MO 94 & Route D Traffic Study

Presentation of Final Study

April 22, 2022

Agenda

- Study Overview
- Concept Alternatives
- Preferred Alternative
- Discussion/Questions
- Next Steps

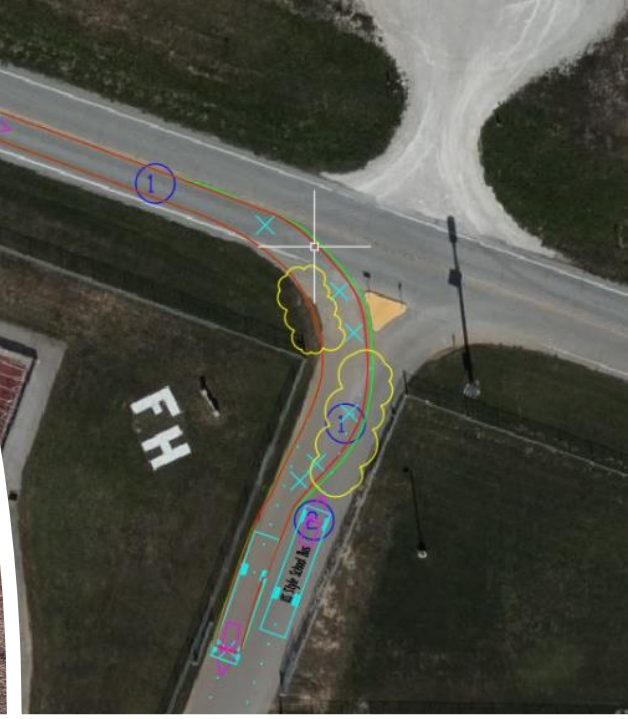
Study Overview

Study Area Limits

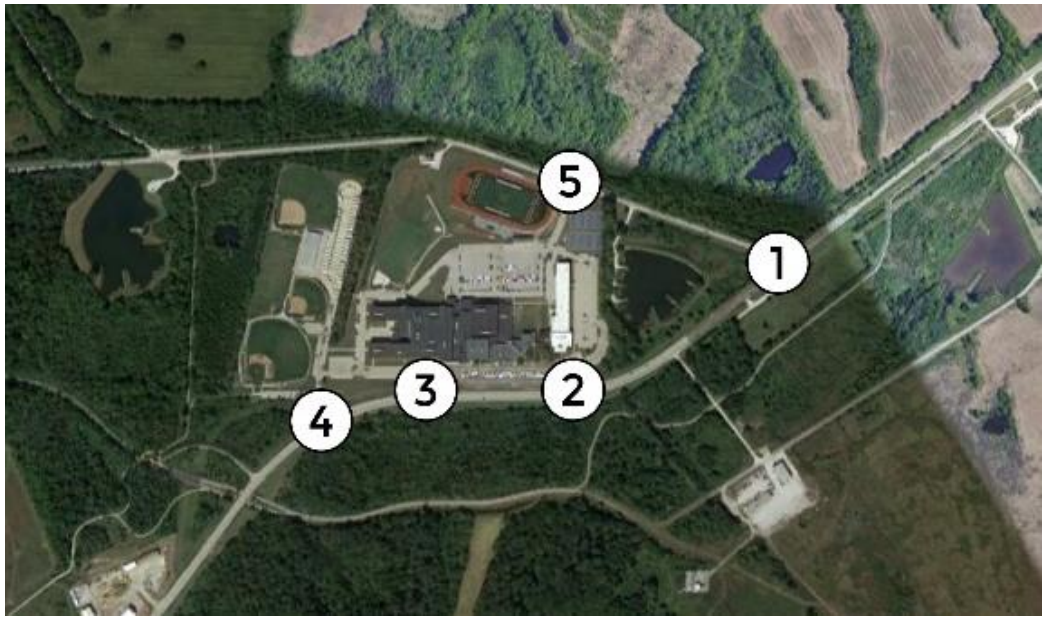
1. MO 94 & MO D
2. MO 94 & Francis Howell HS east entrance
3. MO 94 & Francis Howell HS central entrance
4. MO 94 & Francis Howell HS west entrance
5. MO D & Francis Howell north entrance

Study Area Issues

- High amount of demand in short amount of time
  - Substantial queuing and delay westbound Rt 94 in morning
  - Queuing on Rt D
- Illegal (unsafe) left turn movements at the north school entrance
- Tight radii eastbound Rt D entering north entrance
- Future regional growth west on Rt 94

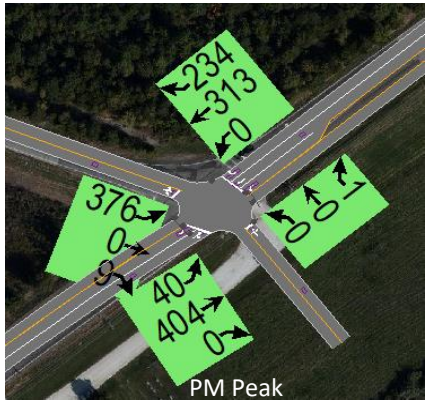


Existing Conditions



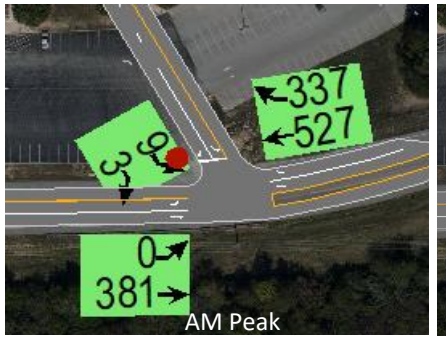
1

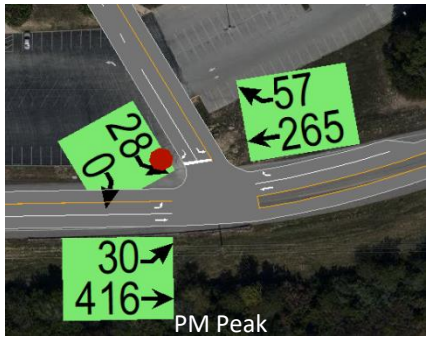
Route 94 and Route D Forecast Year 2026 Peak Hour Volumes



2

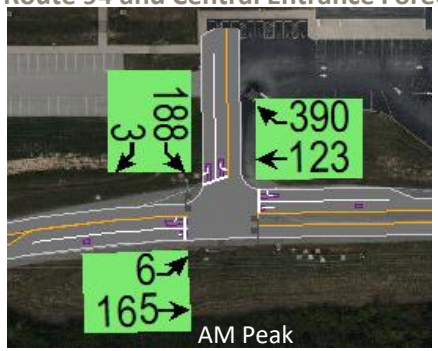
Route 94 and East Entrance Forecast Year 2026 Peak Volumes

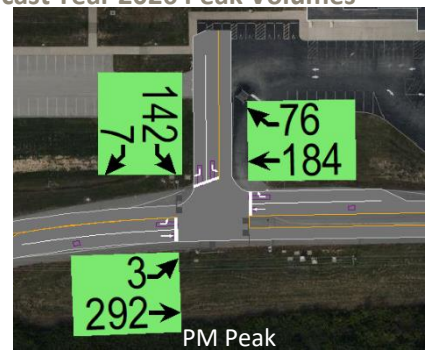




3

Route 94 and Central Entrance Forecast Year 2026 Peak Volumes



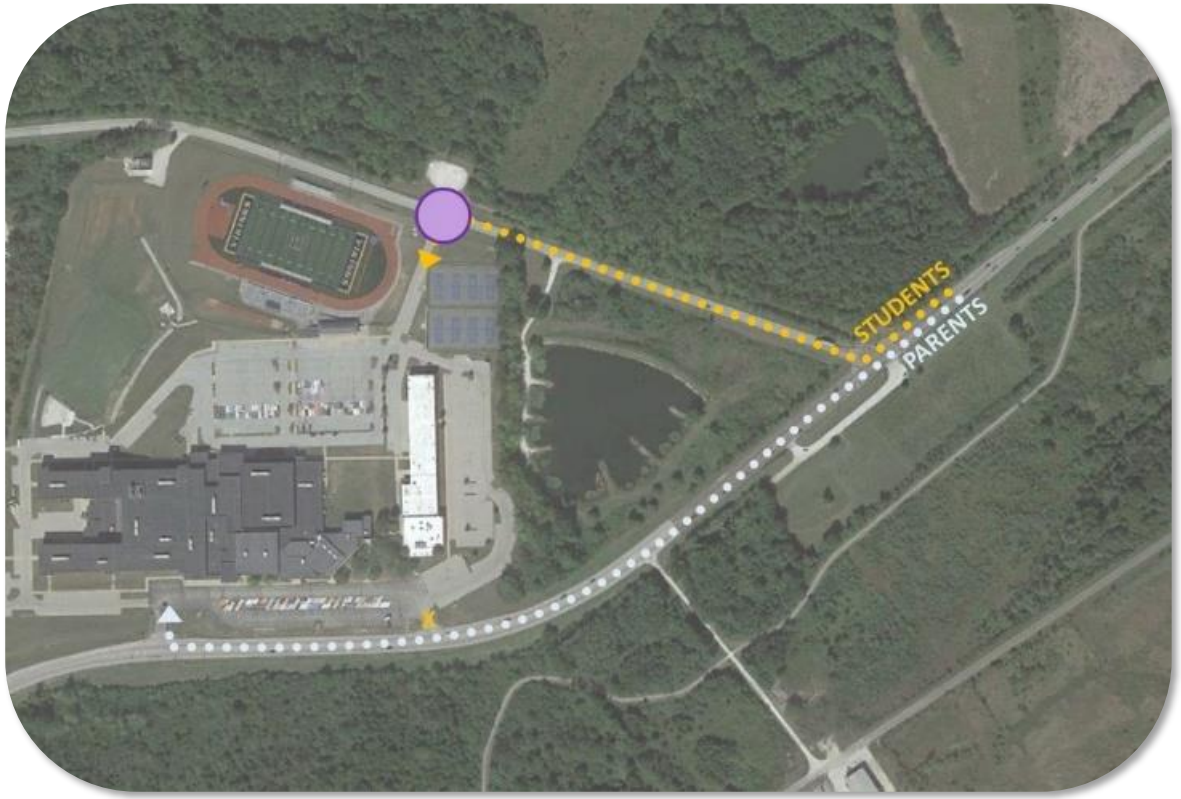


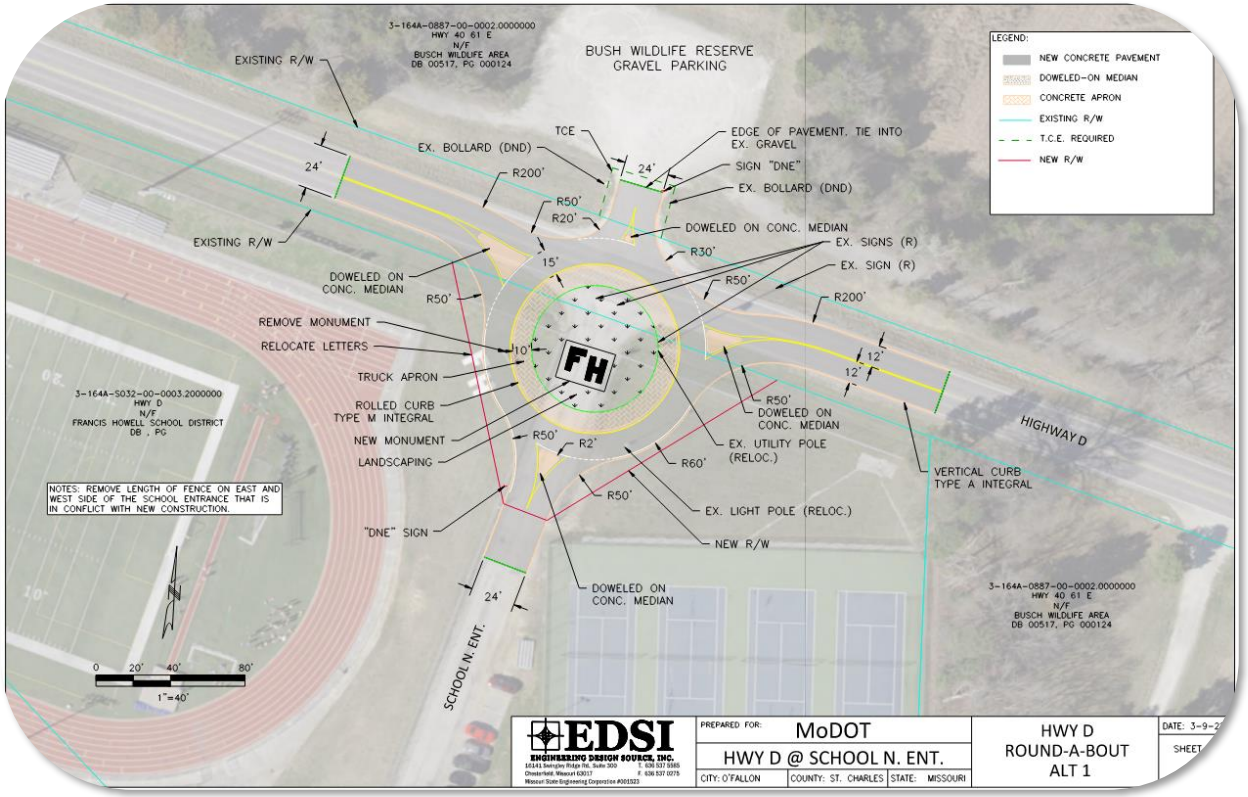
Project tasks:

- Existing Conditions Analysis
- Traffic Forecasts (2026)
- Future No-Build Operational Analysis
- Developed and Analyzed 4 Alternatives
- Discussed Alternatives with MoDOT staff
- Refined Alternative 3 with an option based on staff comment
- Selected Preferred Alternative
- Refined concept for Preferred Alternative, developed Opinion of Probable Cost

Concept Alternatives

Alternative 1: Roundabout at Rt D/Rear Entrance

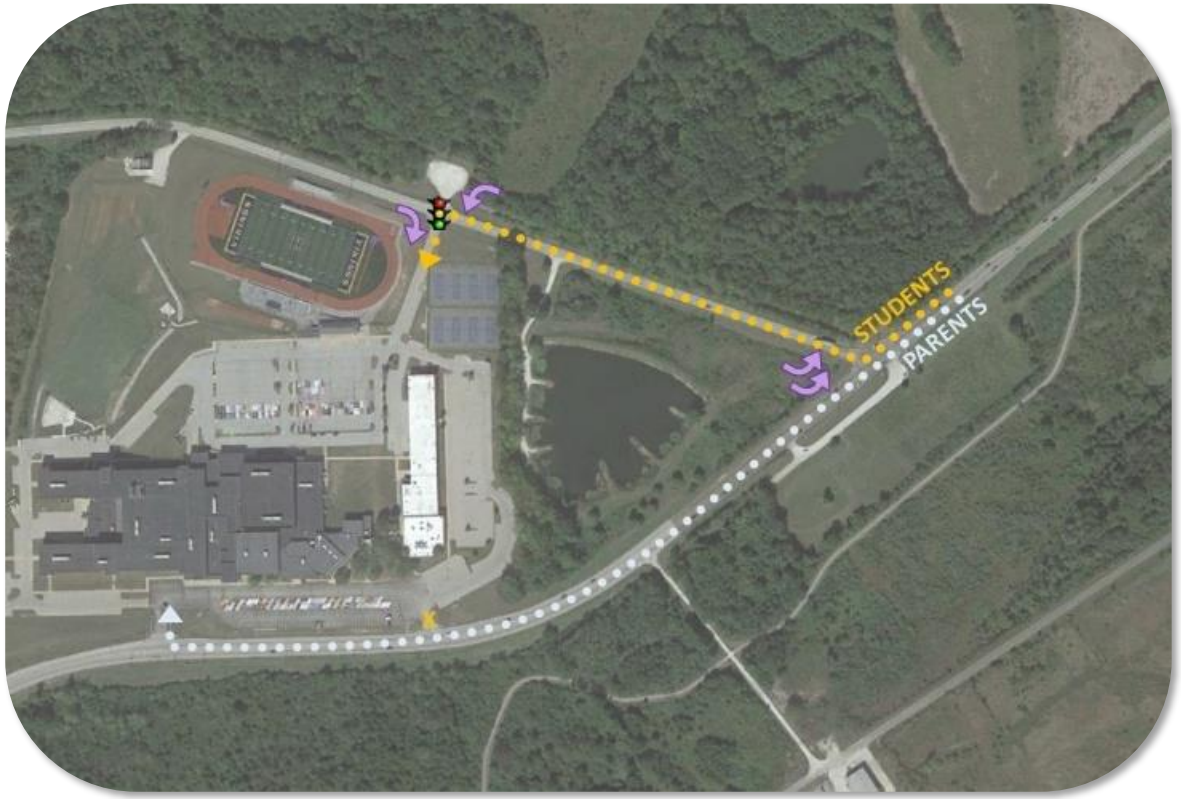


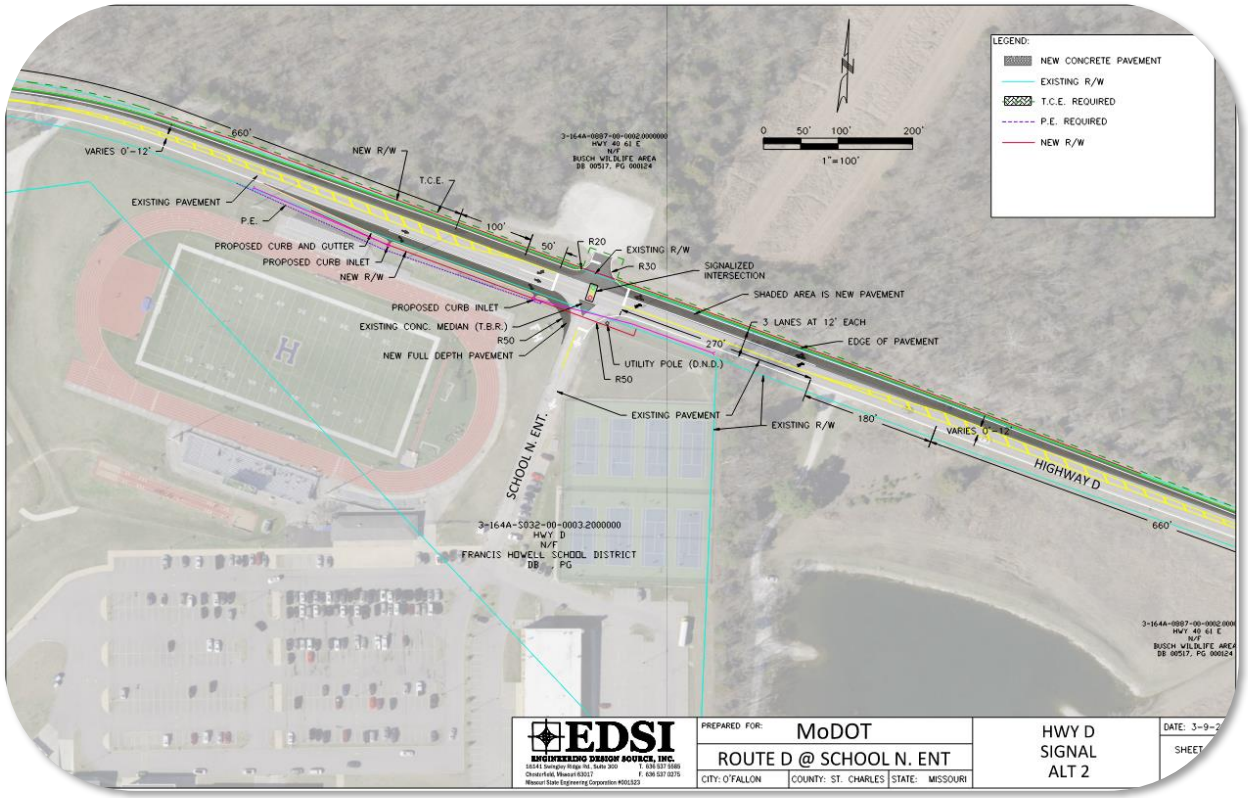


- Roundabouts are safer than signals
- Improves lane utilization on westbound 94 approaching D
- Worst-performing alternative, but still operates acceptably

- ROW impacts to school property to avoid Busch Wildlife property/environmental impacts
- Does not achieve proper deflection on westbound approach entering roundabout
- Did not address queue on D approaching 94

Alternative 2: Signal at Rt D/Rear, Dual lefts at 94/D

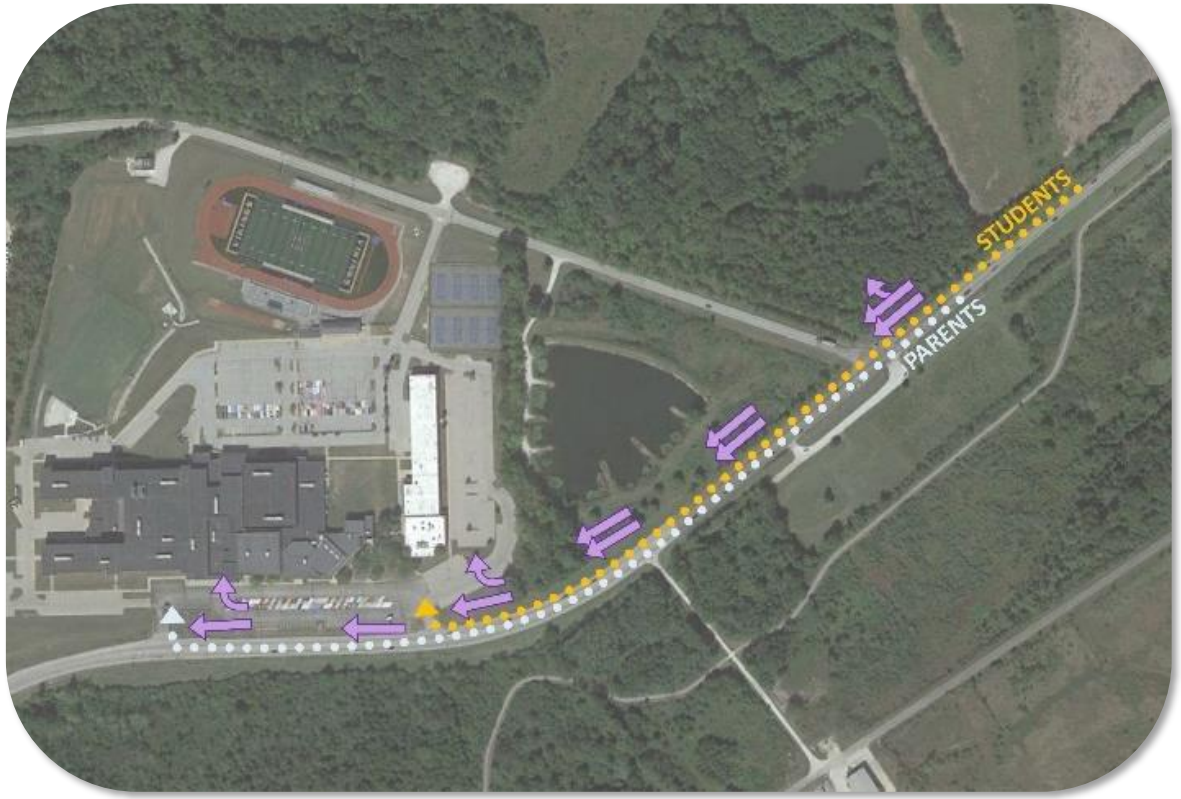


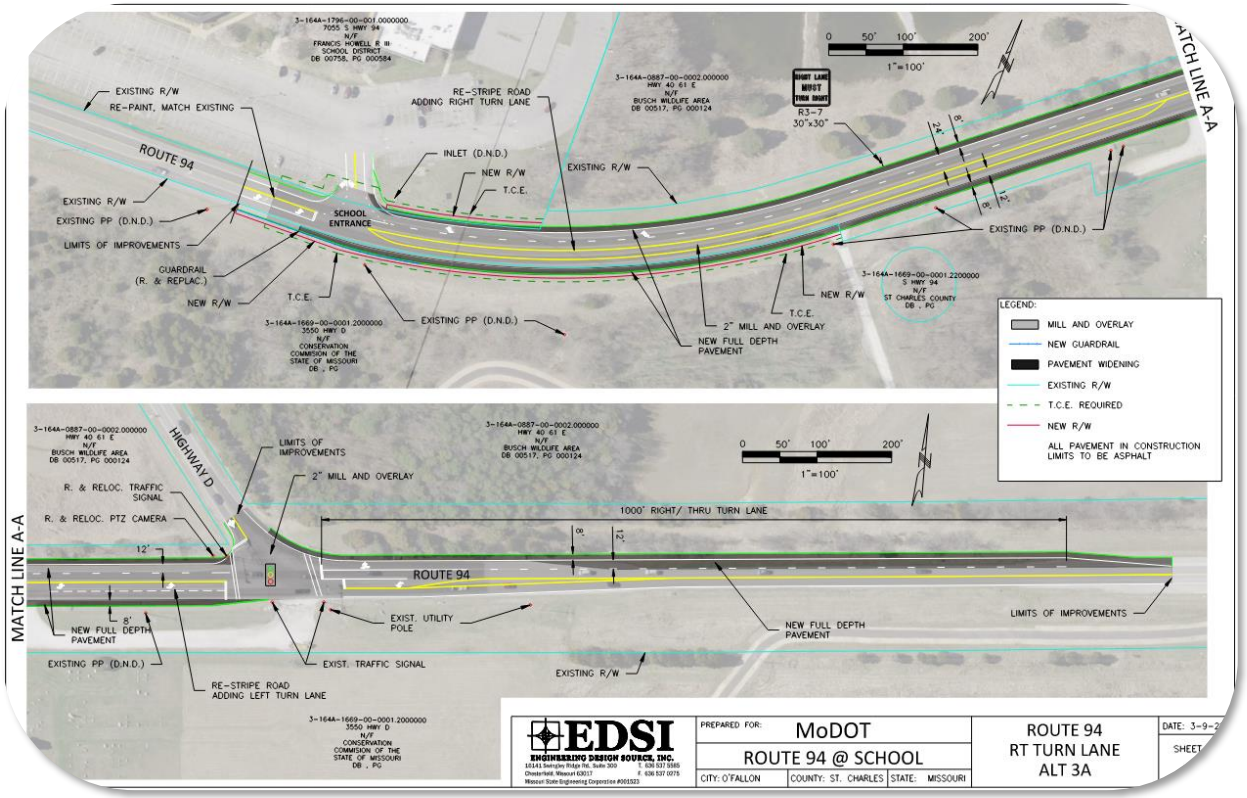


- More use of rear entrance gives better circulation options
- Improves lane utilization on westbound 94 approaching D
- Reduces delay and queuing on southbound D turning onto 94
- Operates acceptably
- Turn lanes and signal are warranted per MUTCD

- Estimated ROW impacts to school property and Busch Wildlife property
- Right turn lane gets closer to stadium bleachers

Alternative 3: 2nd Through on Westbound Rt 94

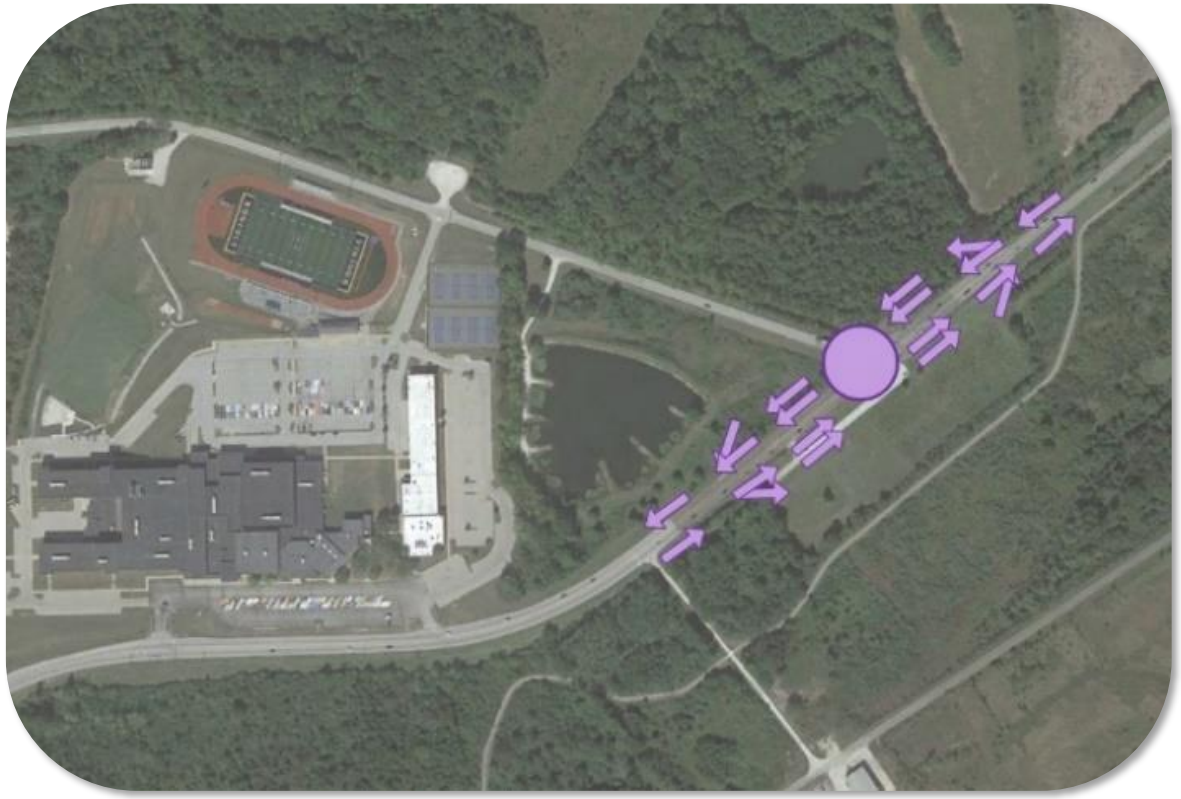


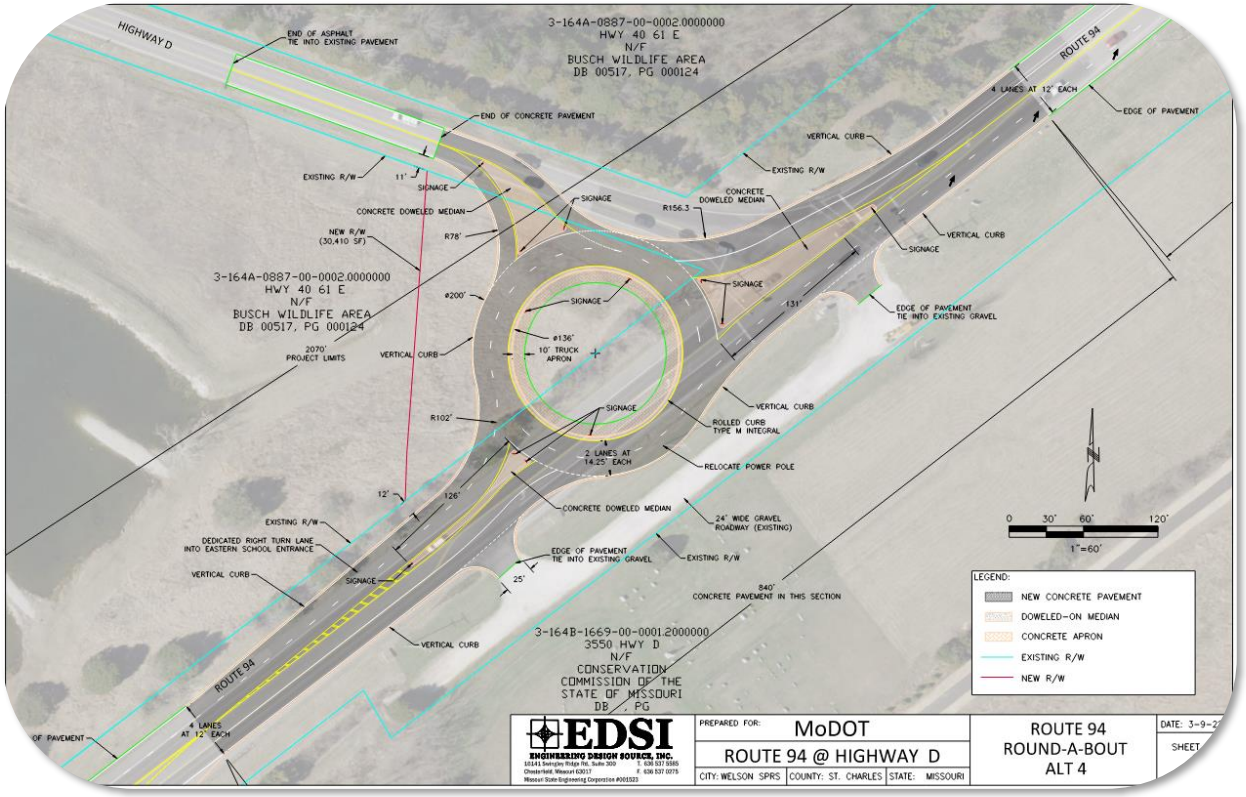


- Keeps all improvements within existing ROW
- Improves lane utilization on westbound 94 approaching D
- Operates acceptably

- May still get drivers making illegal left turns at north entrance
- Did not address queue on D approaching 94
- Not easily apparent to sporadic drivers of 94 that 2nd lane ends at east school entrance; may increase merging/weaving

Alternative 4: Roundabout at 94/D



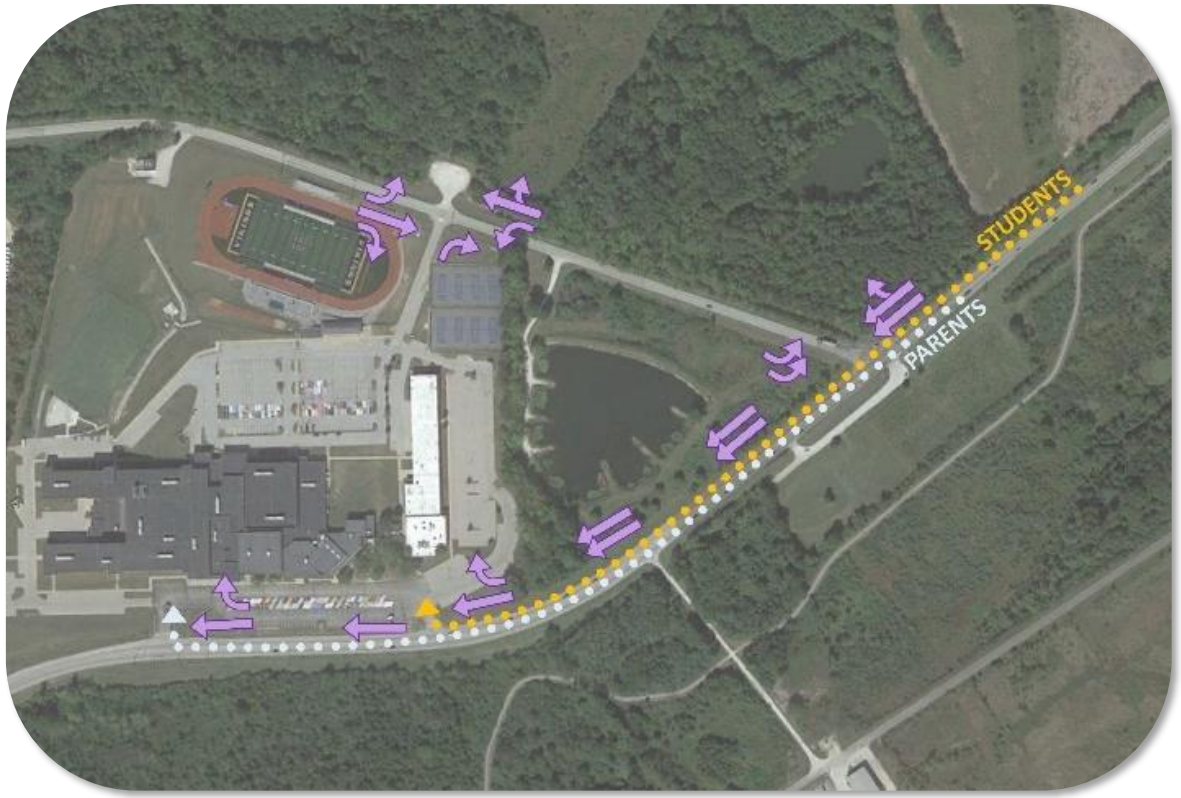


- Improvements are limited to a single intersection
- Operates acceptably

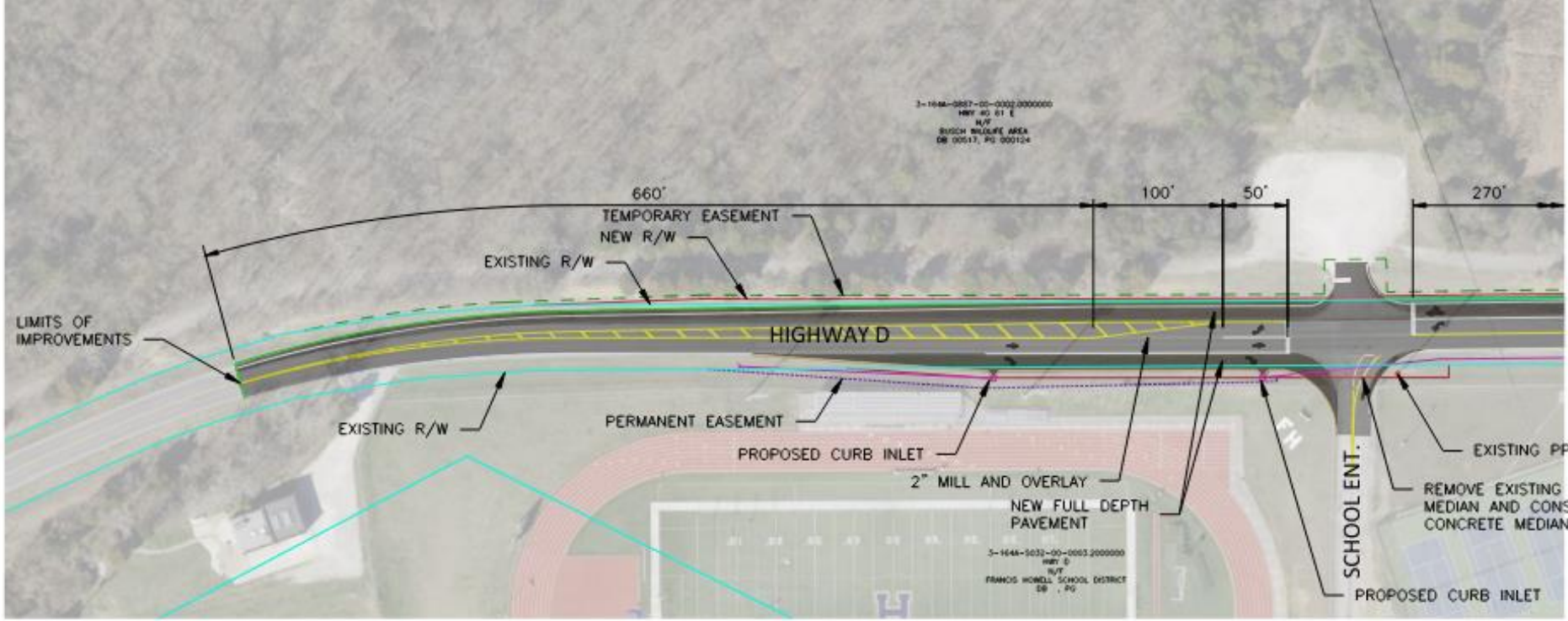
- ROW impacts to Busch Wildlife Area
- Complexity of dual lane roundabout may prove to be less safe than signal
- Dual lane roundabout may be difficult to nagivate for novice drivers
- Difficult to achieve proper deflection on eastbound 94 due to cemetery parking lot/drive aisle

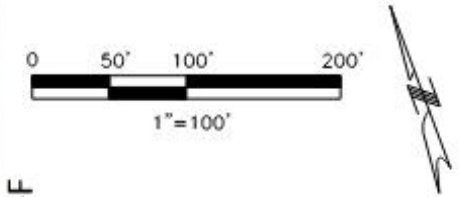
Preferred Alternative

Alternative 3B: 2nd Through, Dual SB lefts, LI/RI/RO in Rear



- Used Alternative 3 as a base
- Improvements:
  - Converted westbound right on 94 to shared through/right, continued to east school entrance
  - Added 2nd southbound left turn bay on Rt D at 94
  - Extended four lane section to I-64
  - Rear entrance converted to left-in/right-in/right-out and added eastbound right and westbound left turn bays
    - ❖ Improved eastbound radii entering the school

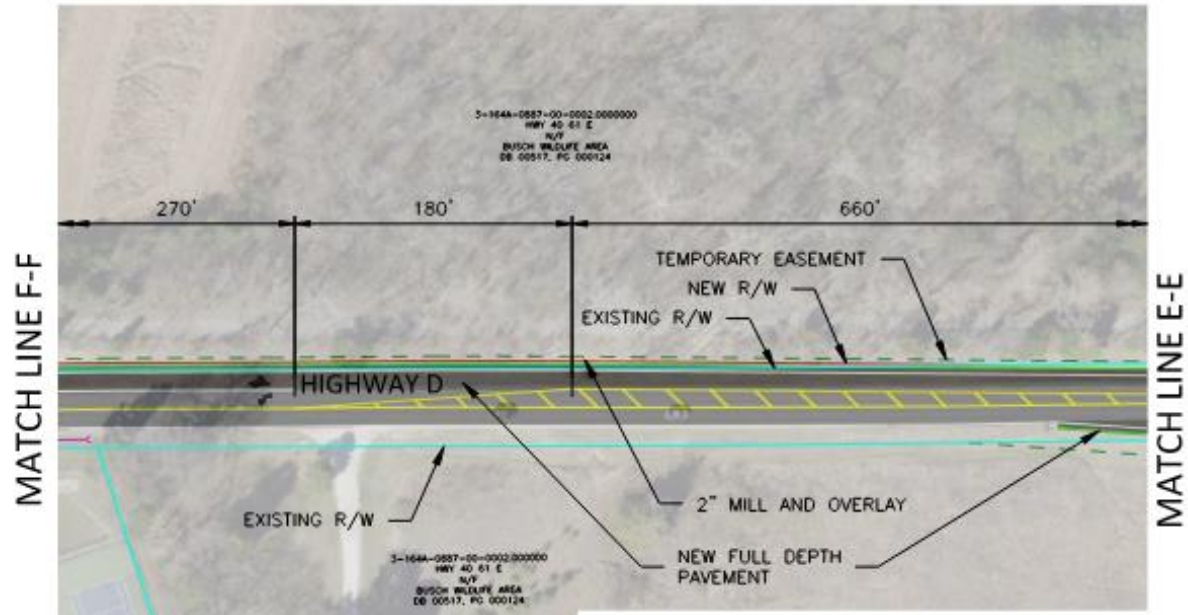


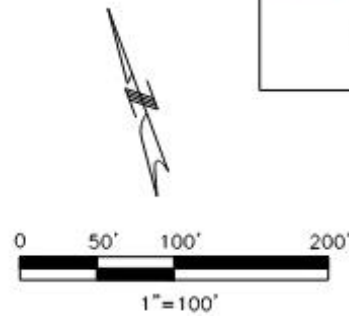


LEGEND:

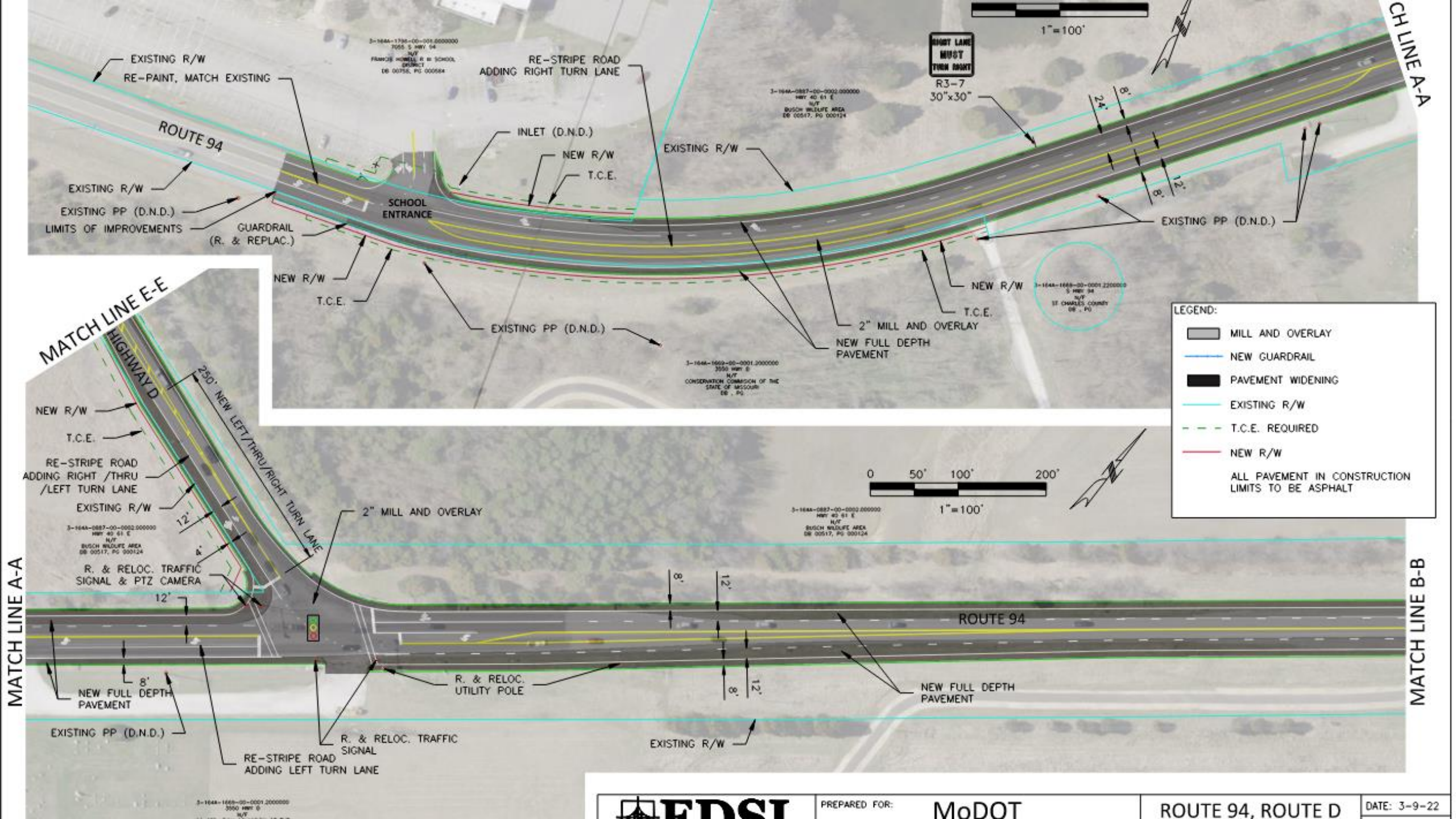
- MILL AND OVERLAY
- NEW GUARDRAIL
- PAVEMENT WIDENING
- EXISTING R/W
- T.C.E. REQUIRED
- NEW R/W

ALL PAVEMENT IN CONSTRUCTION LIMITS TO BE ASPHALT





EDCI	PREPARED FOR: MoDOT	ROUTE 94, ROUTE D	DATE: 3-9-22

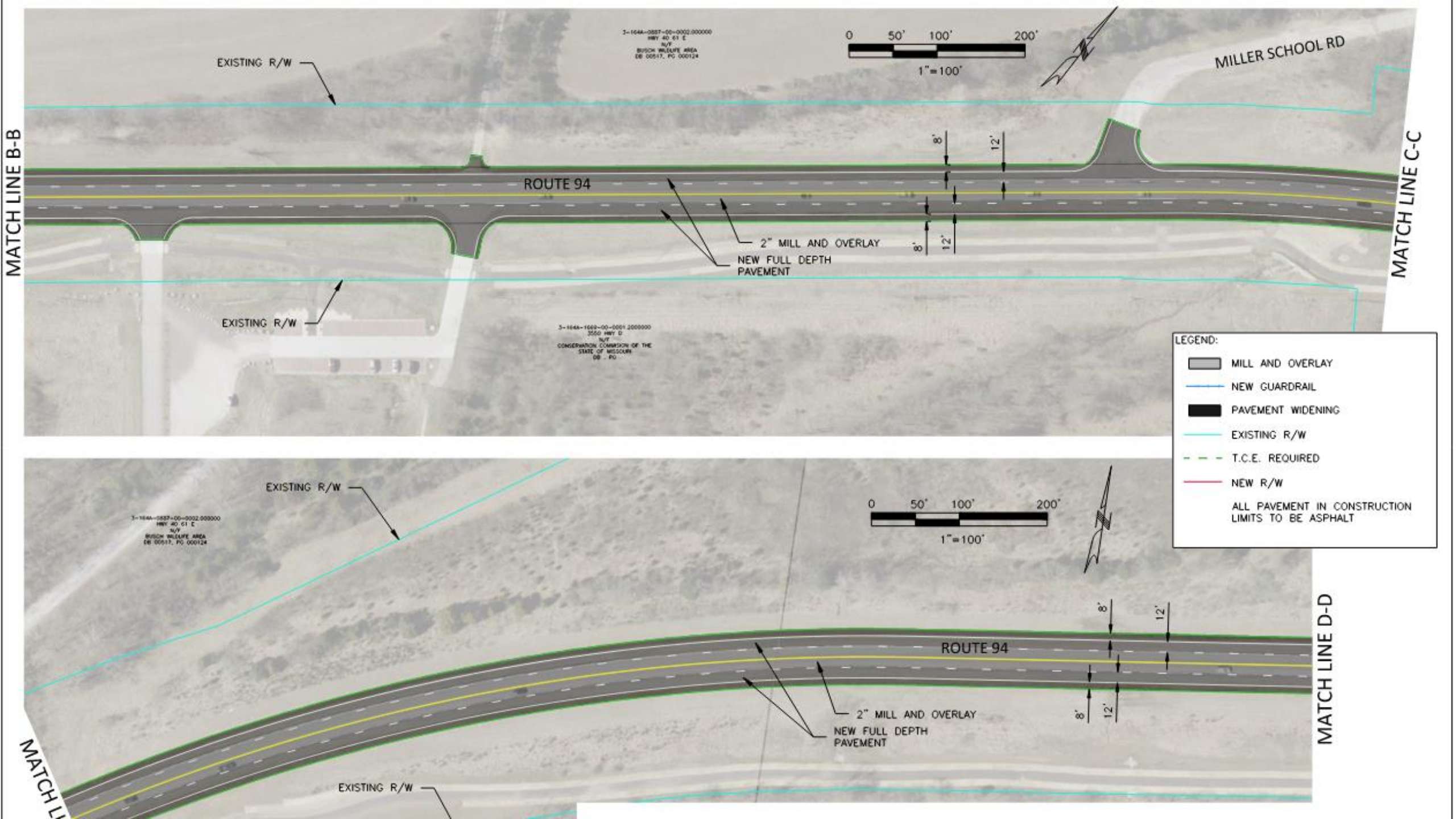


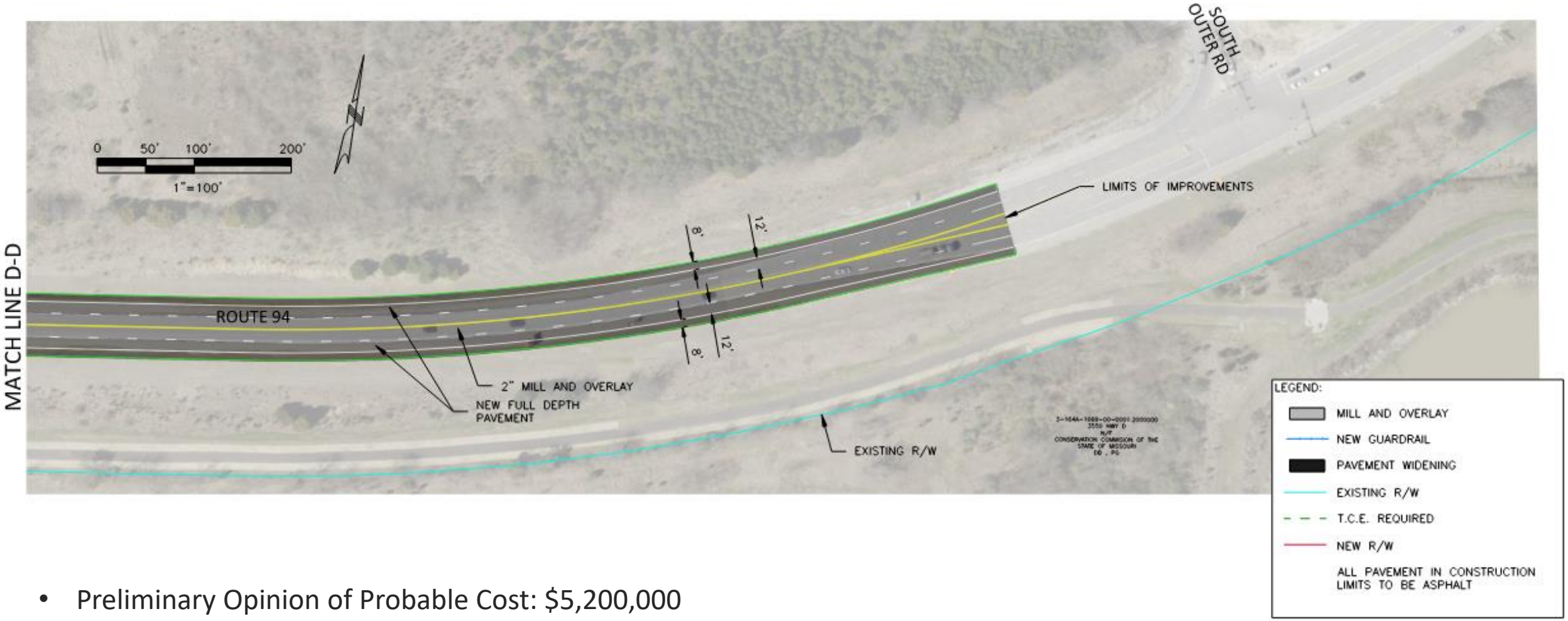
EDSI

PREPARED FOR: MoDOT

ROUTE 94, ROUTE D

DATE: 3-9-22


EXISTING R/W
MILLER SCHOOL RD
MATCH LINE B-B
MATCH LINE C-C
ROUTE 94
2" MILL AND OVERLAY
NEW FULL DEPTH PAVEMENT
EXISTING R/W
0 50' 100' 200'
1"=100'
8'
12'
LEGEND:
MILL AND OVERLAY
NEW GUARDRAIL
PAVEMENT WIDENING
EXISTING R/W
T.C.E. REQUIRED
NEW R/W
ALL PAVEMENT IN CONSTRUCTION LIMITS TO BE ASPHALT
EXISTING R/W
ROUTE 94
2" MILL AND OVERLAY
NEW FULL DEPTH PAVEMENT
MATCH LINE D-D
EXISTING R/W



- Preliminary Opinion of Probable Cost: $5,200,000

Discussion/ Questions

Next Steps

Next Steps

- MoDOT to find funding opportunities
- Get project on STIP
  - Start design at that point
  - Detailed design, ROW, surveying
- Estimated timeline - depends on funding, environmental clearances

Thank you!