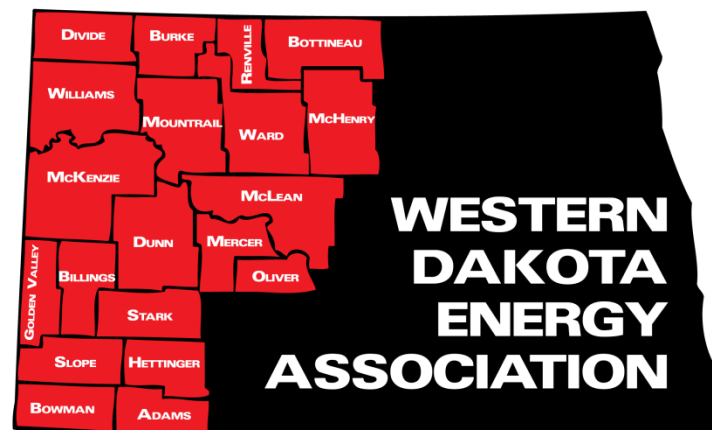


# 4-County Oil Impacts Analysis

Dunn, McKenzie, Mountrail, & Williams Counties

In association with:



June 4, 2018 – Energy & Environmental Research Center



## Dunn – McKenzie – Mountrail - Williams

### Why Focus on the 4-County Region with this Analysis?

- 92% of the oil and gas produced in ND in the 4-County Area
- Significant O&G revenues generated in a small area to the benefit of the whole State
- Substantial impacts with limited local revenues to support
- GPT has been an essential resource to manage impacts
  - **\$987M** in road needs funded since 2010
  - **\$240M** in capital facilities since 2014
    - **Law Enforcement Demands:** Corrections Centers - 250 new beds in 4 County Region
    - **Public Works Facilities:** to accommodate staff, fleet, and increased demand for county services
    - **Courthouse Needs:** Significant Additions and Renovations
- ***On-going development of O&G in the 4 Counties continues***
- ***Further increases expected with increased price and efficiency in the drilling process that will impact all O&G producing counties***

# AGENDA

- 
- ☐ Oil Activity in the 4-Counties
  - ☐ Population Growth & Projections
  - ☐ Taxable Values & Property Taxes
  - ☐ Revenue Sources & Expenditures
  - ☐ Capital Investments to Date
  - ☐ Projected Roads & Bridge Needs



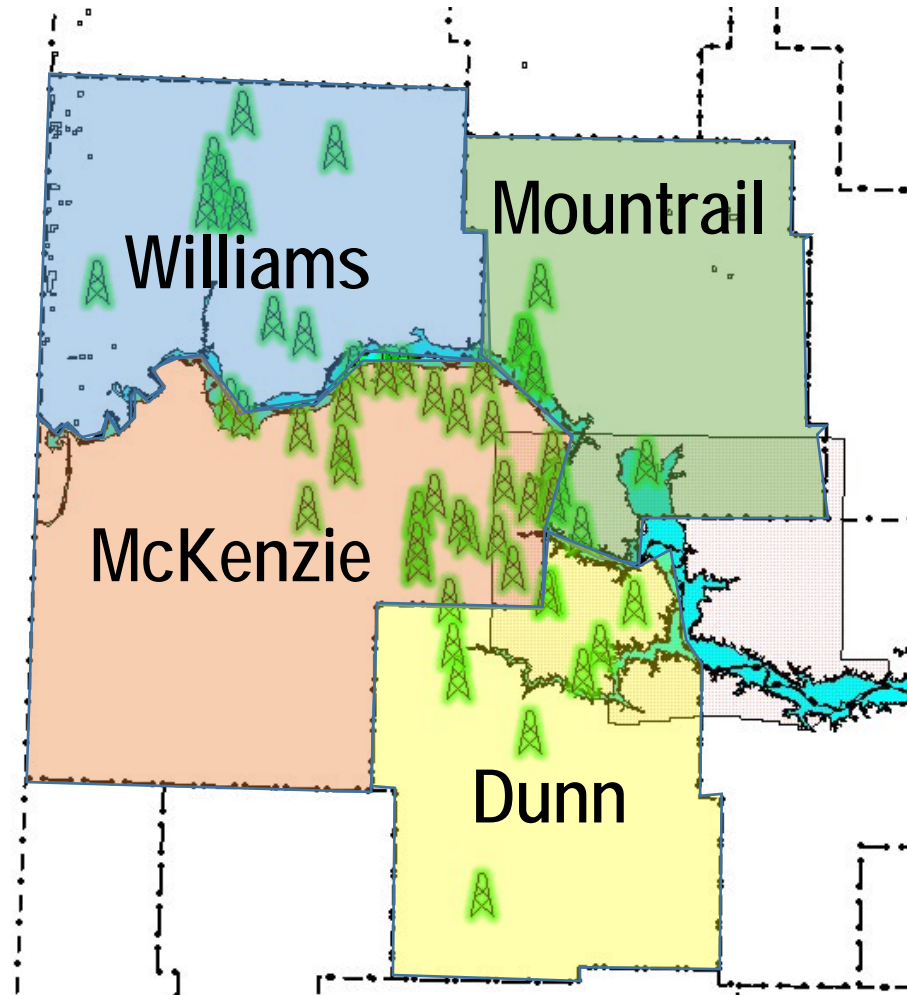
**OIL ACTIVITY**

# OIL ACTIVITY



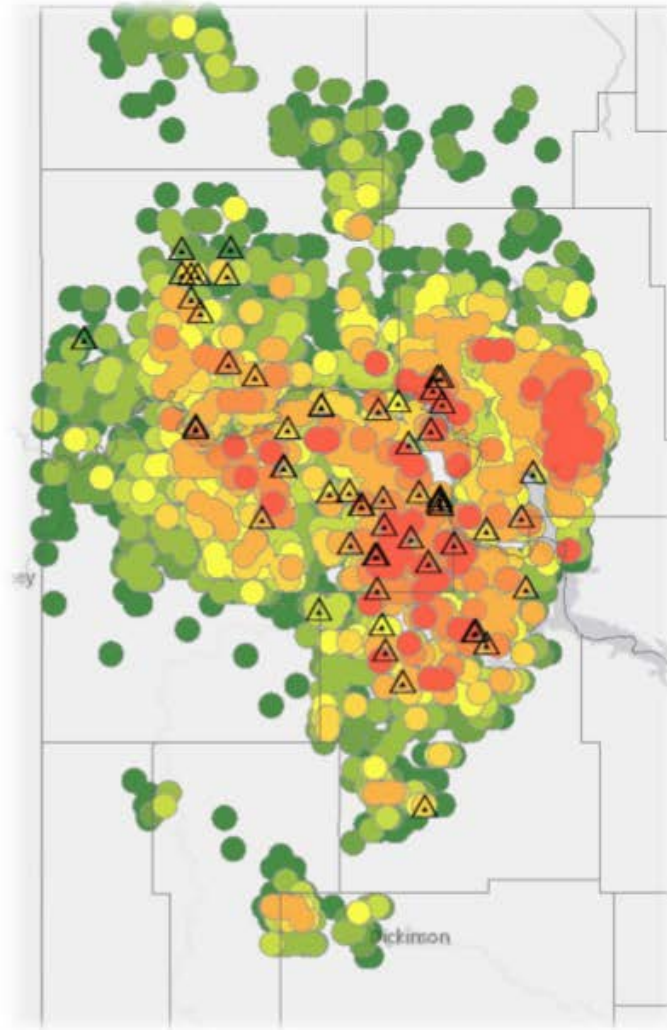
Active Rigs (60) as of 6/3/18

**All but 2 Active  
Rigs Currently  
in Core 4  
Counties**

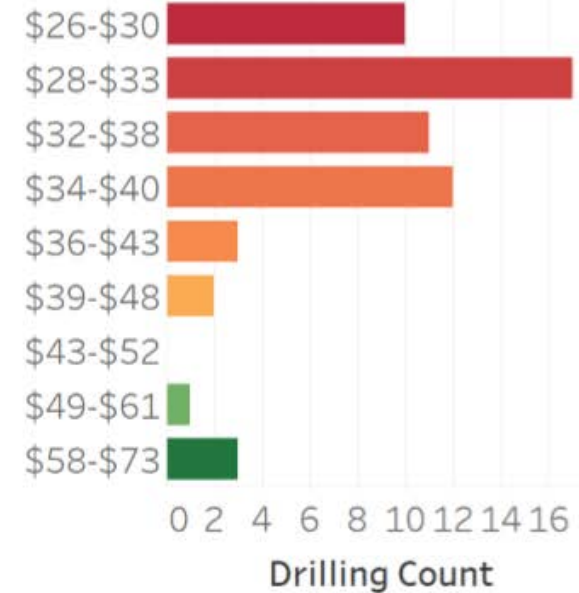




## Drilling Locations – 1/22/18



Bakken Breakeven Prices  
\$6 - \$8 Million

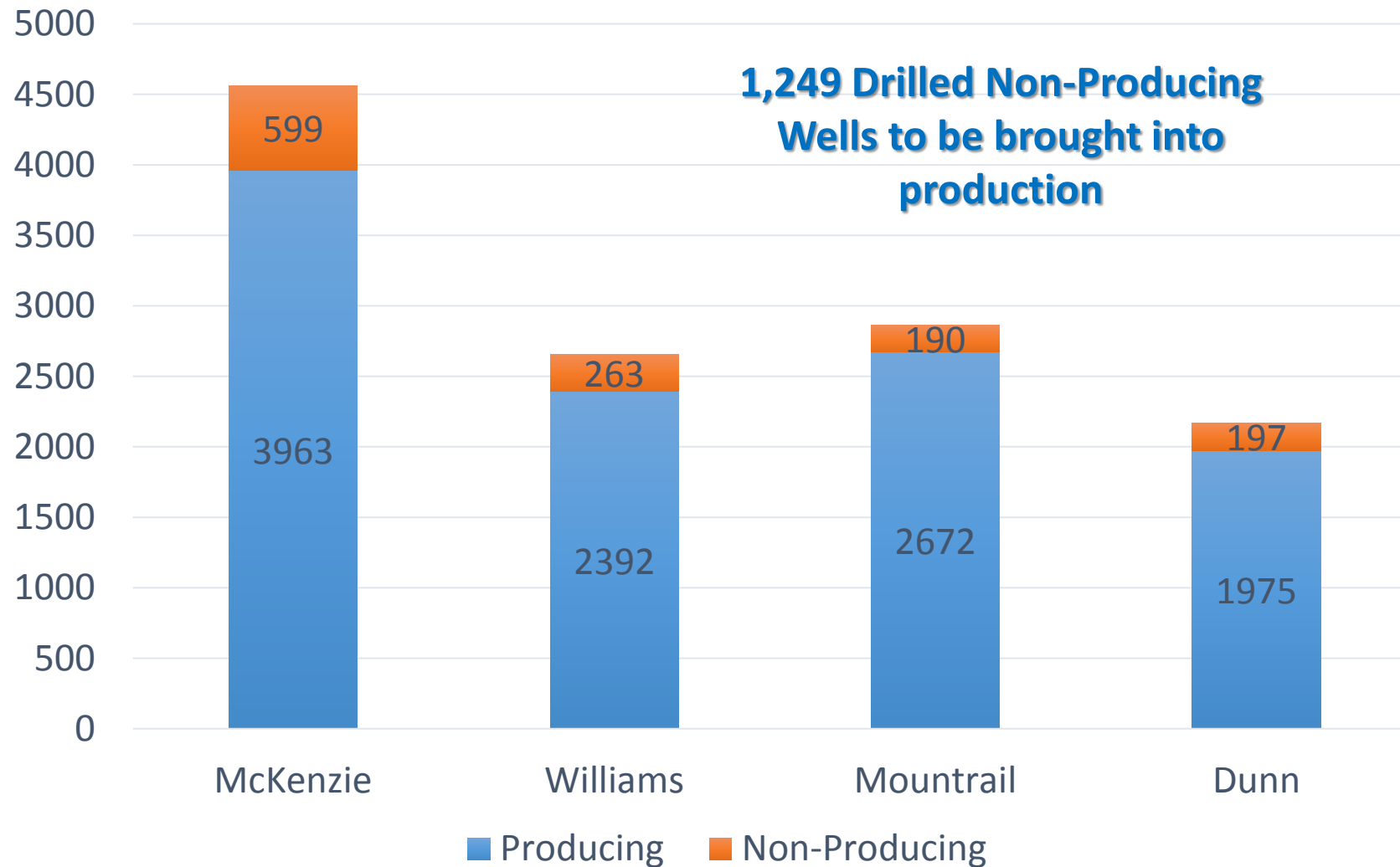


\*Due to confidential status, the target production zone for many wells is unknown.

# OIL ACTIVITY

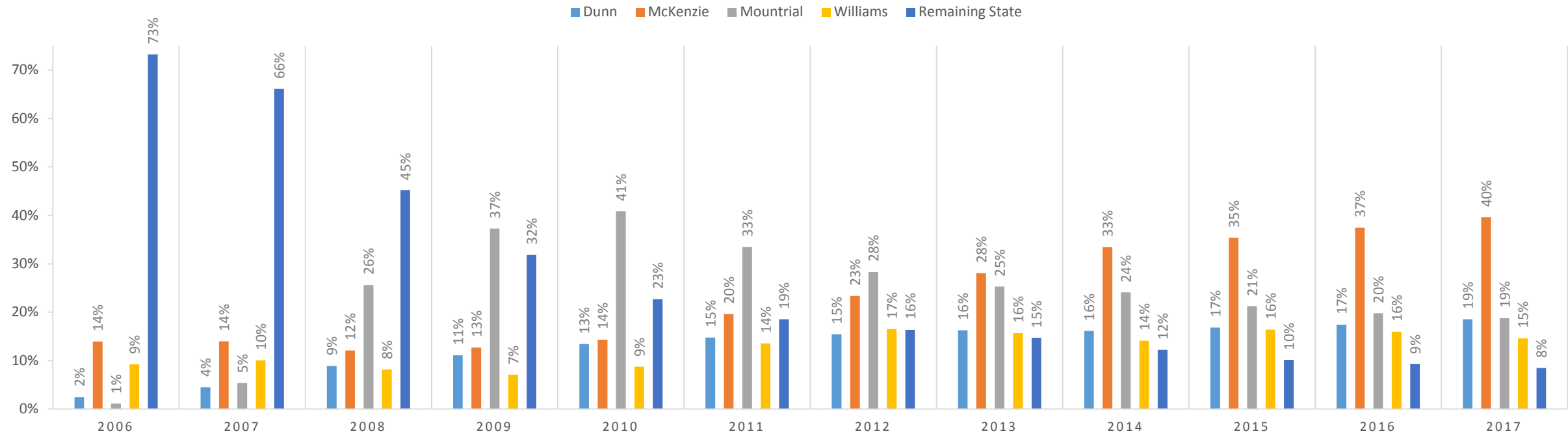


## Wells by County – 12/31/17



# OIL ACTIVITY

PERCENT OF OIL PRODUCTION



*\*Bowman County represented 42%, 39%, and 26% in 2006, 2007, and 2008 respectively (included in Remaining State)*



# POPULATION GROWTH & PROJECTIONS

# POPULATION & GROWTH PROJECTIONS



## Summary of Estimated Population Growth

**Dunn**

**23%**

*Growth: 2010-2016*

*3,536 -> 4,366*

**McKenzie**

**98%**

*Growth: 2010-2016*

*6,360 -> 12,621*

**Mountrail**

**33%**

*Growth: 2010-2016*

*7,673 -> 10,242*

**Williams**

**53%**

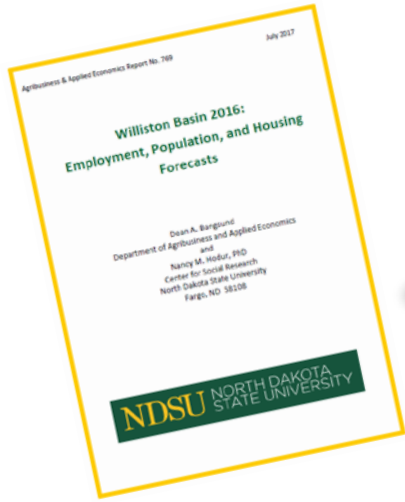
*Growth: 2010-2016*

*22,398 -> 34,337*

# POPULATION & GROWTH PROJECTIONS



## NDSU Population and Workforce Growth Study



**OIL PRICE**



**JOBS**



**PEOPLE**



**HOUSING**

- Impacts forecasting based on adaptations from workforce and population analyses performed by North Dakota State University with support by WDEA through VisionWest ND
- NDSU Study Focused on **County-level** Economic Activity in the Region and Effect on Workforce and Population through 2040
- Oil Price Scenario (Low/**Moderate**/High) Heavily Influences Resulting County Population Increase

# POPULATION & GROWTH PROJECTIONS



Projected Population Growth by 2026 – Moderate Price Environment

**Dunn**

**20%**

*Growth to 2026  
4,366 -> 5,256*

**McKenzie**

**15%**

*Growth to 2026  
12,621 -> 14,541*

**Mountrail**

**19%**

*Growth to 2026  
10,242 -> 12,149*

**Williams**

**19%**

*Growth to 2026  
34,337 -> 40,729*

# POPULATION & GROWTH PROJECTIONS



Projected Housing Needs by 2040 – Moderate Price Environment

**Dunn**

**51%**

*Growth to 2040*

**McKenzie**

**90%**

*Growth to 2040*

**Mountrail**

**51%**

*Growth to 2040*

**Williams**

**76%**

*Growth to 2040*



# STAFFING AND PAYROLL

# POPULATION & GROWTH PROJECTIONS



## Staffing Growth

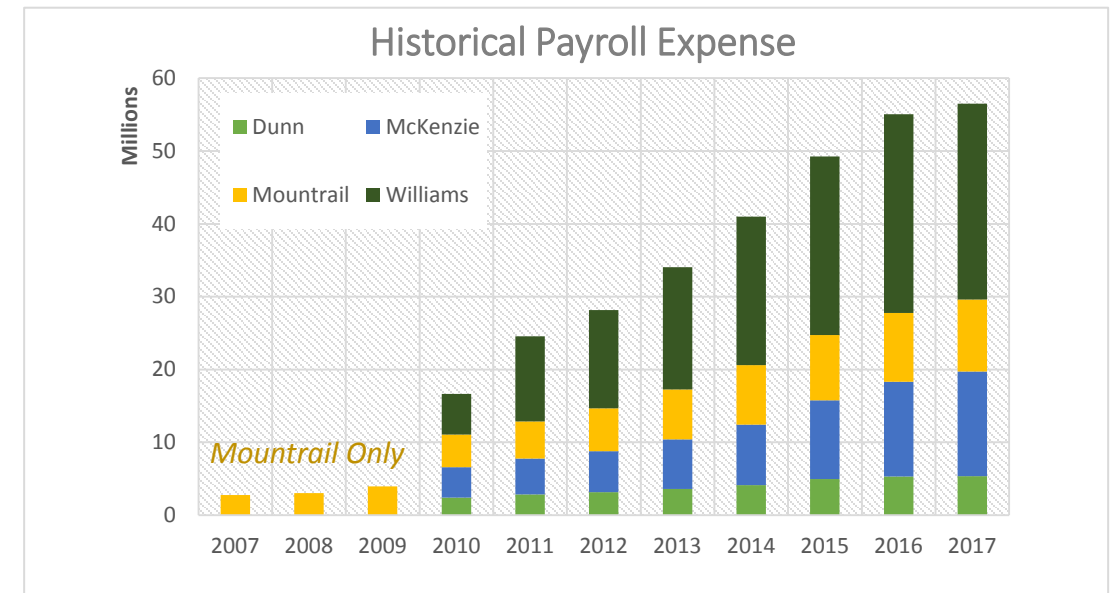
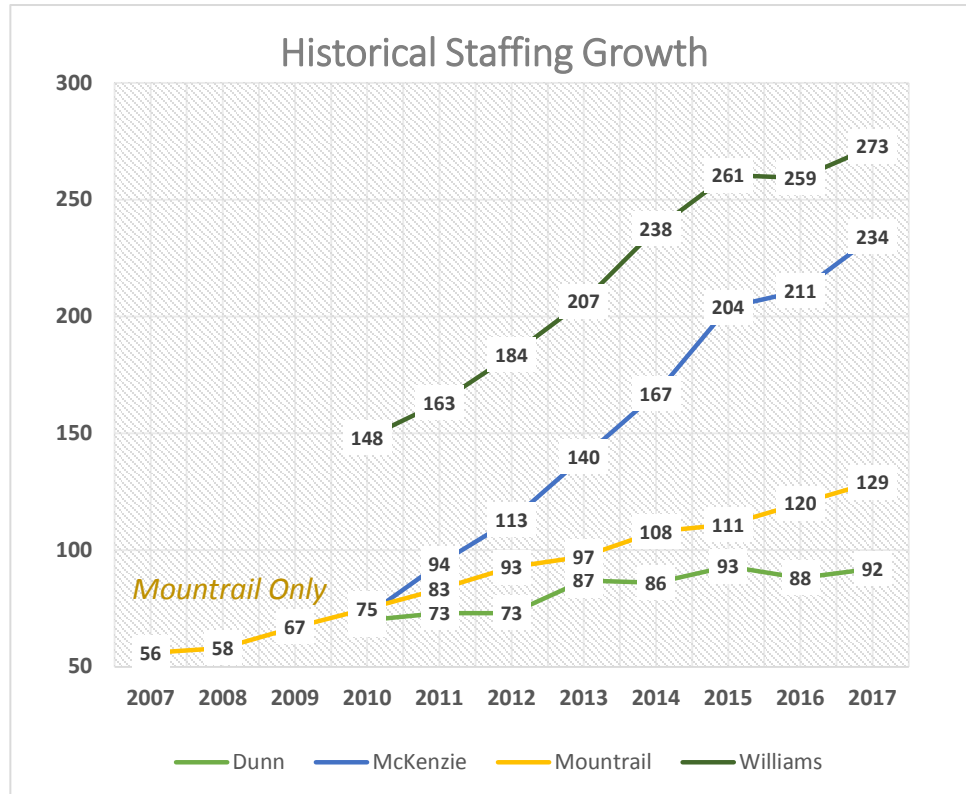
### Staffing Growth Since 2010

**Dunn:** 31%

**McKenzie:** 225%

**Mountrail:** 72% (130% since 2007)

**Williams:** 84%



\*Note Mountrail County Data represented back to 2007 as compared to 2010 for other counties to represent an earlier ramp up of production.



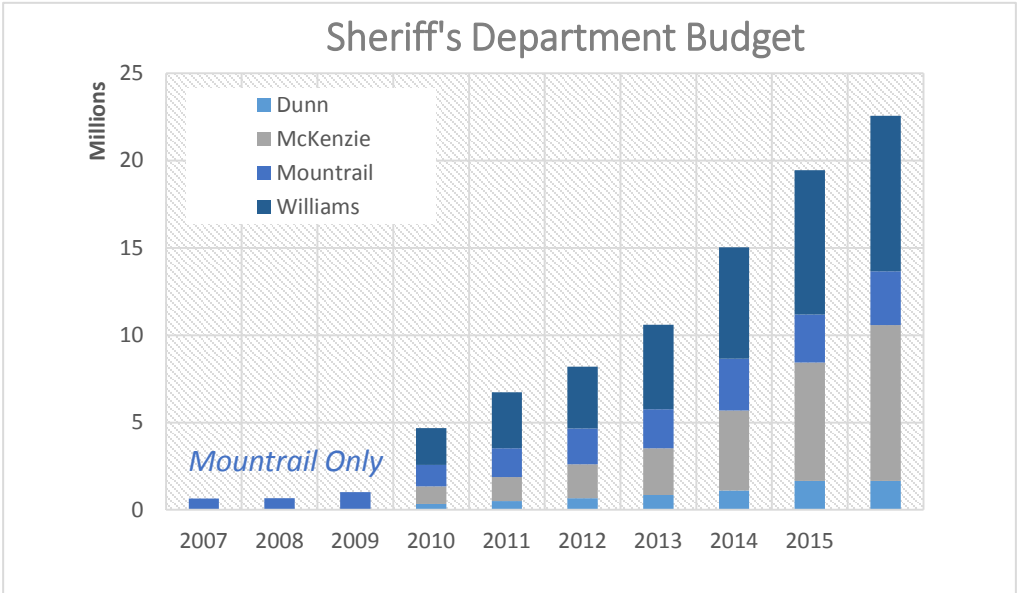
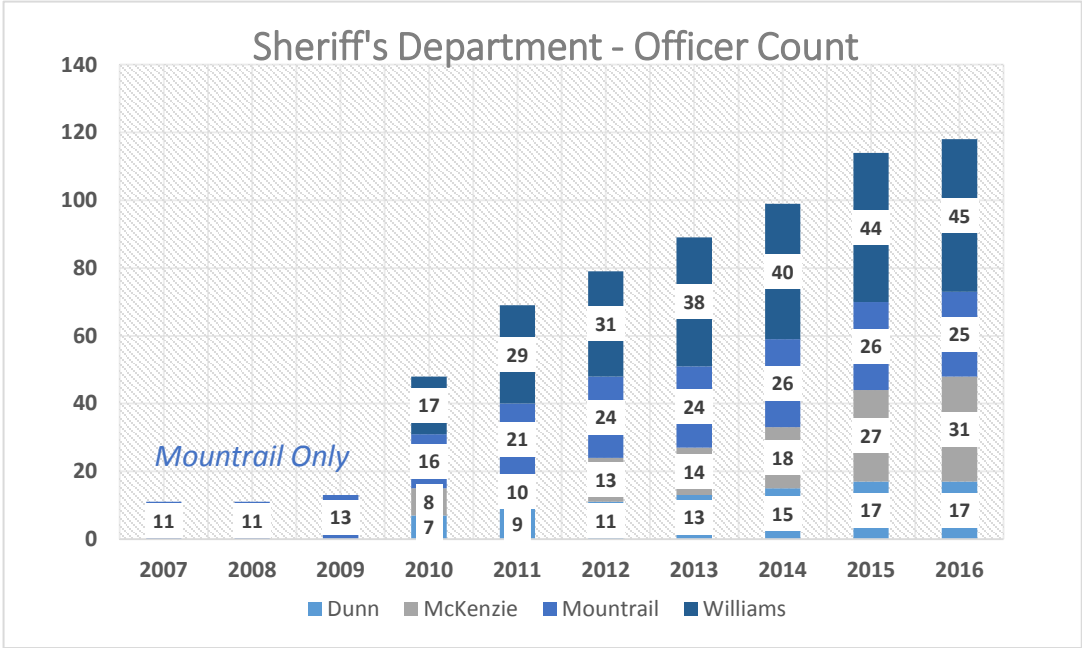
## Sherriff's Dept. 2010 to 2016 Growth

### Number of Officers

Dunn	143%	Mountrail	56%*
McKenzie	288%	Williams	165%

2010-2016 Growth

*\*Mountrail = 227% since 2007*



### Budgeted Expense

Dunn	389%	Mountrail	153%
McKenzie	784%	Williams	321%

2010-2016 Growth

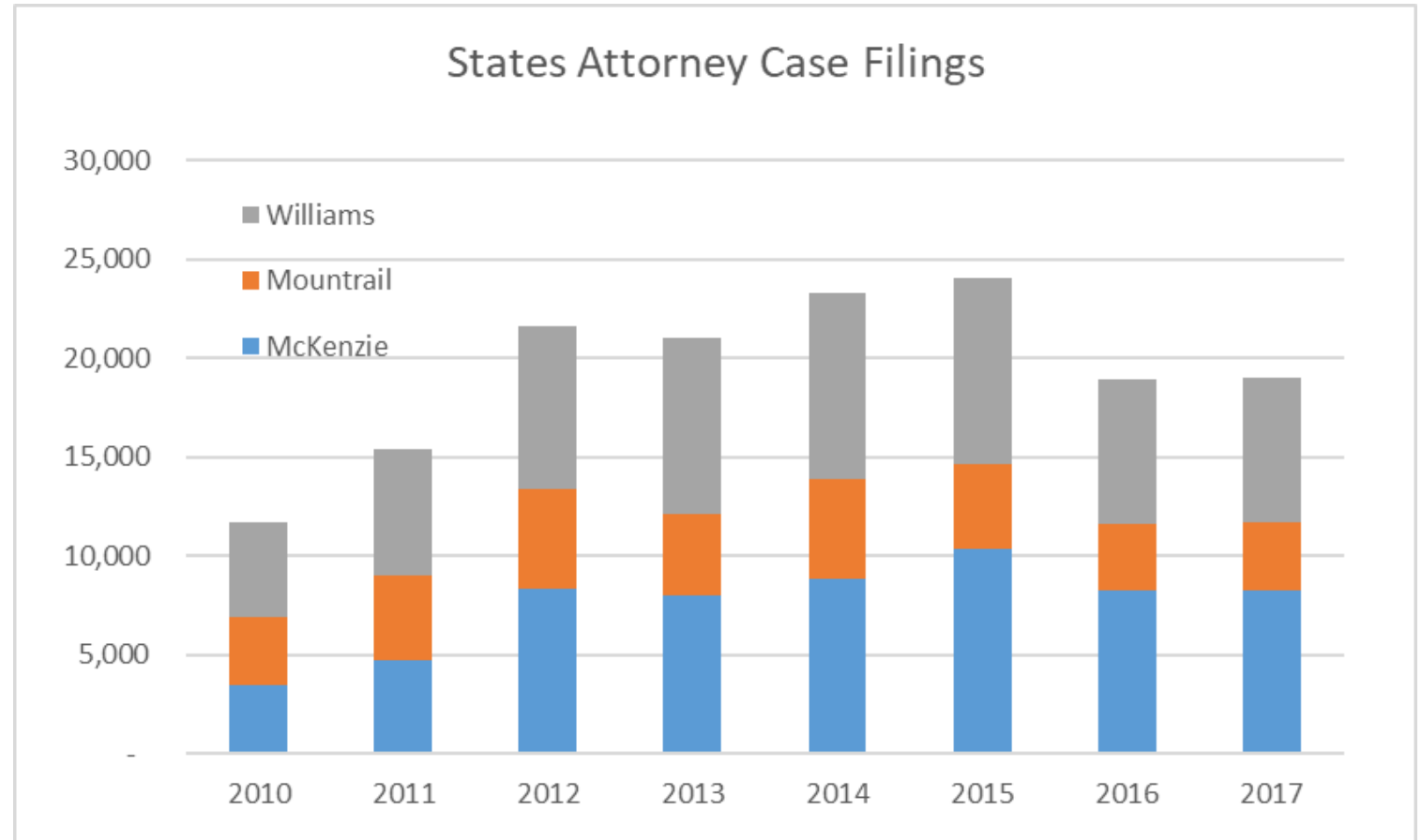
*\*Mountrail = 376% since 2007*

*\*Note Mountrail County Data represented back to 2007 as compared to 2010 for other counties to represent an earlier ramp up of production.*



## State's Attorney Case Filings

- **States Attorney caseloads peaked in 2014-2015**
- **Caseloads leveling off at numbers higher than early boom**





# TAXABLE VALUES & PROPERTY TAXES

# PROPERTY TAX SUMMARY



## Summary of County Taxable Value Increase

**Dunn**

**333%**

*Increase since 2010*

*\$15.2M -> \$65.9M*

**McKenzie**

**1062%**

*Increase since 2010*

*\$21.2M -> \$246.8M*

**Mountrail**

**266%**

*Increase since 2010*

*\$35.9M -> \$131.2M*

**Williams**

**425%**

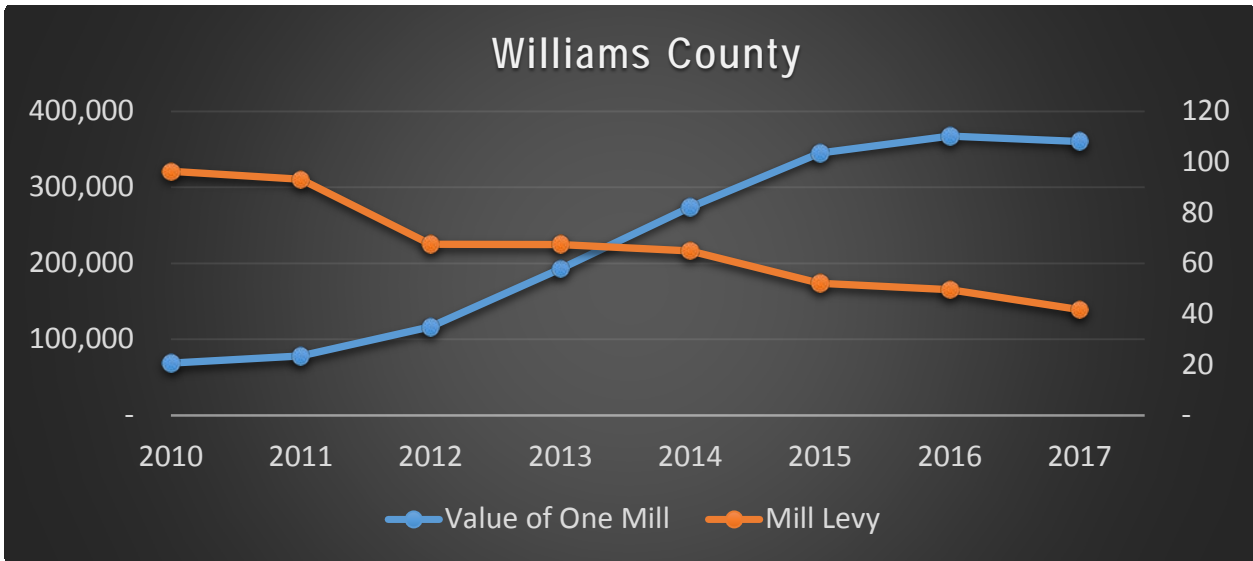
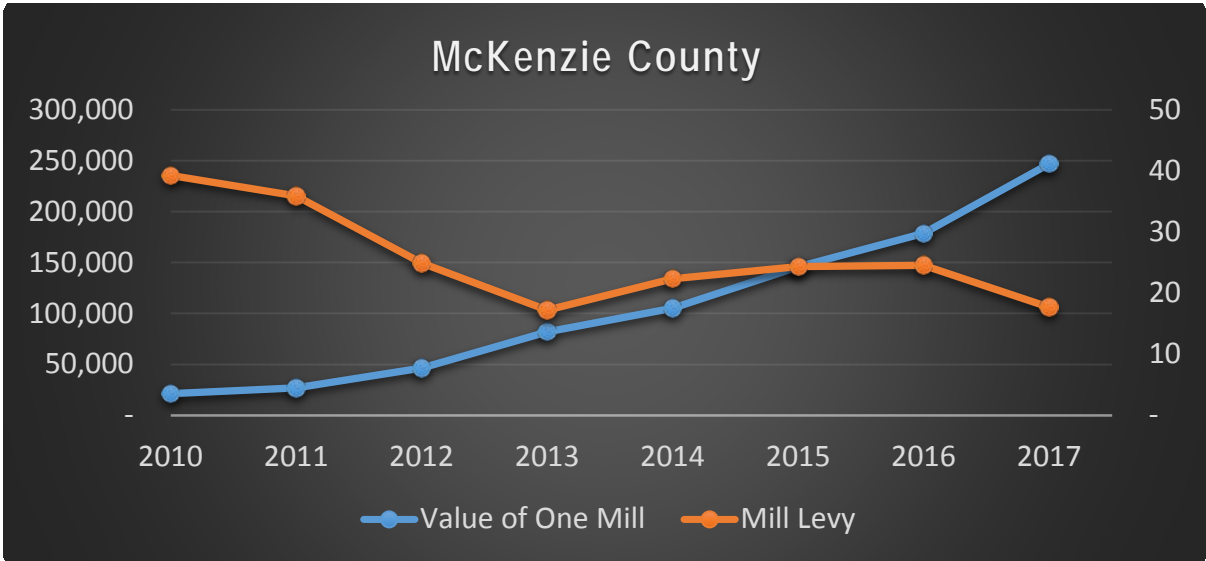
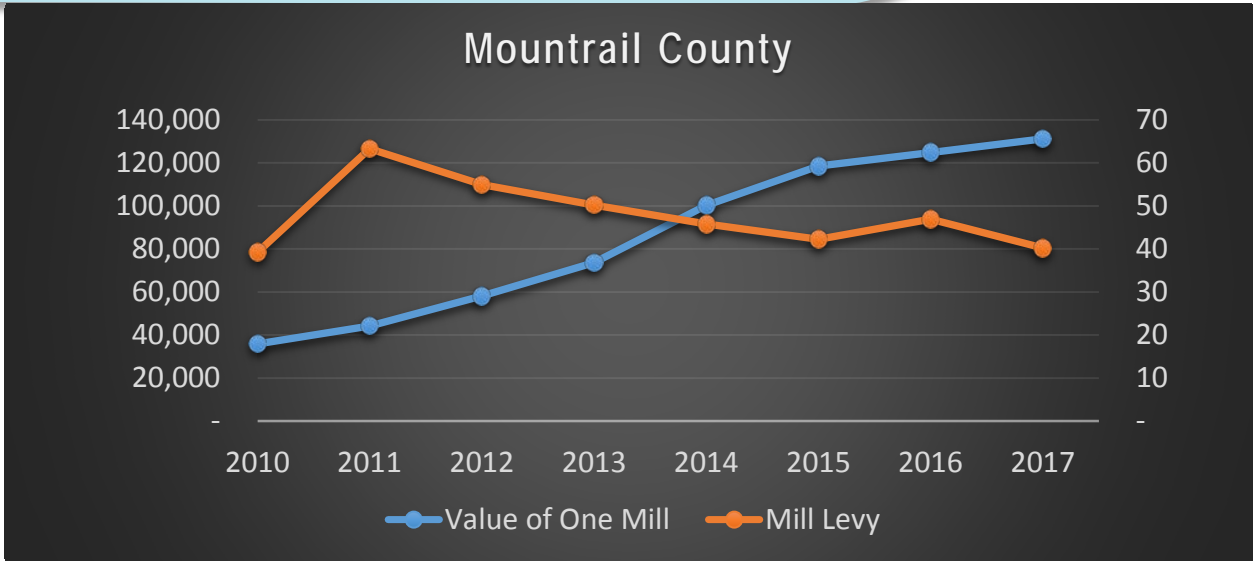
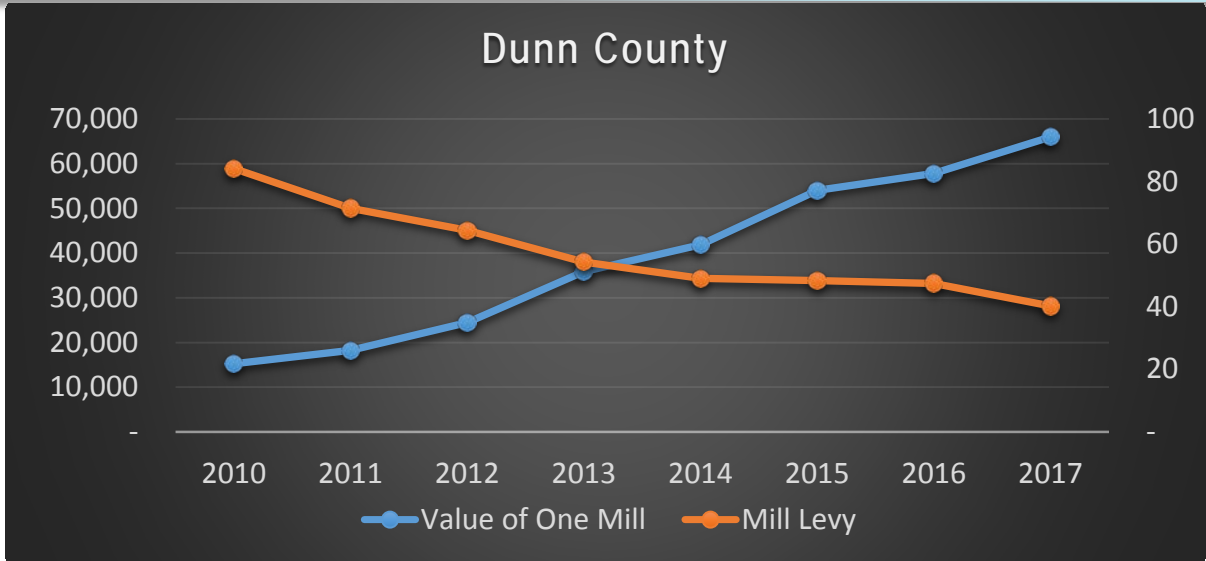
*Increase since 2010*

*\$68.7M -> \$360.4M*

# PROPERTY TAX SUMMARY



## Mill Levy vs. Value of One County Mill



# PROPERTY TAX SUMMARY



## Summary of Increase in County Dollars Levied

### Dunn

**107%**

*Increase since 2010*

*\$1,282,936 -> \$2,655,495*

### McKenzie

**424%**

*Increase since 2010*

*\$833,459 -> \$4,368,801*

### Mountrail

**107%**

*Increase since 2010*

*\$2,532,926 -> \$5,232,868*

### Williams

**121%**

*Increase since 2010*

*\$6,438,509 -> \$14,235,939*

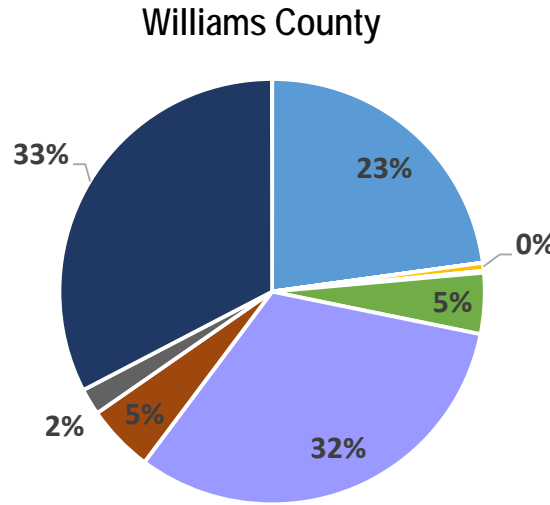
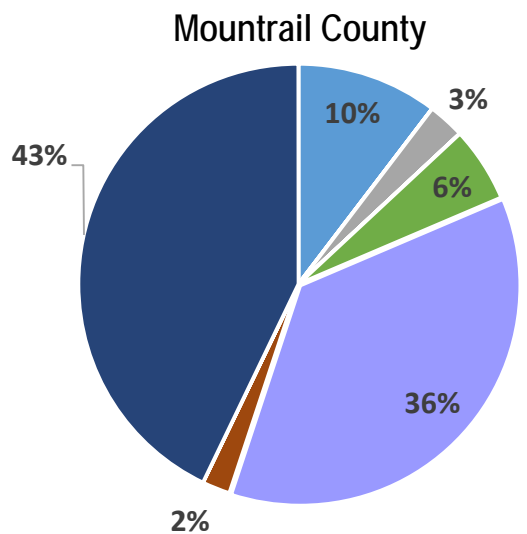
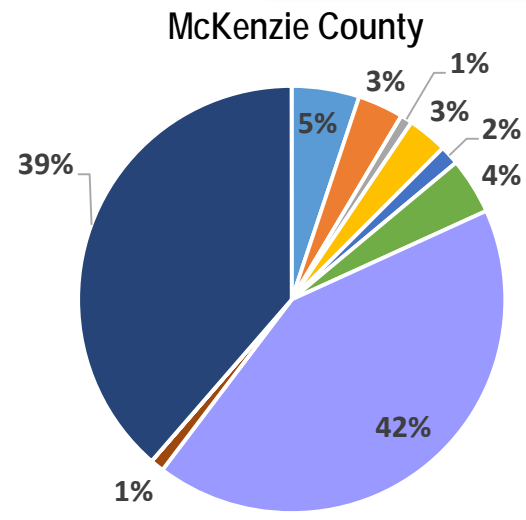
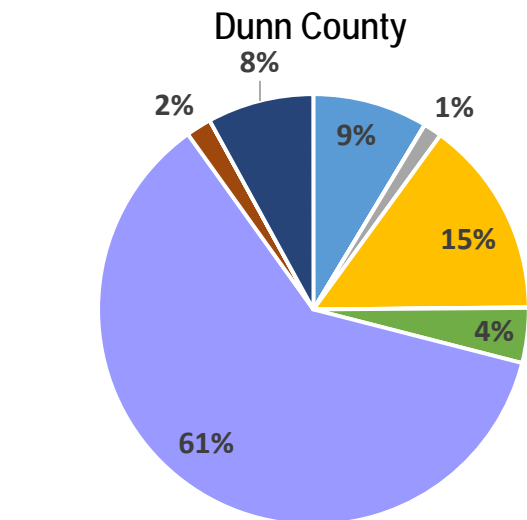


# REVENUES SOURCES & EXPENDITURES BY FUNCTION

# TOTAL BUDGET



## 2017 Actual Revenue Sources



- Property Tax
- Bankhead Jones
- Flood Control
- Public Domain Royalties
- Oil Royalties
- Truck Permits
- GPT
- Highway Tax
- NDDOT Funds
- Other

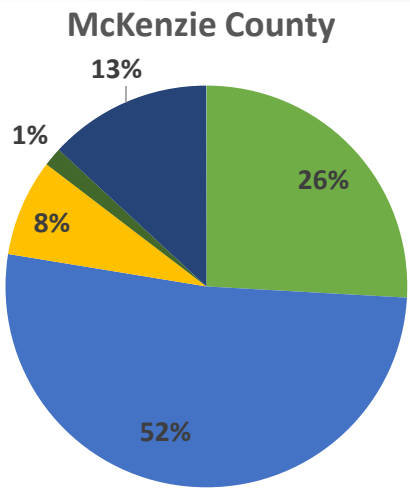
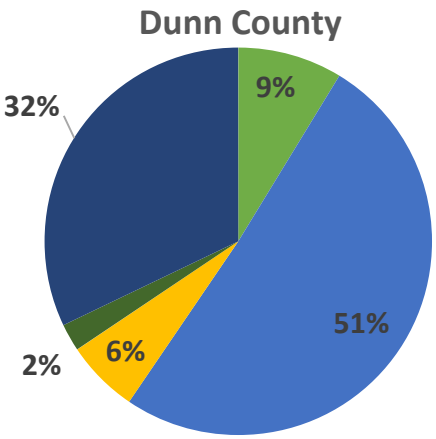
Other: Loan Advances, Licenses & Fees, Charges for Services, Permits, Water Sales, Grants

# TOTAL BUDGET

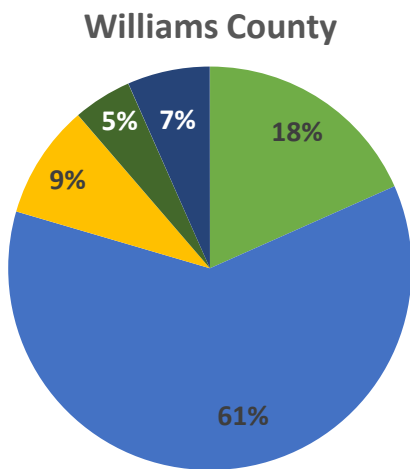
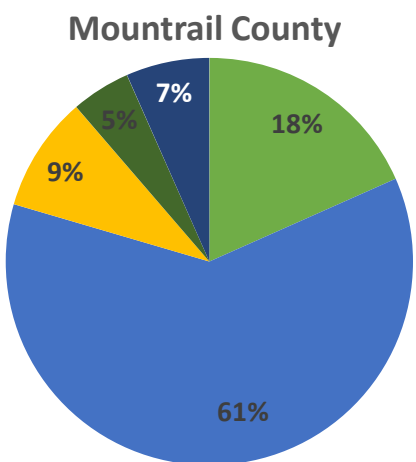


## 2017 Budgeted Expenditures

Road & Bridge Expenditures  
Comprise over Half  
of Total County  
Budgets



- General Govt
- Road & Bridge
- Public Safety
- Human Services
- Other Govt Services



# HISTORICAL CAPITAL IMPROVEMENTS



## 2010 TO 2017 Facility Investments

	Dunn	McKenzie	Mountrail	Williams	Total
Corrections Center	\$ -	\$ 46,448,020	\$ 26,530,330	\$ 30,967,062	\$ 103,945,412
Administration/Courthouse	\$ 14,300,000	\$ 16,206,900	\$ -	\$ 19,205,588	\$ 49,712,488
Other	\$ -	\$ 4,176,366	\$ 4,706,512	\$ 7,500,975	\$ 16,383,853
Court Facilities	\$ 1,152,935	\$ 3,000,000	\$ -	\$ 8,440,352	\$ 12,593,287
Shop/Public Works Facilities	\$ 4,795,022	\$ 22,920,037	\$ 8,725,243	\$ 20,525,631	\$ 56,965,933
	\$ 20,247,957	\$ 92,751,323	\$ 39,962,085	\$ 86,639,608	\$ 239,600,973

Increased Jail Beds	n/a	114	28	108	250
---------------------	-----	-----	----	-----	-----

*Williams County invested \$16.5 Million in 2008 on a new 110 bed Corrections Center which was full in 2016*

<u>GPT Tied to Debt:</u>	<u>Amount of Loan</u>	<u>Term</u>	<u>Estim Annual Pmt</u>	<u>Purpose</u>	
McKenzie	45,550,000	10	4,800,000	LE Center	
Williams	12,200,000	10	1,000,000	Highway Complex	
Williams	23,450,000	10	2,300,000	Courthouse/LEC/Admin/Master Plan	

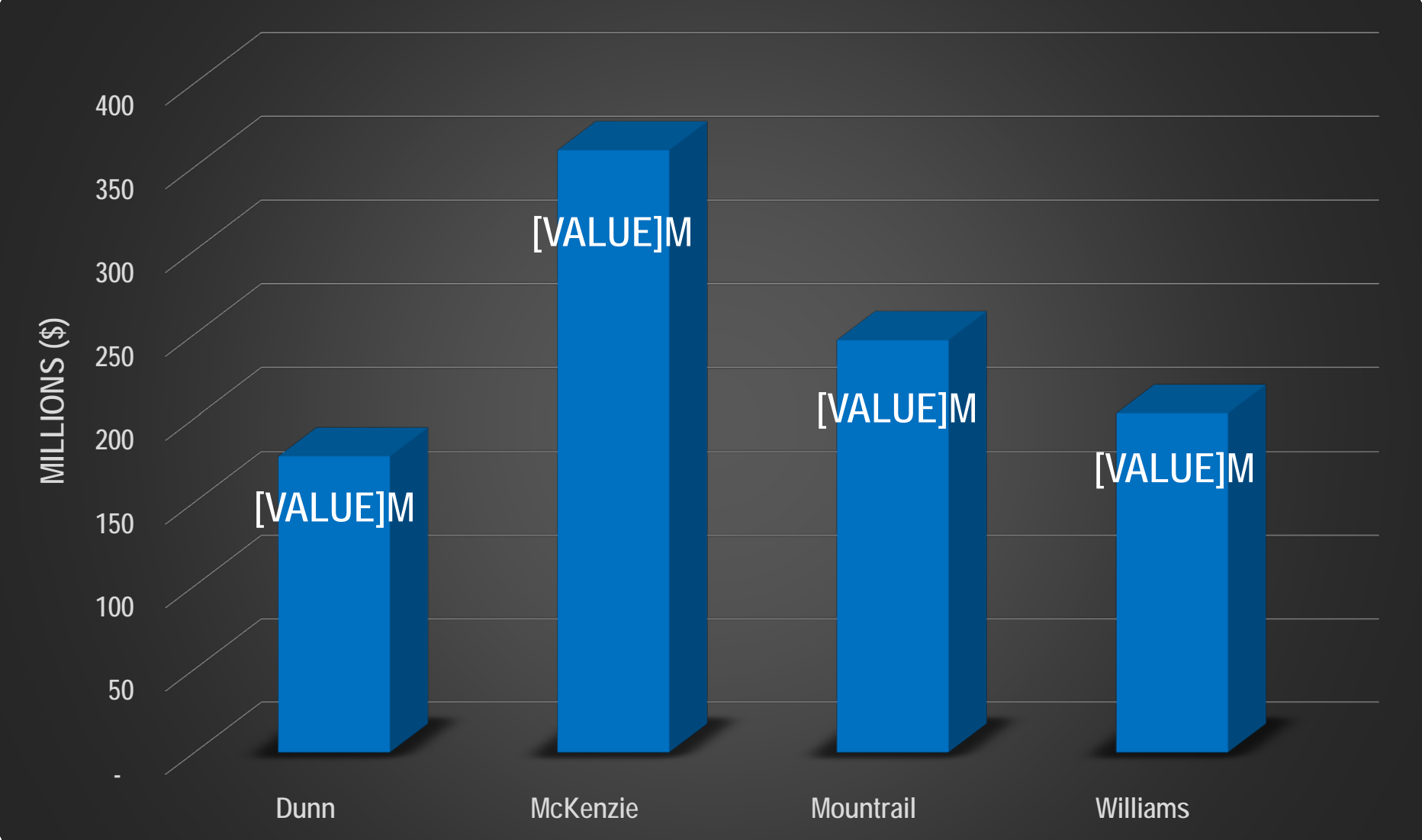
# ROADS AND BRIDGES



## 2010 – 2017 Road and Bridges Investment

4-County road needs  
funded since 2010:

**\$987M**





**ROADS AND BRIDGES**

# ROADS AND BRIDGES

## Capital Improvement Plan – Dunn County

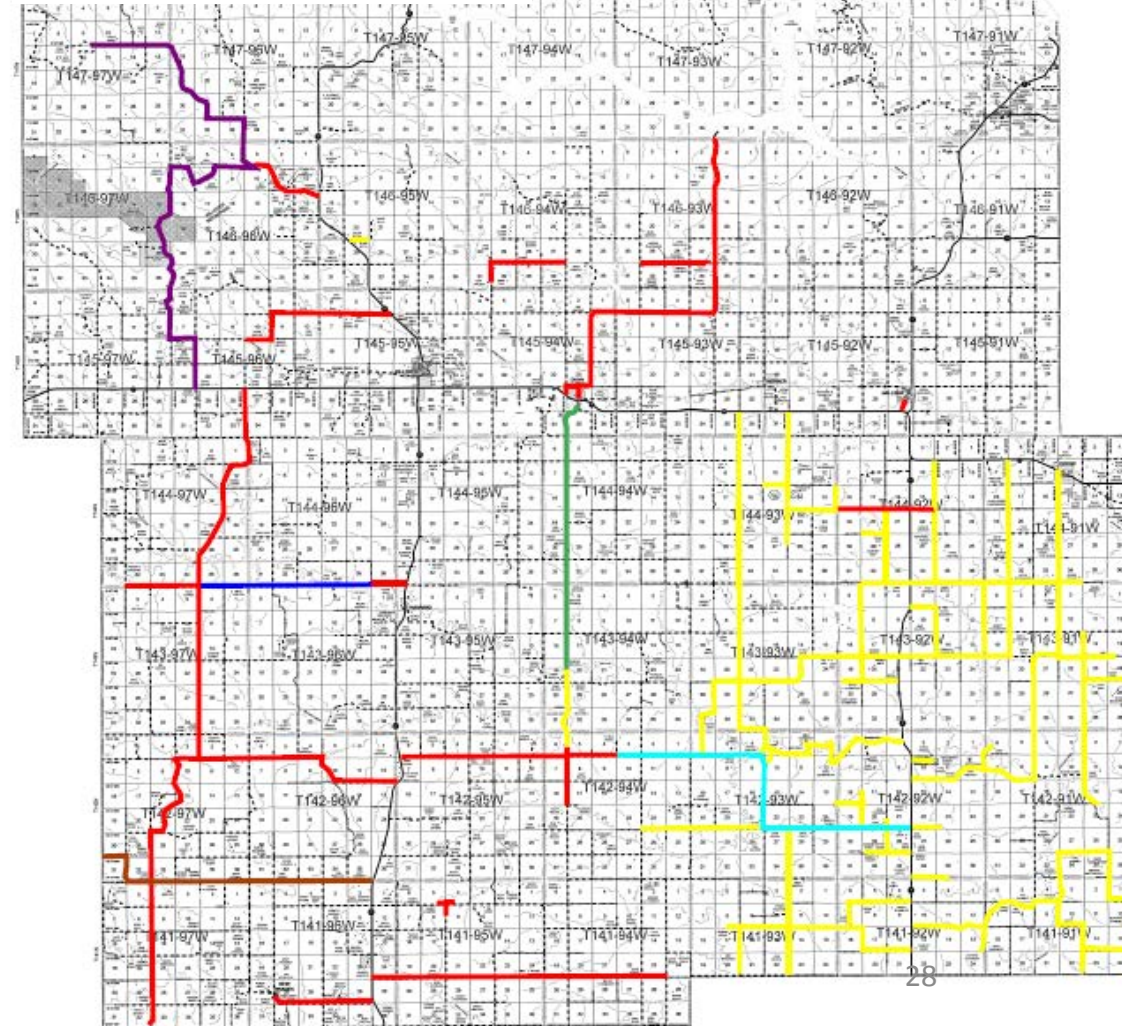
### 2010-2017:

- Gravel Reconstruction – 157 Miles
- New Pavement – 39 Miles
- Reconstructed Pavement – 14 Miles
- Resurface (Chip Seals/Overlays) – 53 Miles
- Bridges/Structures – 4 Total

### 2018-2022:

- Gravel Reconstruction – 59 Miles
- New Pavement – 24 Miles
- Reconstructed Pavement – NA
- Resurface (Chip Seals/Overlays) – 53 Miles
- Bridges/Structures – NA

### Road Improvement Plan



# ROADS AND BRIDGES



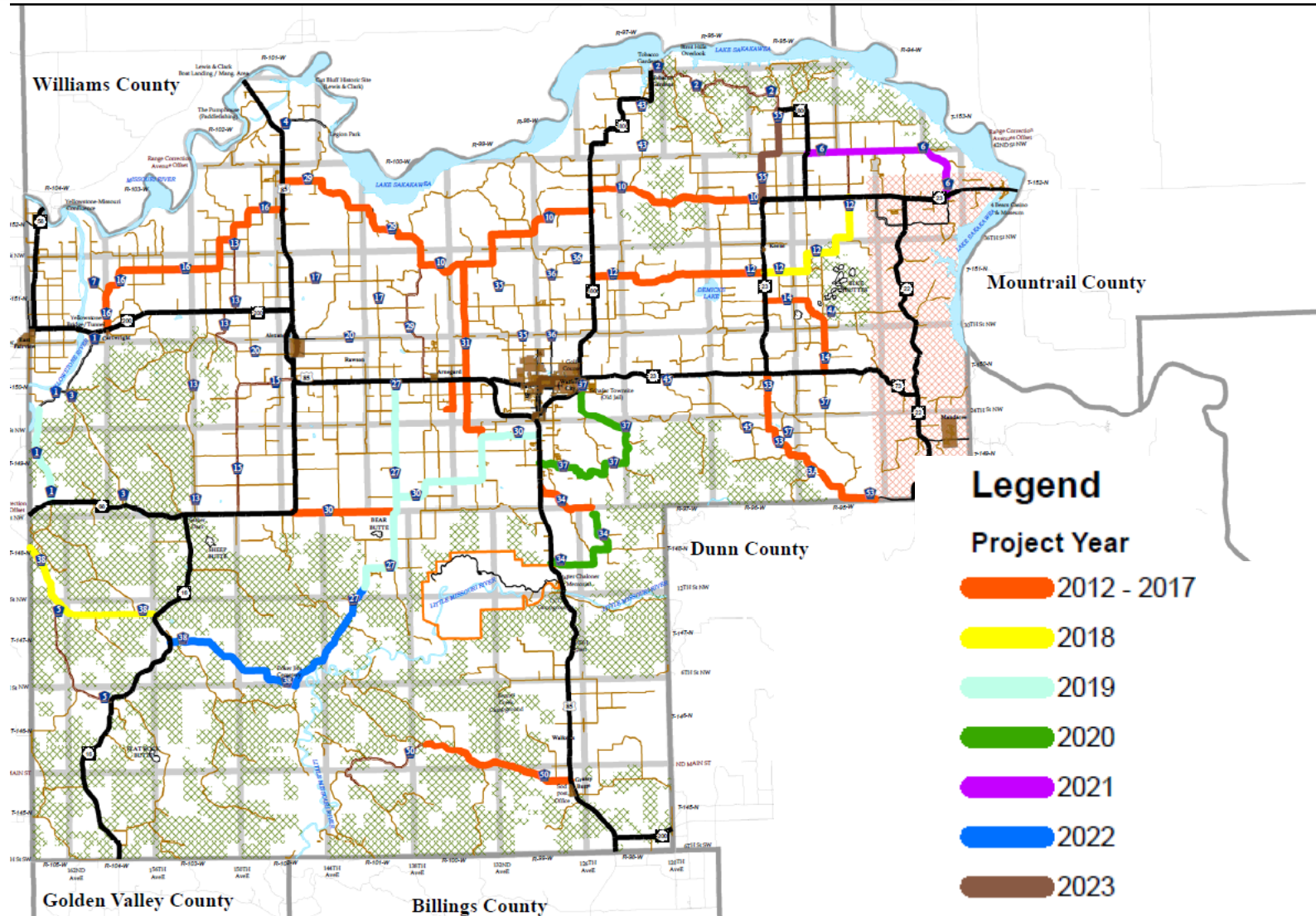
## Capital Improvement Plan – McKenzie County

### 2010-2017:

- Gravel Reconstruction – 97 Miles
- New Pavement – 111 Miles
- Reconstructed Pavement – 11 Miles
- Resurface (Chip Seals/Overlays) – 6 Miles
- Bridges/Structures – 14 Total

### 2018-2022:

- Gravel Reconstruction – 75 Miles
- New Pavement – 73 Miles
- Reconstructed Pavement – 42 Miles
- Resurface (Chip Seals/Overlays) – NA
- Bridges/Structures – 15 Total



# ROADS AND BRIDGES



## Capital Improvement Plan – Mountrail County

2010-2017 (miles):

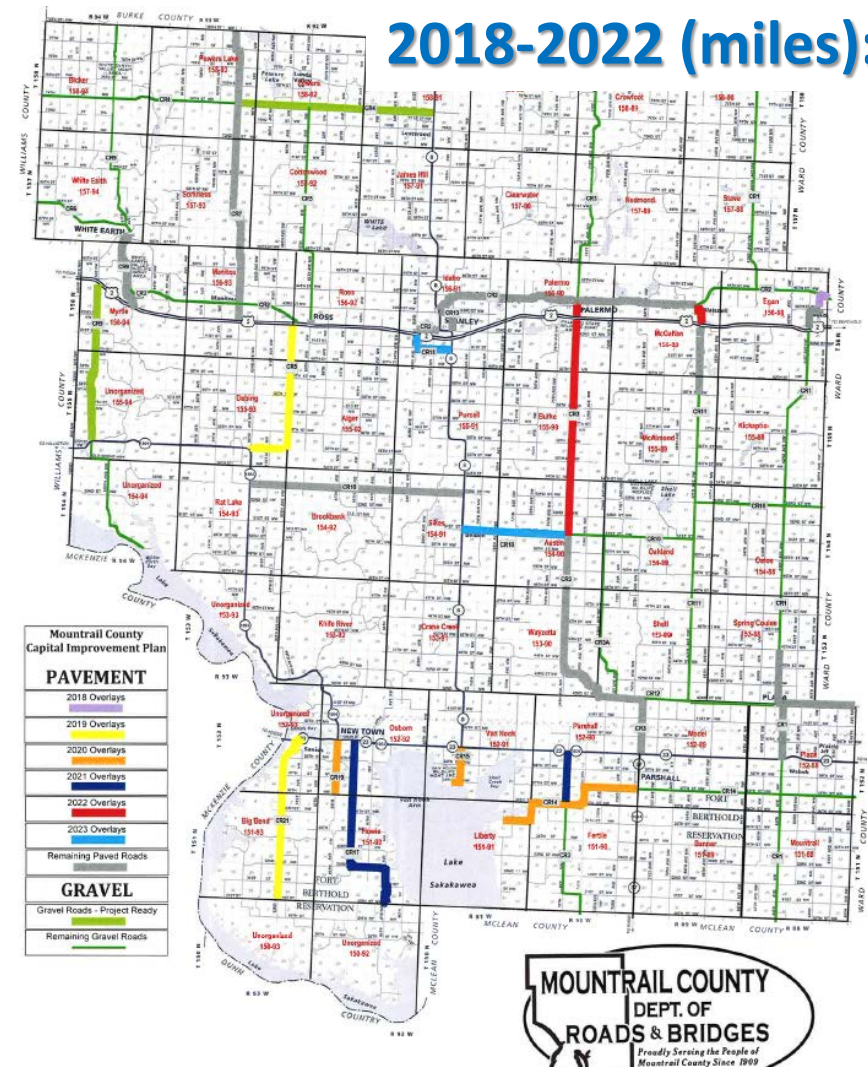
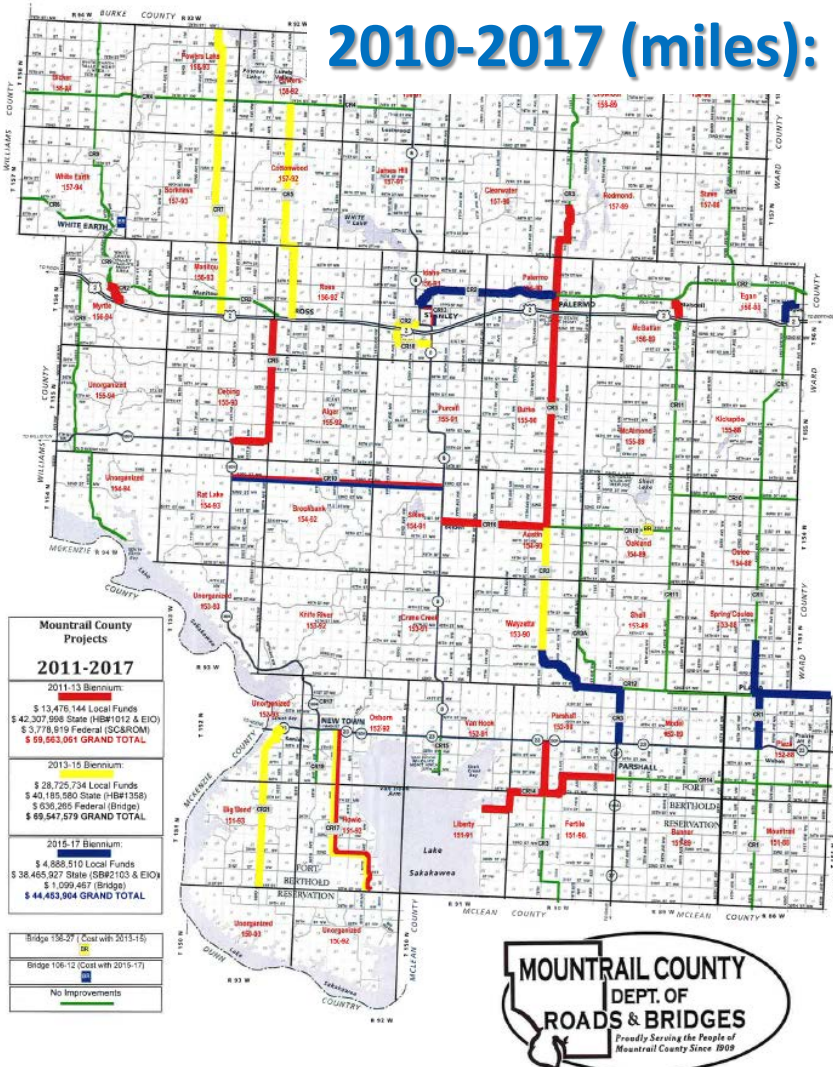
2010-2017 (miles):

- Gravel Reconstruction – 17
- New Pavement – 138
- Reconstructed Pavement – 26
- Resurface – 17
- Bridges/Structures – 2 Total

2018-2022 (miles):

- Gravel Reconstruction – NA
- New Pavement – 20
- Reconstructed Pavement – 1
- Resurface – 58
- Bridges/Structures – NA

2018-2022 (miles):



# ROADS AND BRIDGES



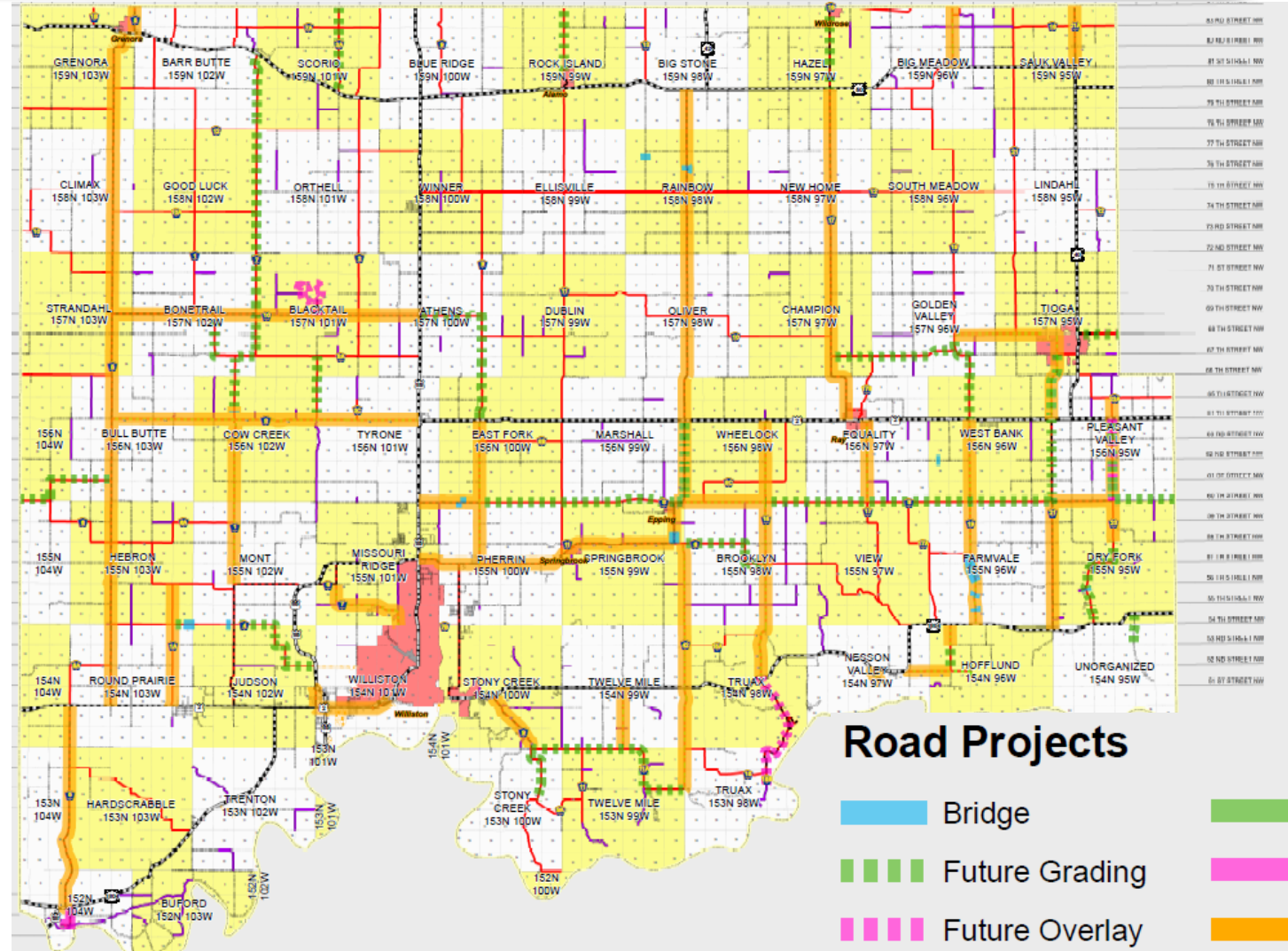
## Capital Improvement Plan – Williams County

### 2010-2017 (miles):

- Gravel Reconstruction – 121
- New Pavement – 3
- Reconstructed Pavement – 26
- Resurface – 93 Miles
- Bridges/Structures – 3 Total

### 2018-2022 (miles):

- Gravel Reconstruction – 74
- New Pavement – 15
- Reconstructed Pavement – 15
- Resurface – 100
- Bridges/Structures – 9 Total



**Williams**  
COUNTY

#### Legend

- US / State Highway
- Township Paved Road
- County Gravel/Chip Road
- County Paved Road
- County Gravel Road
- Gravel Road
- Low Maintenance Road
- Airport
- Sections
- City Limits

**Williams County**  
**Highway Project Map**

#### Road Projects

- Bridge
- Future Grading
- Future Overlay
- Grading
- Overlay
- Completed Projects



## Township Summary

**Township Roads  
are essential  
infrastructure  
serving the  
agriculture and  
energy industries**

### ➤ Township Summary:

	Dunn	McKenzie	Mountrail	Williams
Organized	None	34	49	51
Unorganized	53	62	6	6
<i>Organized TWP Road Maintenance Agreements</i>	<i>N/A</i>	34	36	51 (on call)

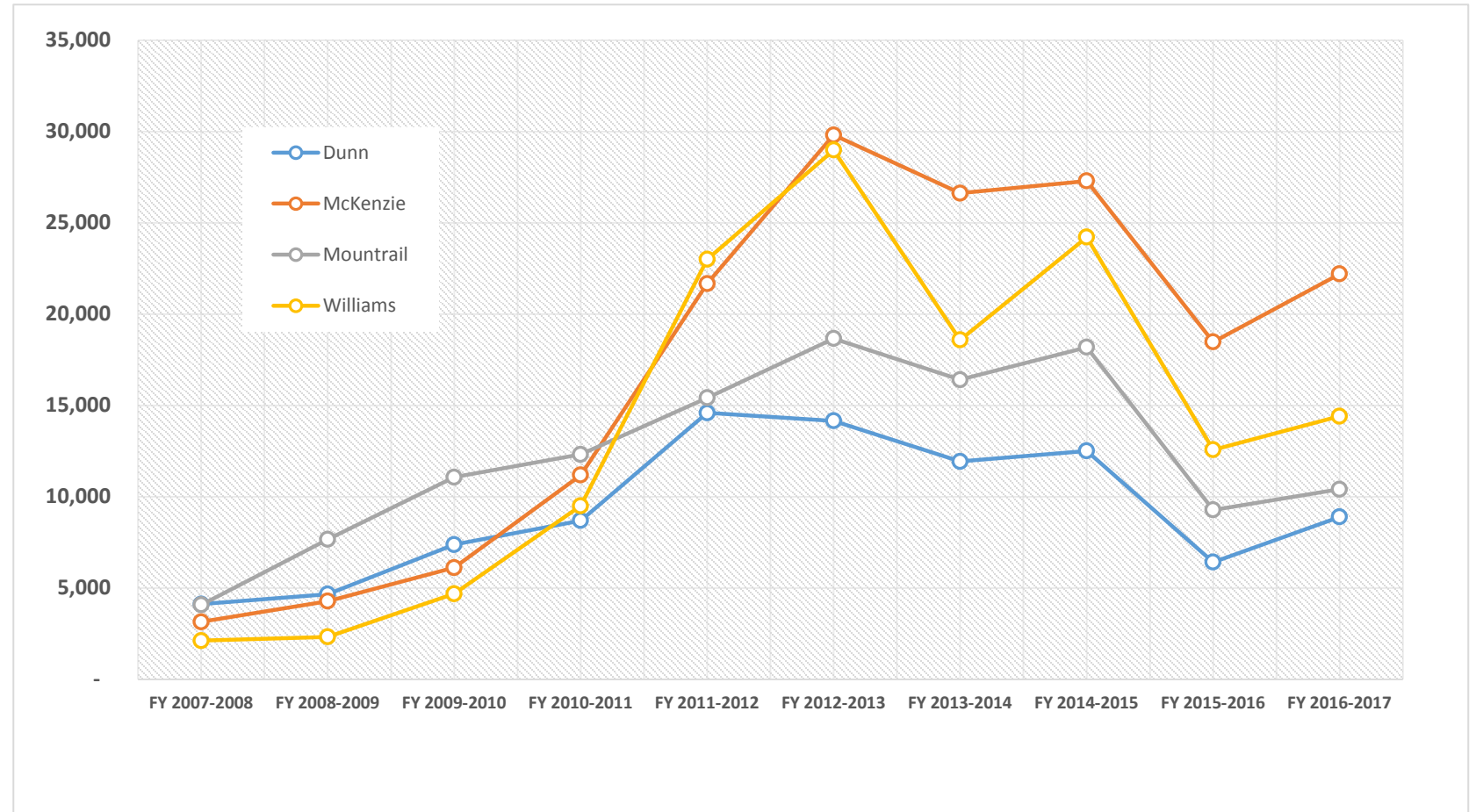
### ➤ Certified Township Road Miles (2016):

	Dunn	McKenzie	Mountrail	Williams
Organized	-	382	1,258	1,217
Unorganized	876	720	54	142
<b>Total</b>	<b>876</b>	<b>1,102</b>	<b>1,312</b>	<b>1,359</b>



## Load Pass Permits

**The Load Pass Permit System is administered by the Western Dakota Energy Association**



Permits Sold FY 2007/2008 – FY 2016/2017



### **4-County Road and Bridge Needs Overview:**

- **Projected Needs**
- **Planned Improvements**
- **Revenues Available for Use**
- **Projected Funding Gap**



## Total Projected Need

### Data captured from NDSU Upper Great Plains Transportation Institute (UGPTI) Study and County Road and Bridge CIP:

- *Infrastructure Needs: North Dakota's County, Township, and Tribal Roads and Bridges: 2017-2036*
- Study Projected Paved, Unpaved, and Bridge Needs by County for 3 Rig Count Scenarios (30, 60, and 90 Rig Annual Average)

#### Unpaved Needs Analyzed:

- Graveling Frequency
- Blading Frequency
- Intermediate Practices
- Asphalt Surfacing

#### Paved Needs Analyzed:

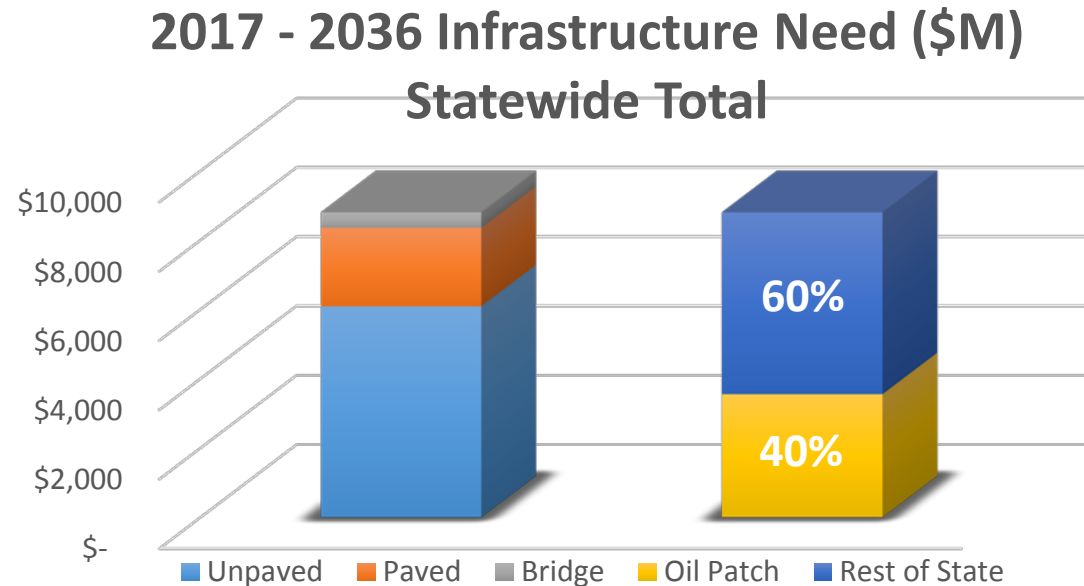
- Sealing
- Resurfacing
- Widening
- Reconstruction



## Total Projected Need

### UGPTI Study Summary:

- **Statewide Total of \$8.8 Billion (2016\$) over 20 years**
- **~40% of total projected need in 17 Oil Producing Counties**



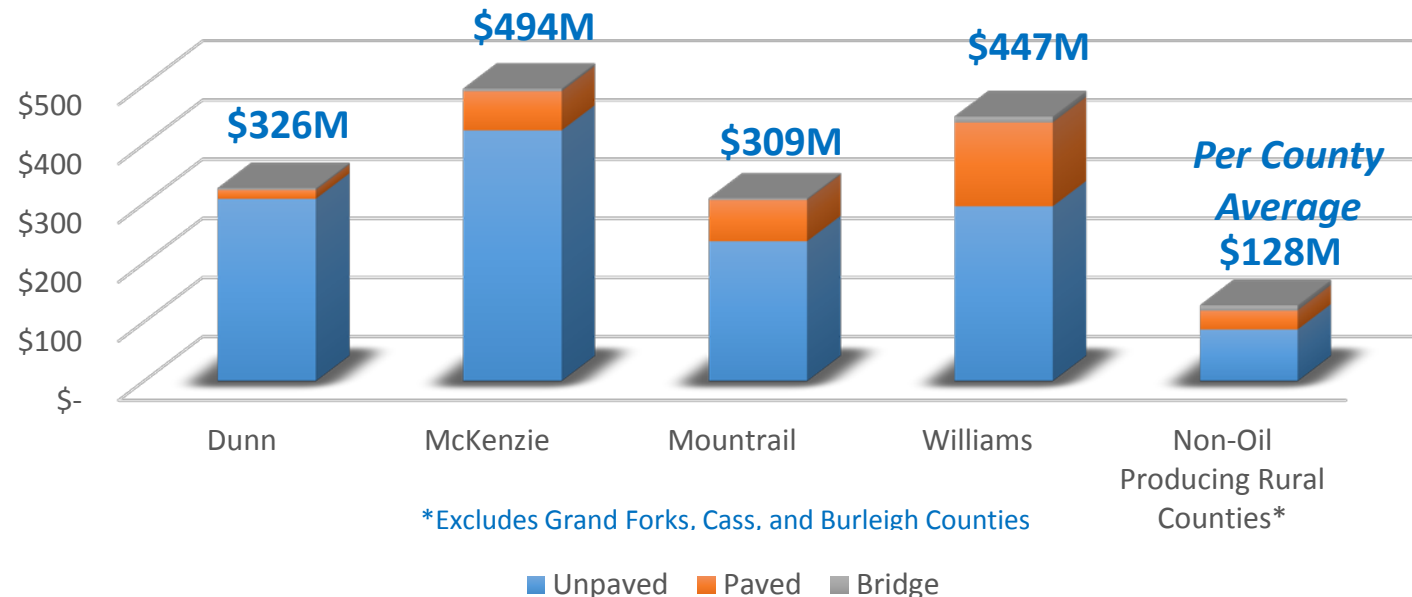
# ROADS AND BRIDGES



Total Projected Need (2016\$)

## Projected Need in 4-County Area as compared to non-oil producing rural counties

2017 - 2036 Road & Bridge Infrastructure Need (\$M)  
Cumulative Total by County (60-Rig Scenario)



# ROADS AND BRIDGES



## Capital Improvements Plans

### 5 Year Capital Improvements Plan: 2018-2022

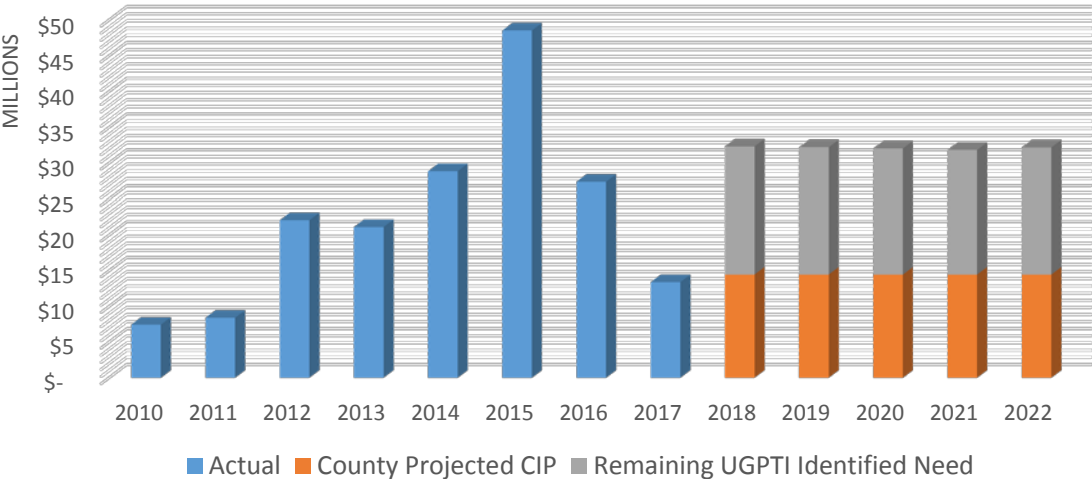
	Dunn	McKenzie	Mountrail	Williams	TOTAL
<b>Gravel Reconstruction</b>	59	75	-	74	208
Estimated Cost	29,500,000	52,500,000	-	68,450,000	150,450,000
<b>Resurface Chipseal/Overlay</b>	53	-	127	100	280
Estimated Cost	2,120,000	-	48,036,020	5,400,000	55,556,020
<b>Pavement Reconstruction</b>	-	42	1	15	58
Estimated Cost (\$1.7M/mile)	-	71,400,000	1,700,000	25,500,000	98,600,000
<b>New Pavement</b>	24	73	20	15	132
Estimated Cost (\$1.7M/mile)	40,800,000	124,100,000	33,728,000	25,500,000	224,128,000
<b>Structures (Bridges)</b>	-	15	-	9	24
Estimated Cost	-	10,000,000	-	6,000,000	16,000,000
<b>Total</b>	72,420,000	258,000,000	83,464,020	130,850,000	544,734,020

# ROADS AND BRIDGES

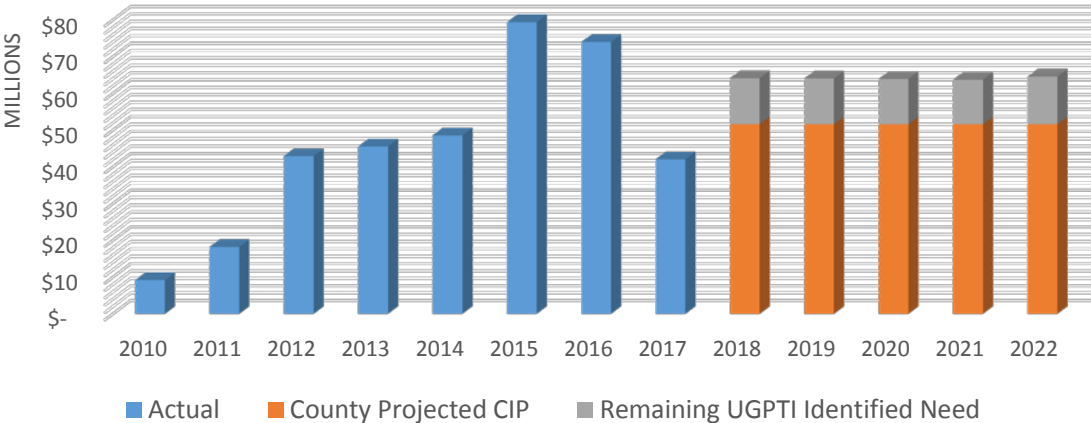


## Historical Expenditures and Projected Need

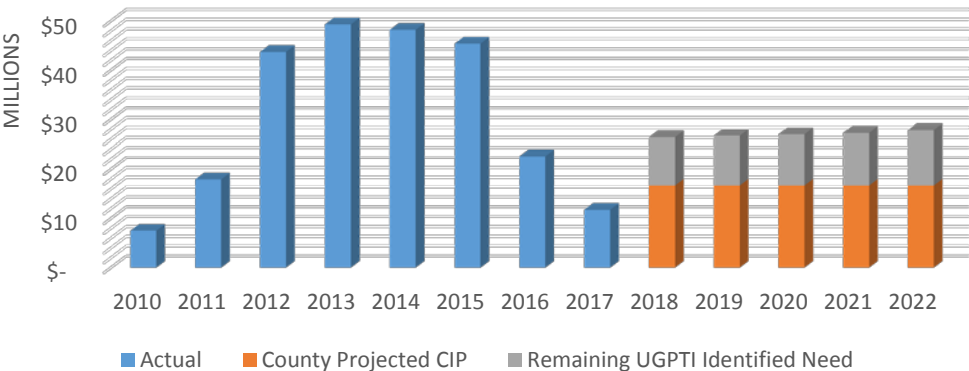
Dunn County



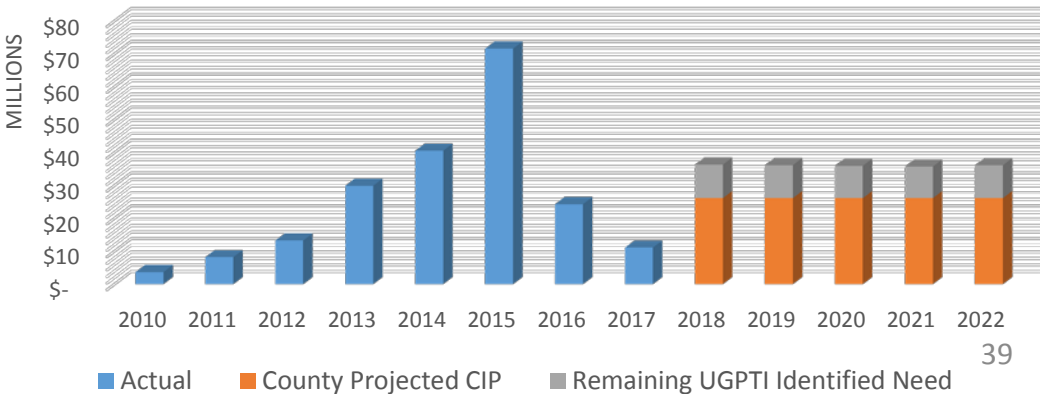
McKenzie County



Mountrail County



Williams County





## Key Revenues Available for Use

### **Key County and Township Revenues Available for Use:**

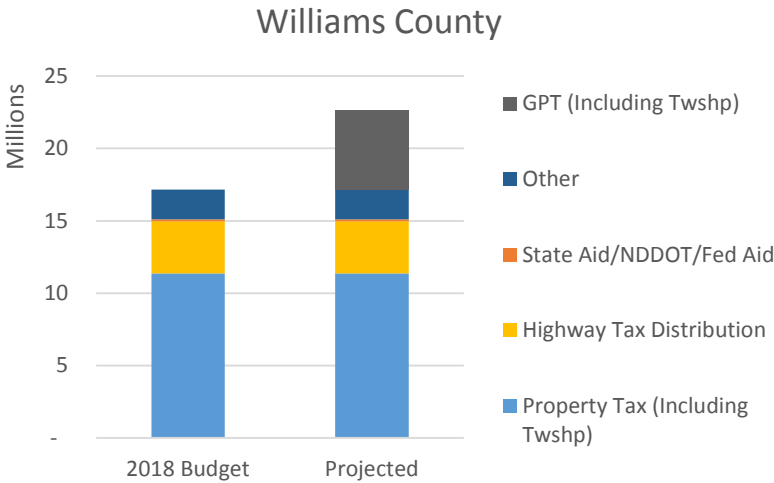
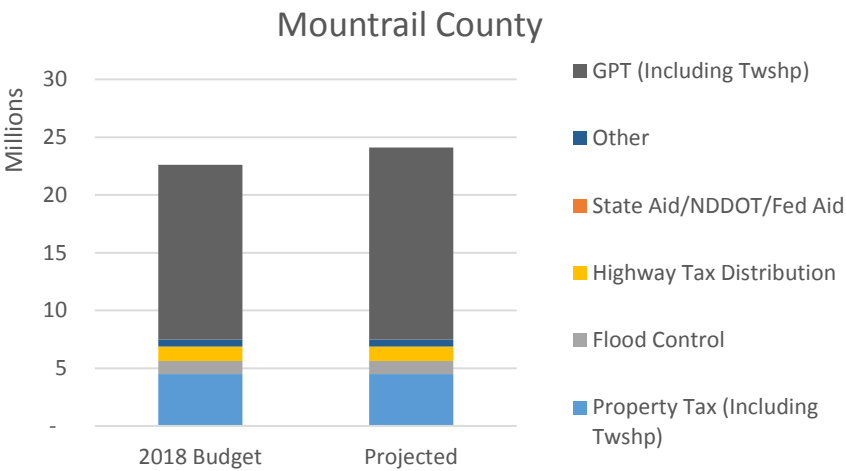
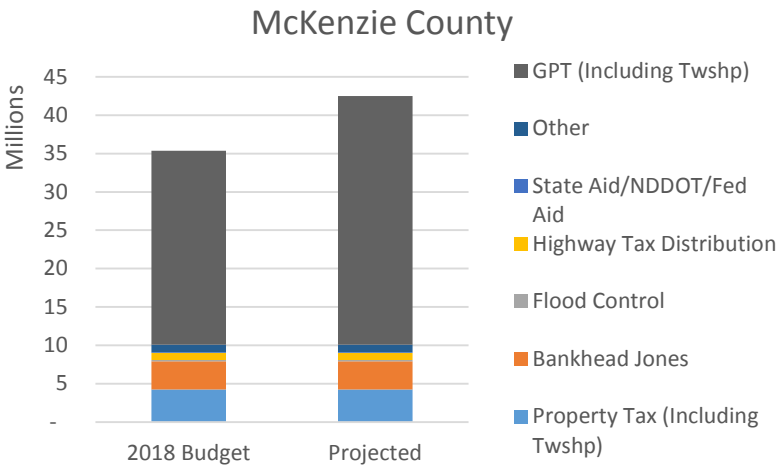
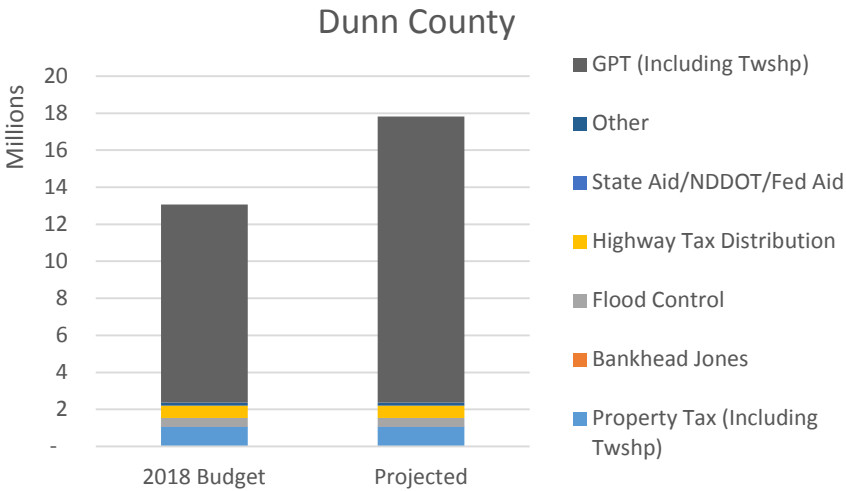
- County and Township GPT Distribution
- State Aid / NDDOT / Federal Aid
- Highway Tax Distribution
- Property Tax Levy
- Flood Control Revenues

# ROADS AND BRIDGES



## Revenue Sources

*Future GPT Revenue Projections adjusted based on Revised GPT Forecast*



# ROADS AND BRIDGES

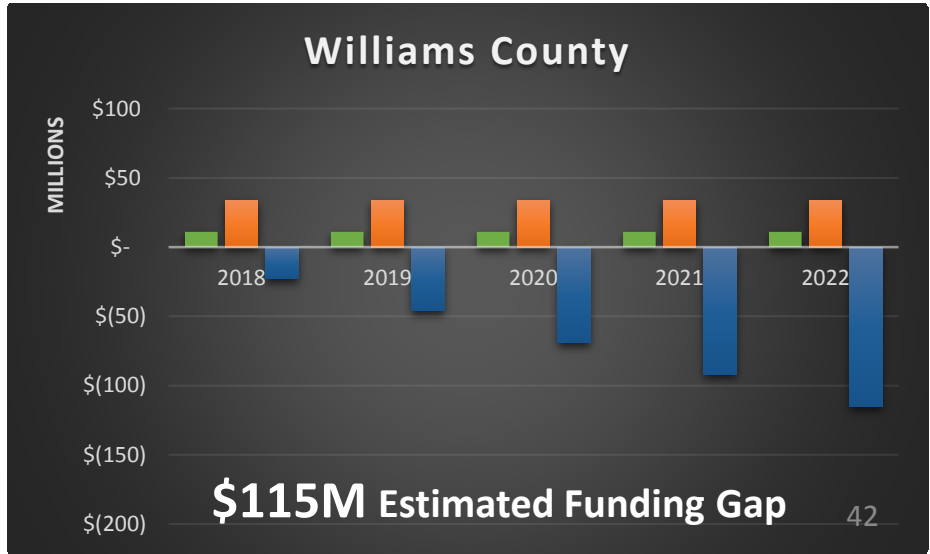
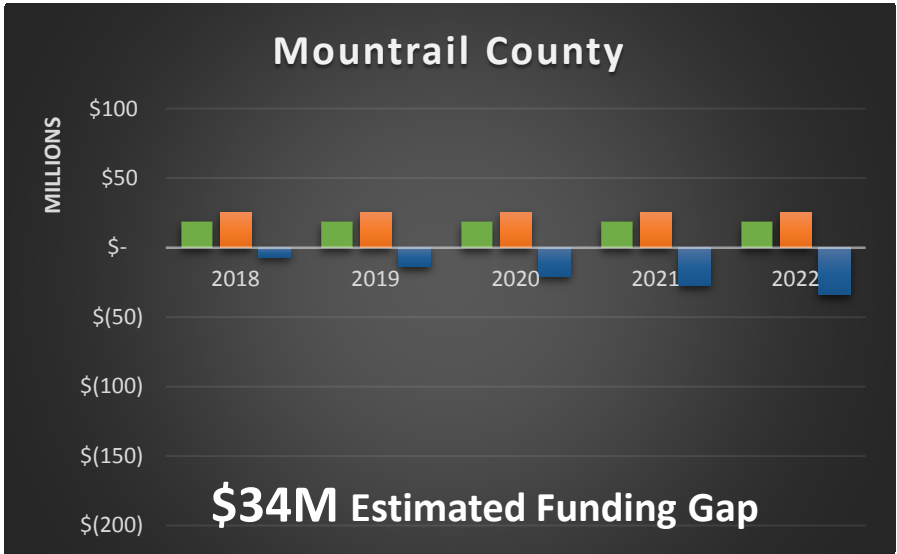
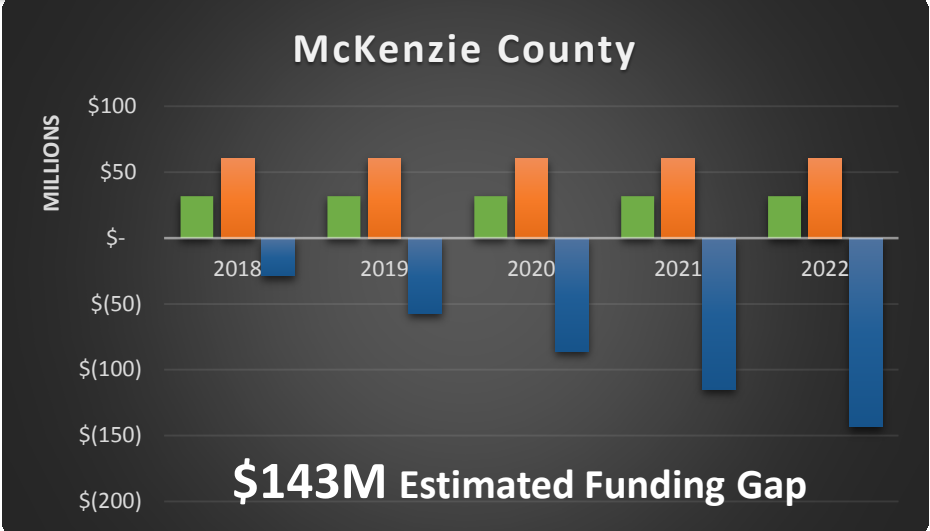
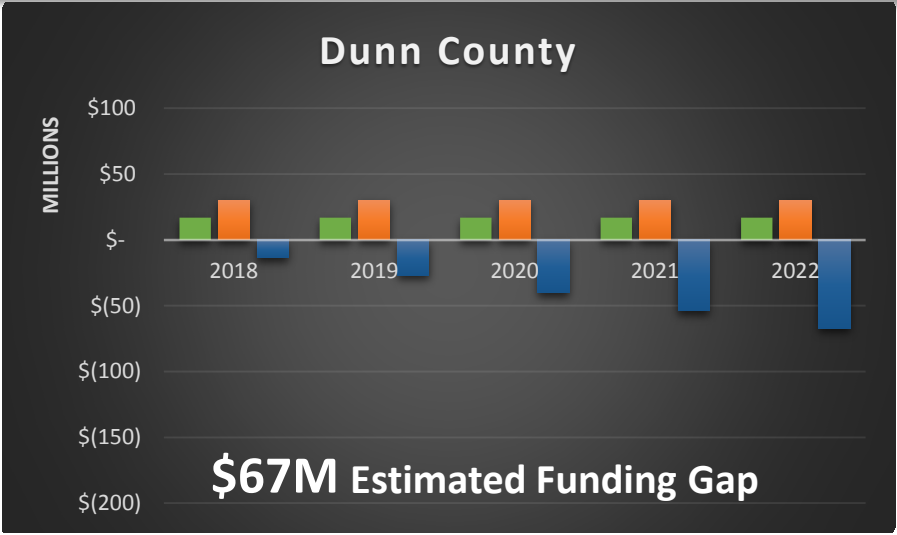


## 5-Year Funding Gap

Projected Revenues Available for Improvements\* versus Road & Bridge Need

*\*Revenues Available for Improvements = total revenues less department operations expense*

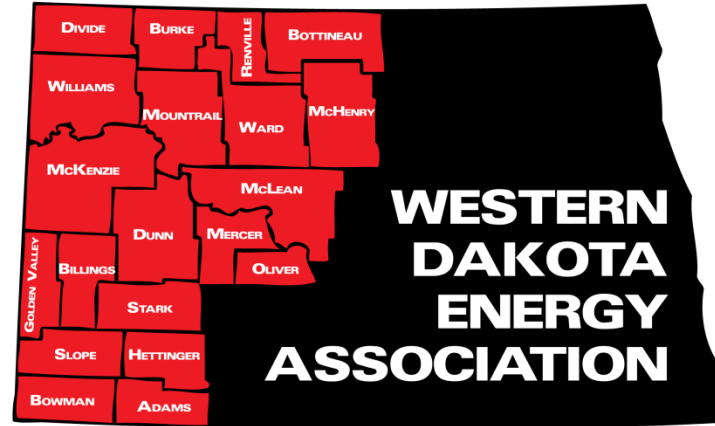
- Total Revenues Available for Improvements\*
- Projected Road & Bridge Need
- Cumulative Gap





## O&G Development County Impacts

- **On-going development of O&G in the 4 Counties continues**
- **Further increases expected with increased price and efficiency in the drilling process that will impact all O&G producing counties**
- **Significant past investments have been made and GPT has been an essential resource to meeting the need**
- **Moving forward, large demands remain in O&G producing counties**
- ***To meet this demand - GPT will continue to be critical tool for the O&G producing counties moving forward!***



# Thank you!

June 4, 2018