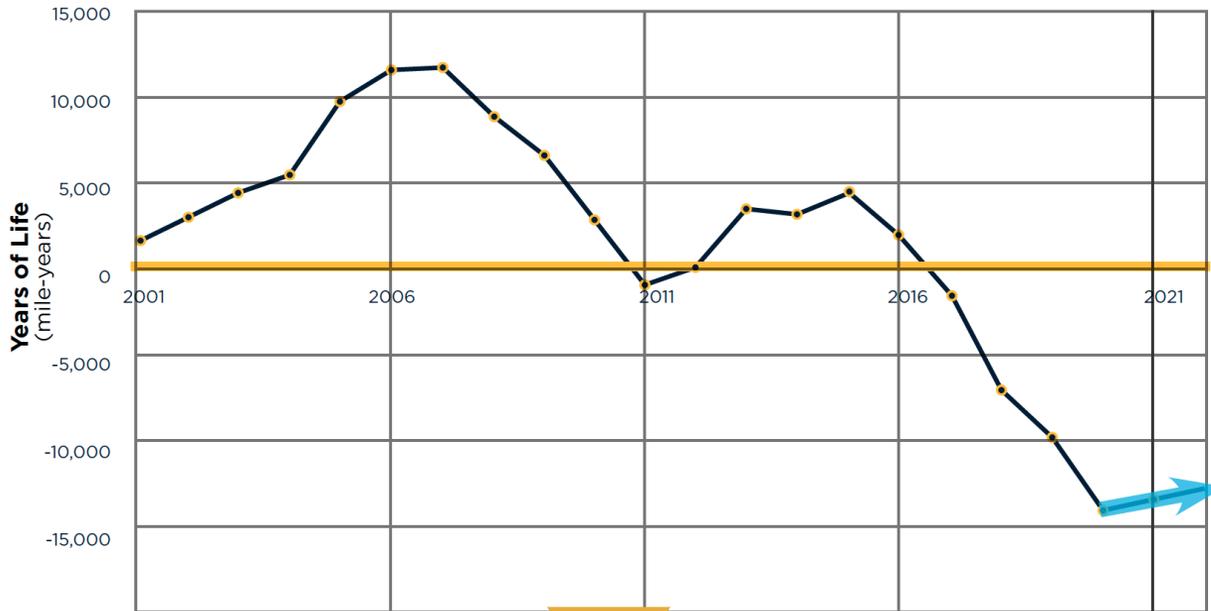
# Recent past: Too many thin overlays falling short of 10,000 mile-years (represented by yellow line)

## State highway pavement system health



# Previously relied on two pavement condition metrics: both are limited

## State highway pavement system health



**Does:** Tell whether gaining/losing ground  
**Doesn't:** Tell state of the system (good/bad)

## Federal Measure: % Pavement in Poor Condition



**Does:** Tell smoothness of pavement  
**Doesn't:** Measure deeper issues like joint cracking

# Remember...

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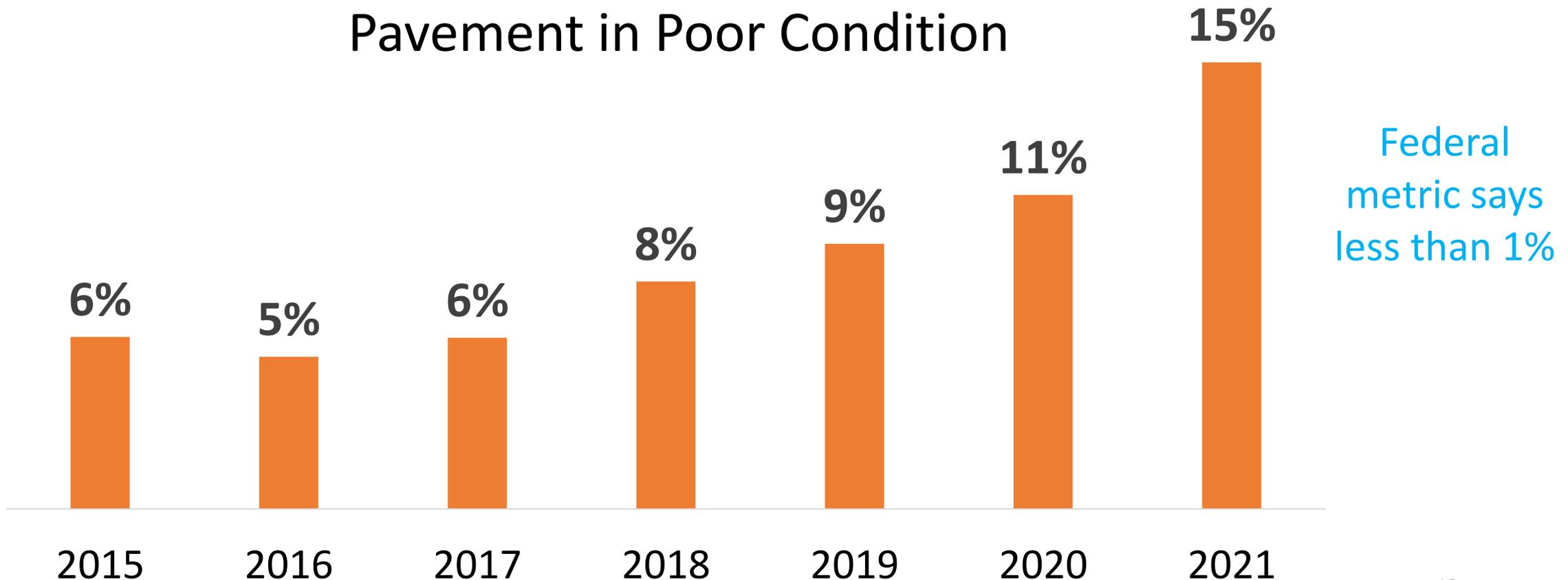
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But core's crumbling underneath

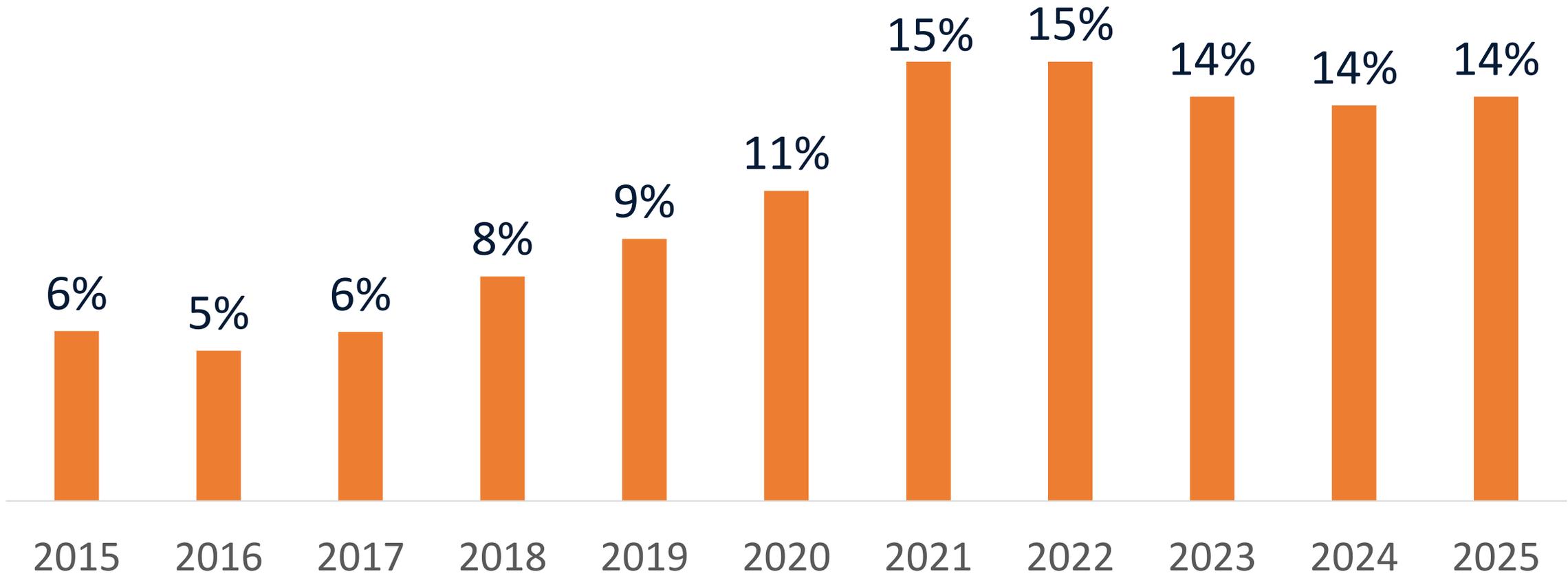
# KDOT's new condition rating metric offers more complete picture of system health & reveals that **poor pavements increased**

## Pavement in Poor Condition



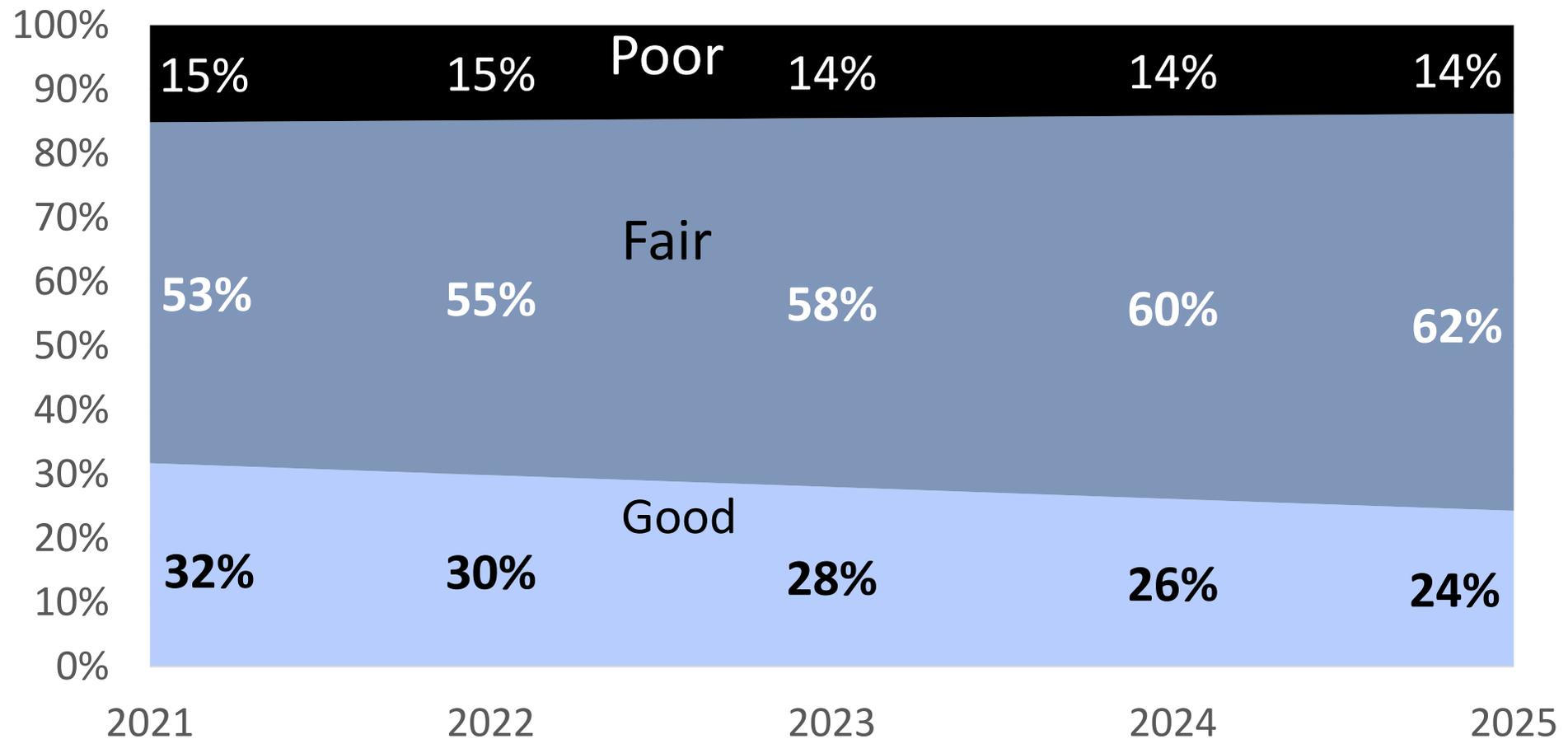
# IKE's \$365 million annual pavement preservation investment **begins to reduce poor condition**

Pavement in Poor Condition



# While good condition declines and fair condition grows

Percent of Pavement in Poor, Fair, and Good Conditions



# **Next up in our efforts: Establish targets and run scenarios on demand**

We need to be able to predict what will happen to system conditions under a variety of conditions:

- Revenue and cost changes
- Evaluation and target setting for different highway classifications (Interstates, etc.)

Bottom line:

IKE holds us steady

BIL could help us improve

KDOT



**IKE**

THE EISENHOWER LEGACY  
TRANSPORTATION PROGRAM



**BIPARTISAN  
INFRASTRUCTURE  
LAW**

*\$1.2 Trillion Investment across U.S.*

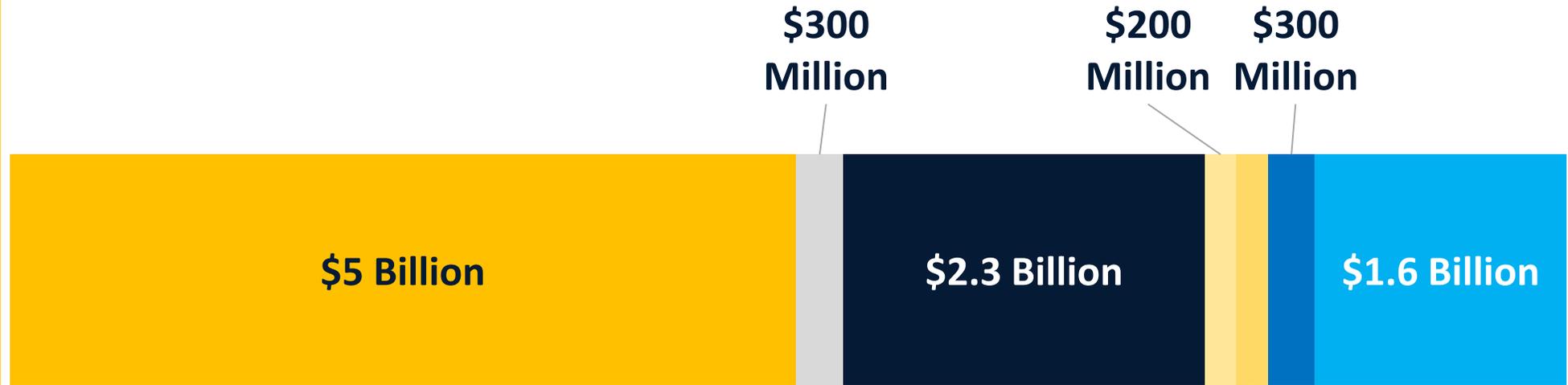


Game-changing opportunity for Kansas



# Estimated IKE investments over 10 years

**\$9.9 Billion  
TOTAL**



- Preservation
- Modernization & Expansion
- Modes
- Special City County Highway Fund
- Preservation +
- Economic Development
- Cost Share, Safety & Local Bridge

*Note: Modernization & Expansion estimate does not include T-WORKS projects*

# **BIL: KDOT will work with cities, counties and stakeholders to leverage funds**

**Annual Funding Increase**

**HIGHWAYS: \$89 million**

Federal-aid highway funding

**BRIDGES: \$45 million**

Funds targeted for bridges in poor/fair condition.

**ELECTRIC VEHICLE INFRASTRUCTURE: \$8 million**

Charging infrastructure, education & outreach

**RURAL TRANSIT: \$3.7 million**

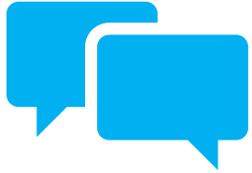
KDOT administers rural transit funds

**TOTAL \$145.7 million**



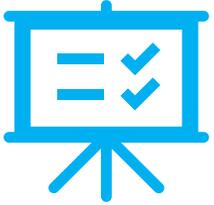
**Discretionary Grant Programs**

# We will be seeking input from partners:



- Are there existing programs that need to be adjusted or ramped up?
- Are there gaps within our program structure?
- Where do we need more flexibility?
- Are there underserved communities?
- What obstacles are limiting our ability to partner?

# Improving business practices



- Hired a grant writer to provide assistance in regional efforts



- More holistic approach to pavement management

# We must balance a lot of factors to make good long-term investments: **KDOT will monitor closely, collaborate & communicate ongoingly**

## Do less work now:

- **Pros:**
  - Save \$ on bids today (potentially)
  - Reduce demand on workforce/supply chain
- **Cons:**
  - Delaying projects is costly too
  - Increases future maintenance costs

## Increase work:

- **Pros:**
  - Address needs backlog
  - Take advantage of BIL discretionary dollars
  - Keep momentum going
- **Con:**
  - Higher bid prices



Innovative  
efforts  
underway to  
move us  
forward



HEARTLAND OPPORTUNITIES, MARKETS & ENVIRONMENT



*“People that are looking for jobs are not going to move to a location just because the pay is good. **Quality of life** aspects has to be available for all members of the family. A good education for students, recreation/sporting activities, arts/entertainment, shopping all are vital for a community to do **more than survive, but to prosper** and want to stay rooted.”*





Thank you