

# U.S. 412 Corridor Study

Dunklin County Missouri

From Arkansas State Line to Kennett

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# Route 412, The Backstory.....





# Corridor History Since Mid 1990's.....

Project Number	County	Route	Description / Location	CN_Dollars	Project Manager	State Fiscal Year	Award Mo	Award Yr	Letting Date
OP0600B	PEMISCOT	US 412 E	Grading and bridges for 4 new lanes on part and 2 added lanes on part from Rte. B/Z to 2.3 miles west of Rte. P.	\$1,562,283	ERIC KRAPP	2001	10	2000	9/15/2000
OP0570C	DUNKLIN	US 412 E	Grading and bridges to add lanes from 0.4 mile west of Rte. Z to Pemiscot County Line.	\$2,244,710	ERIC KRAPP	2003	2	2003	1/24/2003
OP0600E	PEMISCOT	US 412 E	Grading and drainage from Dunklin County to 0.6 mile east of Rte. A.	\$1,458,380	ERIC KRAPP	2004	12	2003	11/14/2003
OP0570	DUNKLIN	US 412 E	Grading and paving to add lanes for a 4-lane divided highway from 0.4 mile west of Rte. Z to Pemiscot County line.	\$8,067,491	ERIC KRAPP	2006	12	2005	11/18/2005
OP0035D	PEMISCOT	MO 84 E	Grading for 4 lane highway from west of Hayti Heights southeast to South Pemiscot Street.	\$1,836,061	ERIC KRAPP	2001	4	2001	3/16/2001
OP0035B	PEMISCOT	US 412 E	GRADING RTE. 412 SOUTHEAST TO I-55 & I-155 (HAYTI RELOCATION)	\$2,750,000		1994			
OI0004F	PEMISCOT	US 412 E	GRADING RTE. J OVERPASS	\$924,000		1994			
OP0600C	PEMISCOT	US 412 E	Grading to add lanes from 0.3 mile west of county road 287 west to Rte. B/Z.	\$3,232,878	ERIC KRAPP	2000	2	2000	1/21/2000
OP0035C	PEMISCOT	US 412 E	Grading to add surcharge to existing roadway fill from Burlington Northern Railroad east to Rte. J.	\$82,000	ERIC KRAPP	1998	12	1997	11/21/1997
OP0334	DUNKLIN	US 412 E	Grading, paving and replace bridge over St. Francis River from the Arkansas line to 0.5 mile east of Rte. AC.	\$11,988,355	ERIC KRAPP	2002	8	2001	7/20/2001
OI0004E	PEMISCOT	US 412 E	Grading, paving, bridges and construct the three remaining ramps at the interchange of Rte. 412 and I-55 from Rte. J to I-55 interchange near Hayti. Involves bridge A-3795.	\$5,236,173	ERIC KRAPP	2003	1	2003	12/13/2002
9P3077	DUNKLIN	US 412 W	Intersection improvements from Rte. 84 to Rte. VV in Kennett.	\$6,949,573	ERIC KRAPP	2015	12	2014	11/21/2014
OP0570B	DUNKLIN	US 412 W	New bridges over drainage ditches 1.3 miles west of Rte. NN.	\$4,041,372	ERIC KRAPP	2003	2	2003	1/24/2003
OP0600	PEMISCOT	US 412 E	Paving and grading to add lanes for a four-lane divided highway from Dunklin County to 0.6 mile east of Rte. A.	\$3,616,935	ERIC KRAPP	2004	12	2003	11/14/2003
OP0035	PEMISCOT	MO 84 E	Paving for 4 lane highway on Rte. 412 west of Hayti Heights southeast to Rte. J.	\$5,012,375	ERIC KRAPP	2003	1	2003	12/13/2002
OP0600D	PEMISCOT	US 412 E	Paving from 0.3 mile west of county road 287 west to 2.3 miles west of Rte. P.	\$15,415,623	ERIC KRAPP	2002	1	2002	12/14/2001

# Corridor Completion from Kennett to Interstate 55 Summer 2007





# U. S. 412 Crossing Cache River near Walnut Ridge, AR



# Construction of St. Francis River Bridge near Cardwell, MO circa 2004



# Multi-lane Roundabout U.S. 412, Route VV/Kennett Street Construction circa 2015





U.S. 412 Greene County Arkansas circa 1994





U.S. 412 Greene County Arkansas circa 2009



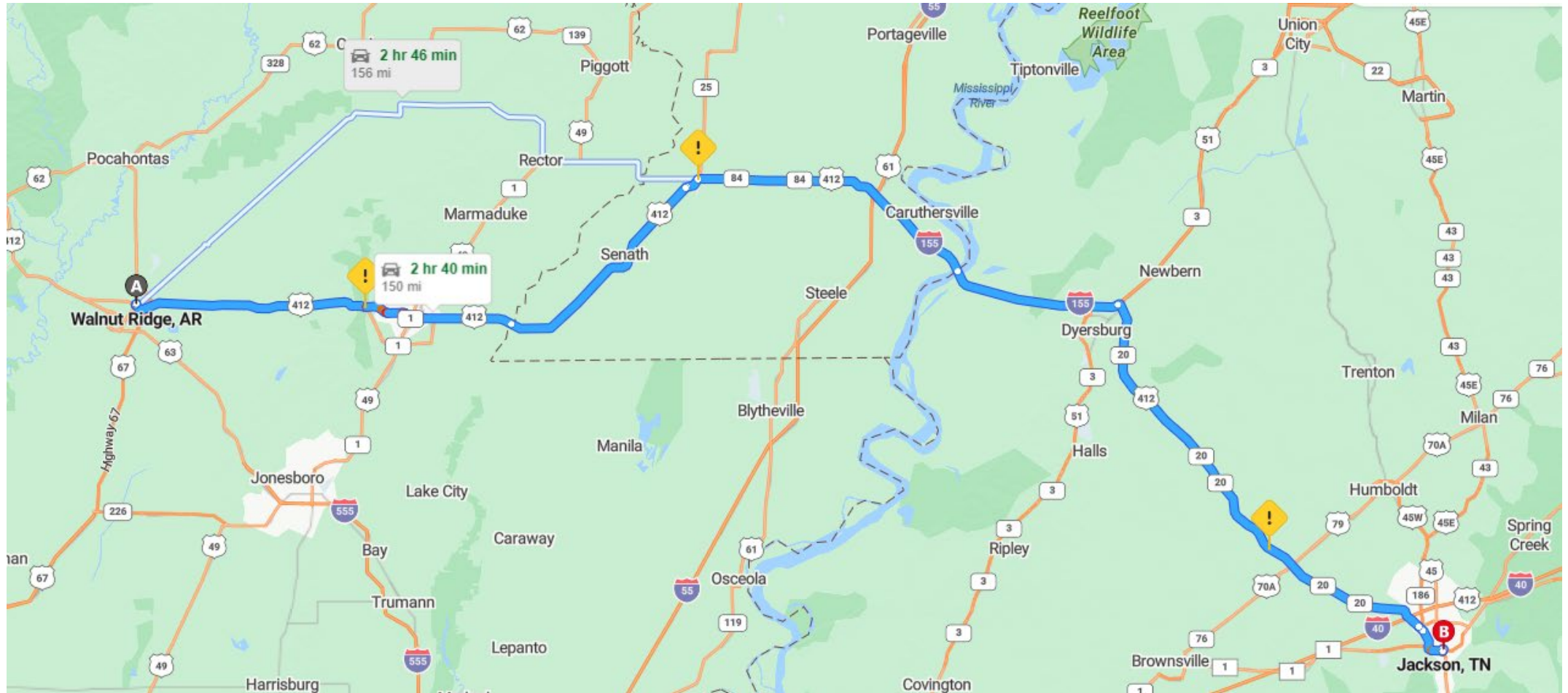
# Points to Ponder.....



- Missouri has made a significant investment in a partially completed corridor.
- Traffic patterns, volumes, geography and road users are similar in NE AR and SE MO.
- Some of the “norms” today were the innovations of the past.
- Data from similar corridors is valuable as we make decisions moving forward.
- The likelihood of a project increases as cost decreases and public sentiment increases.

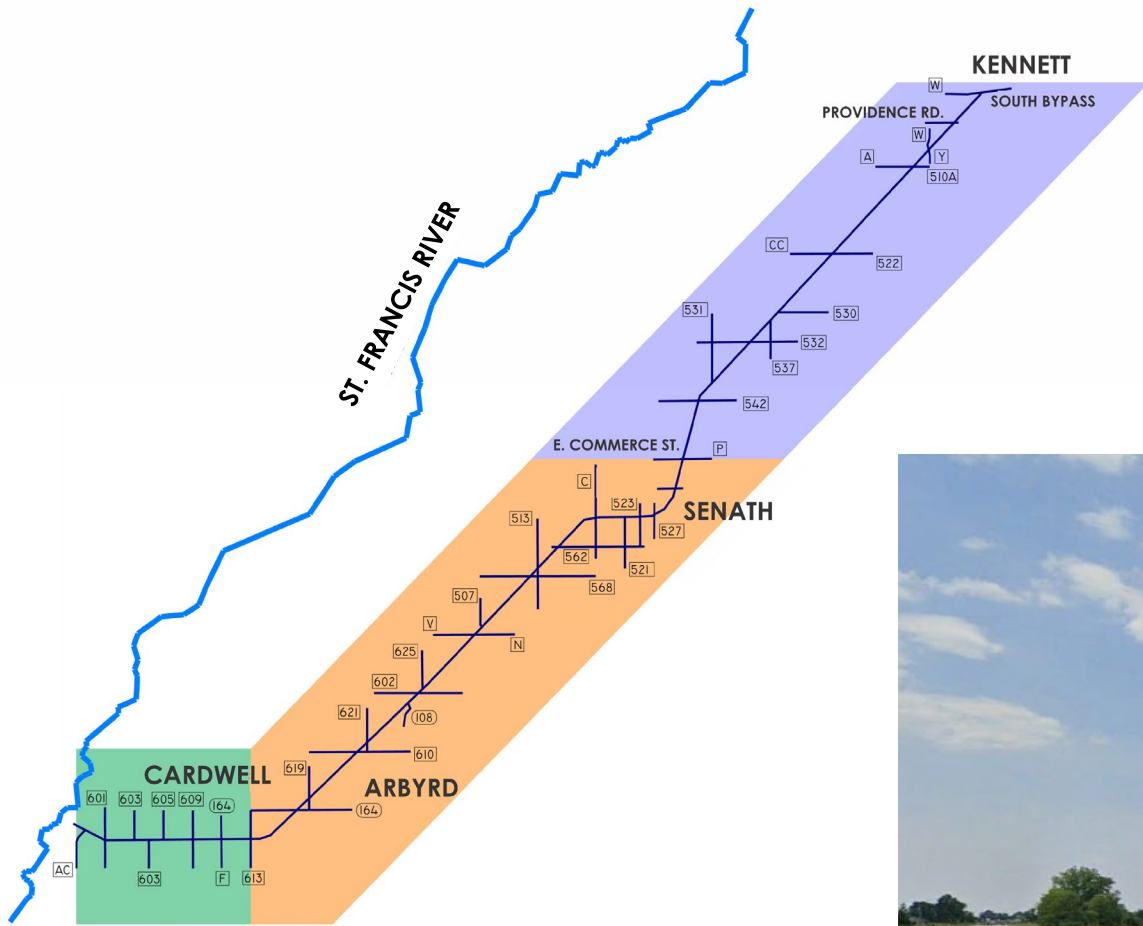


# US 412 Corridor Study





# US 412 Corridor Study



- Corridor Length – 20.8 miles
  - AADT – 6200 Trucks - 15%
  - Existing Corridor has Limited Access Right of Way
  - Several private driveways between state line and Cardwell – 3 miles
  - Total of 4 private driveways between Cardwell and Kennett – 18 miles
  - Corridor has 9 state route and 27 county road intersections
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## • Corridor Needs

- Dunklin County and Bootheel Regional Planning Commission identified this corridor as having a need for improvement to a multi-lane facility.
  - This 20.8 mile corridor is the only section of the 150 mile segment of US 412 between Walnut Ridge Arkansas and Jackson Tennessee that remains a two-lane roadway.
  - Stakeholders cite the high volume of agricultural traffic, truck traffic, and system continuity as the primary drivers of this need.
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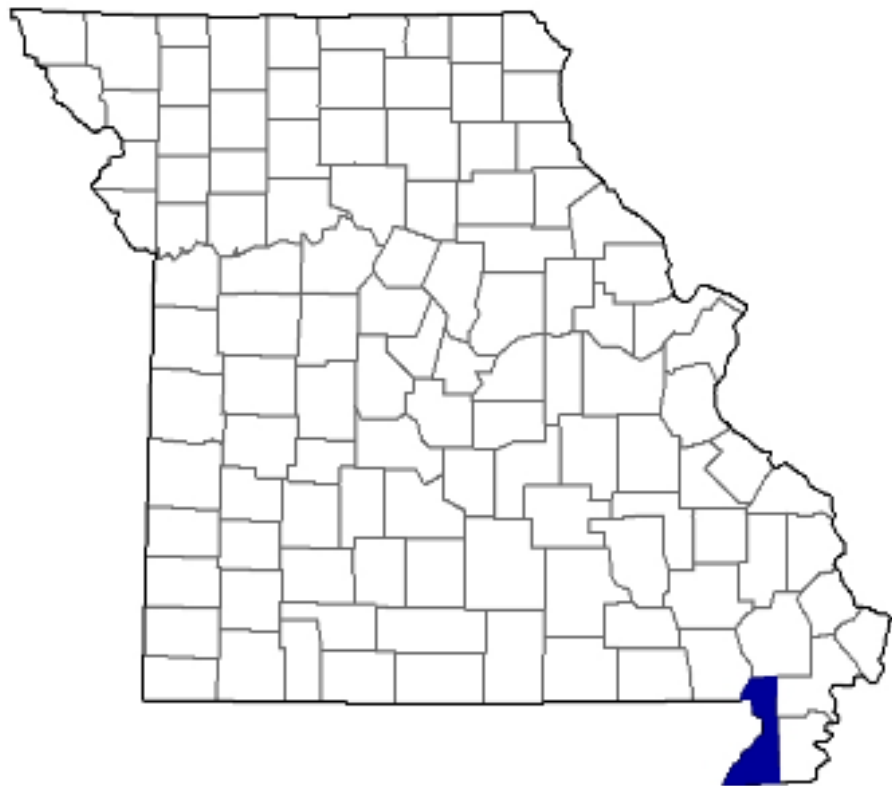
# US 412 Existing 2 Lane – 12 foot lanes and 8 foot shoulders

TWID: 1101 LOG: 31.699 (Opp: 1100 LOG: 19.135)





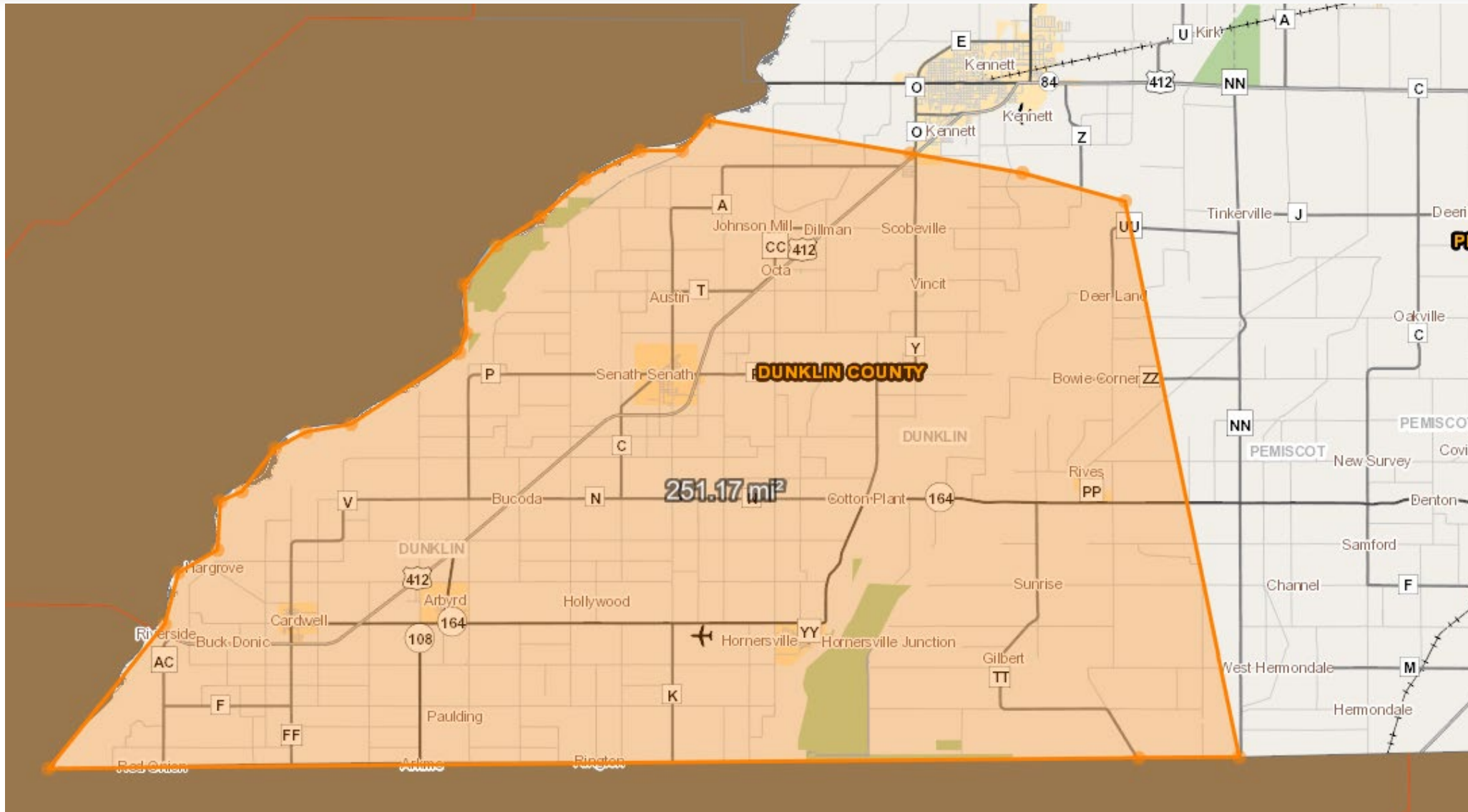
# US 412 Corridor Study



- **Agriculture in Dunklin County**
- Produces \$196 million in crops each year
- Primary crops include cotton, peanuts, and grains
- The 20.8 mile US 412 corridor in the study serves 45% of farmland in the county, about 250 square miles.



# US 412 – Serving as both Arterial Highway and Farm to Market Road





# Year-Round Agricultural Traffic – Planters in the Spring

TWID: 1100 LOG: 8.937 (Opp: 1101 LOG: 41.897)



US 412 Between Cardwell and Senath



# Year-Round Agricultural Traffic – Harvesters in the Fall



Typical Cotton Harvester



# Year-Round Agricultural Traffic – Harvest and Transport in Fall



Cotton Trailer Used by Caruthersville Gin

- Speed limit 60 mph
  - 45 mph in Cardwell and Senath
  - Major Intersections in Cardwell – Route F/164 and Route 164 East
  - Major Intersection in Senath – Route P
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# Arkansas 412 Walnut Ridge to MO State Line – 35 miles Five Lane Section



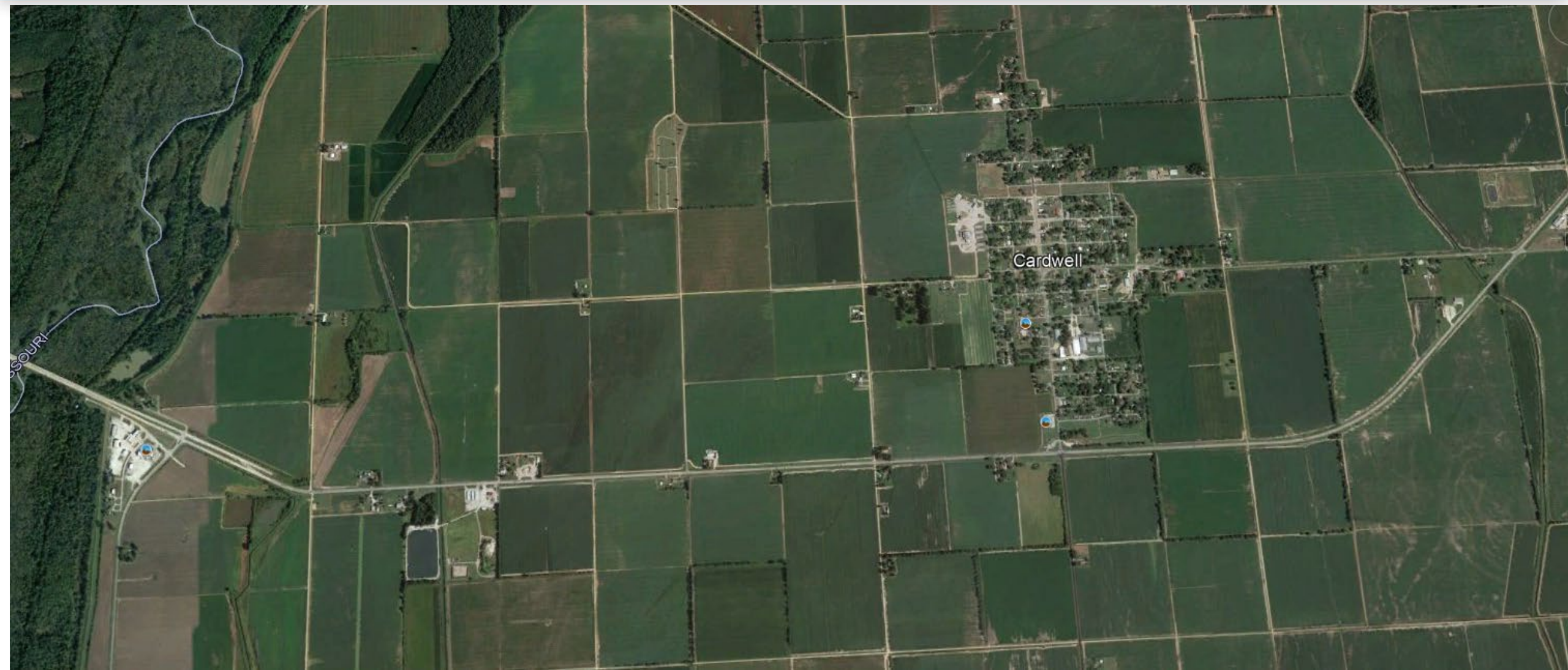


# West Tie-in to Arkansas Divided Highway



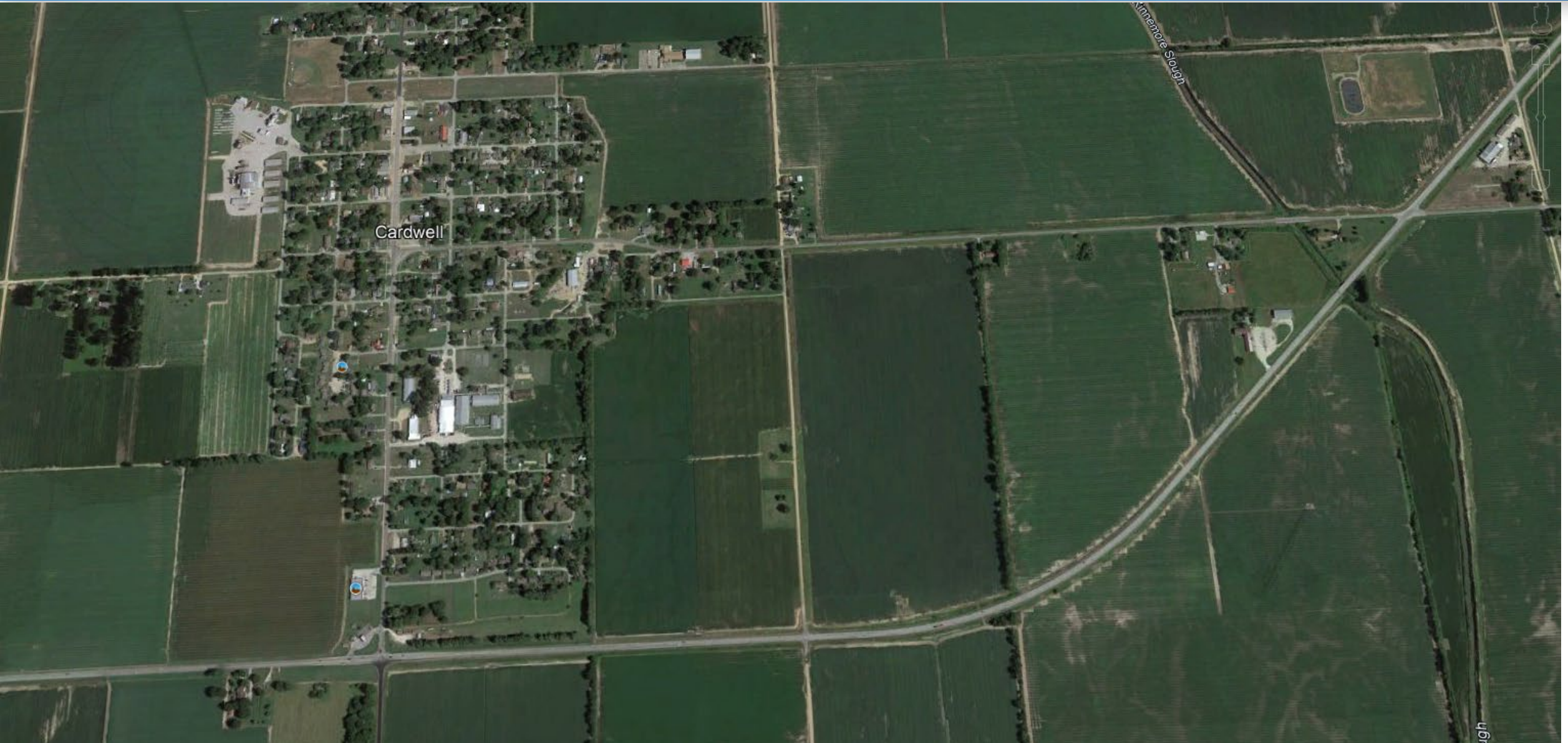


# State Line to Cardwell – 3 miles





# City of Cardwell – US 412 Intersections at Route 164/F and Route 164 East





# Cardwell to Senath - 7 mile Tangent Section



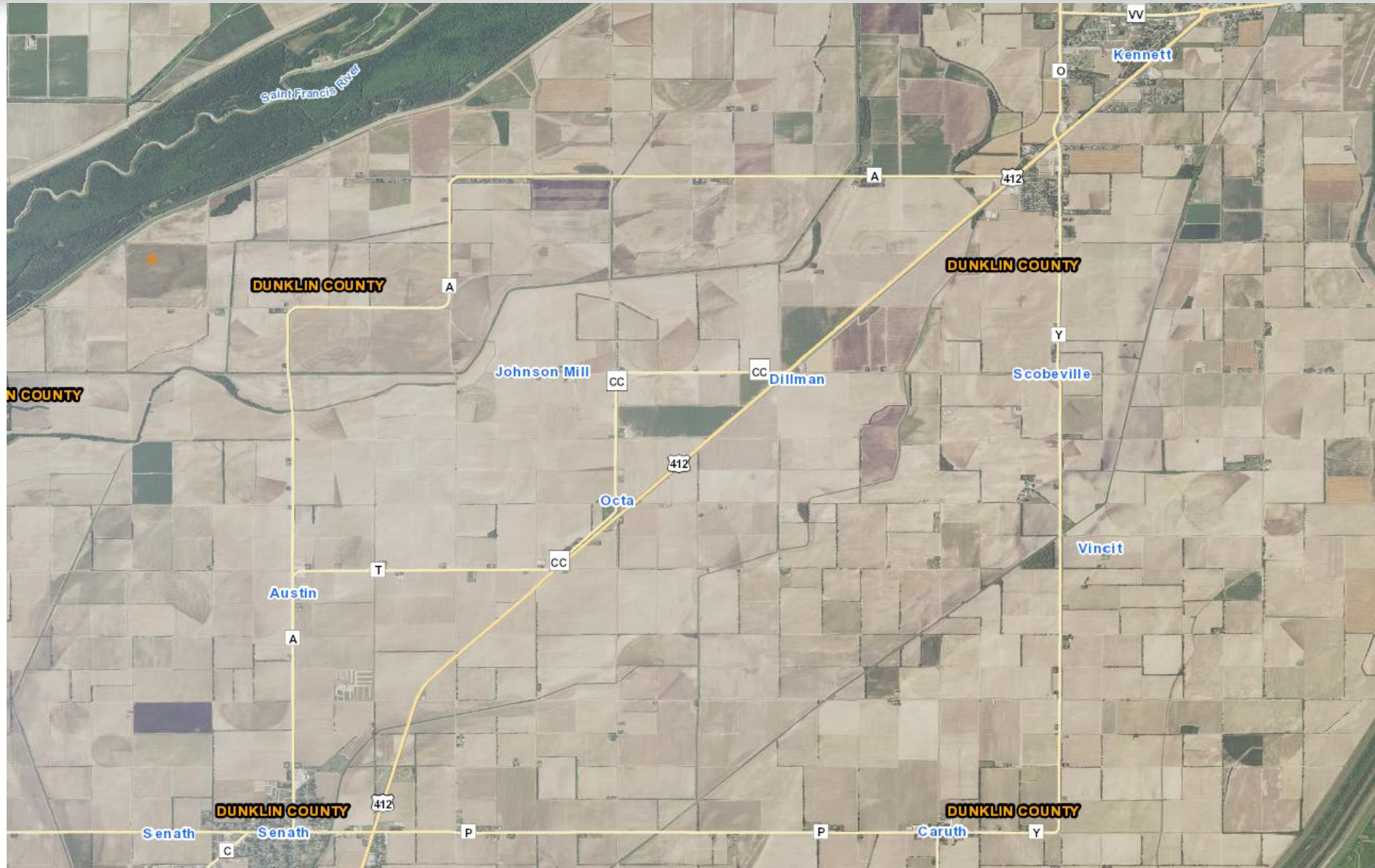


# City of Senath – US 412 Intersections at Route P and Main Street





# Senath to Kennett - 7 mile Tangent Section





# East Project Limit – Tie-in to Undivided Four Lane





# East of Kennett – Four Lane Divided



# Standard Alternatives

Four Lane Divided Highway



Shared Four Lane/Alternating Passing Lanes





## Hybrid Design - Undivided Rural 5 Lane with buffer area and turn lanes at intersections



# Hybrid Design - Undivided Rural 5 Lane with buffer area and turn lanes at intersections

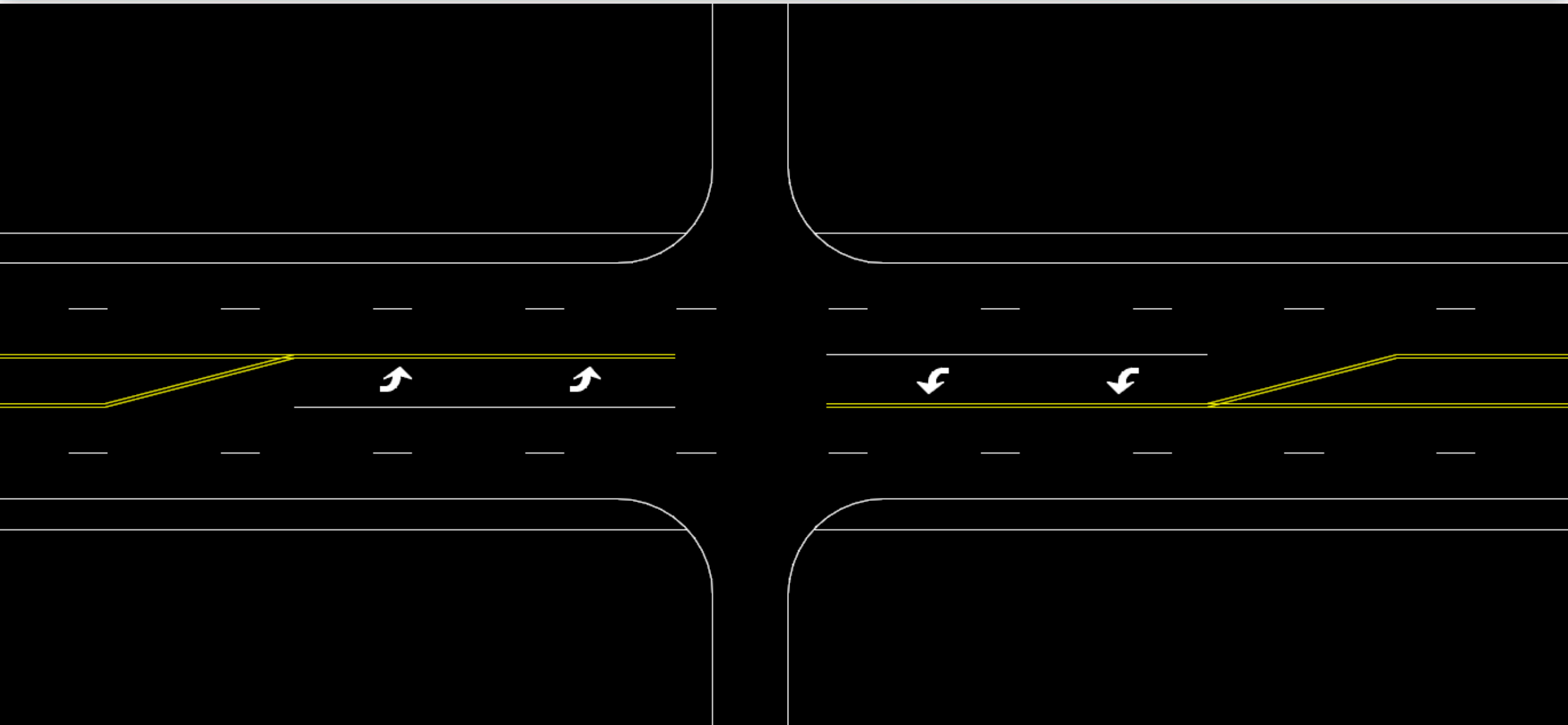




## Hybrid Design - Undivided Rural 5 Lane with buffer area and turn lanes at intersections



# Rural Five Lane Section Layout





# Agricultural Traffic Crossing at County Roads

- Divided Four-Lane

- Some equipment may cross two lanes at a time, stopping in median
- Many pieces of equipment too long to stop in median, most tractors are hauling crops in trailers or pulling long implements
- Width of equipment can create conflicts in median opening
- Spacing between median openings, typically 1 mile, can require equipment to travel to the next median opening and back, creating additional exposure to traffic.

- Undivided Rural Five-Lane

- Must cross all five lanes at once, which requires finding gaps in both directions



Accident Rate Comparisons

Roadway Type	Location	Accident Rate (Accidents/HMVMT)	ADT	Speed Limit
2 Lane	Dunklin County US 412 Study Area - Arkansas State Line to Kennett	75	5700	60
Alternating Passing Lanes	Texas County Route 63	121	6000	65
Five Lane Rural	Arkansas Route 18 Rural Sections - Jonesboro to Blytheville	68	7900	55
Five Lane Rural	Arkansas US 412 - Rural Section - Paragould to MO State Line	24	9100	55
US Routes In Missouri		109	Varies	Varies
Four Lane Divided	Dunklin County - US 412 - Kennett to Hayti	71	8200	65



# Pros and Cons

## • Divided Four-Lane

- Cost – 100 Million
- Right of Way Taking – 251 Acres
- Traffic Separation – 60 feet
- Typical Missouri Rural Design
- Strongly opposed by Stakeholders – Due to 100+ acres additional loss of farmland
- Could utilize J-Turns at major intersection
- Proposed Speed Limit – 65 mph
- Median drainage issues in farmland require additional/continuous maintenance

## • Undivided Rural Five-Lane

- Cost – 85 Million
  - Right of Way Taking – 147 Acres
  - Traffic Separation – 14 feet
  - Typical Arkansas Rural Design
  - Strongly supported by Stakeholders – Due to reduced cost and right of way impacts
  - May require signals at major intersections
  - Proposed Speed Limit – 60 mph
  - Accident Rate in Arkansas comparable to Missouri divided highways
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