# Illinois' Research and Certification Track

John Senger, P.E.
Engineer of Pavement Technology
Bureau of Research
Illinois Department of Technology

#### Outline

- Current track
- Unsuccessful sites
- Current site and design
- Future Plans

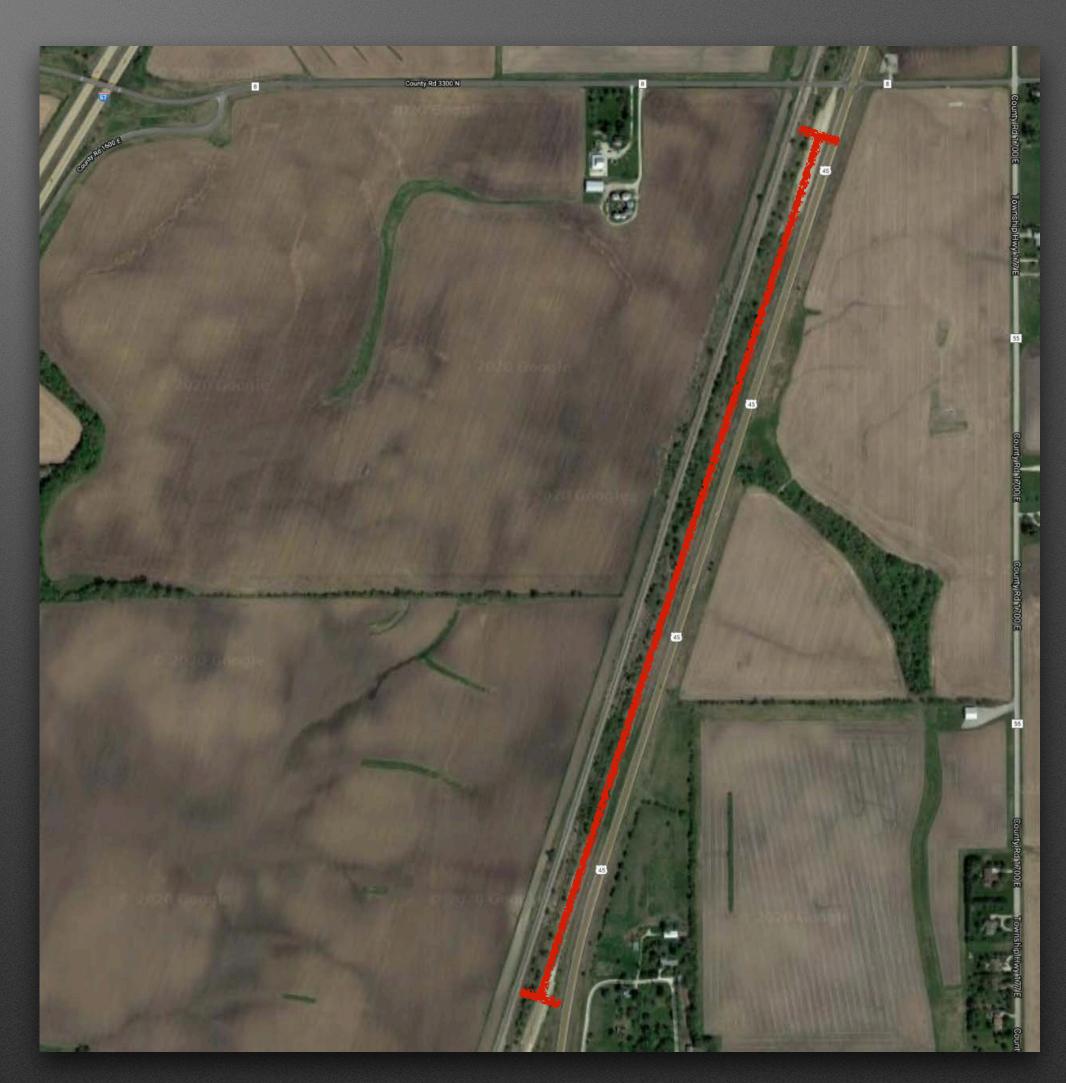
### Current Tracks - Rantoul Airport

- Former Air Force Base
- Course on an infrequently used taxiway.
- Rough Track around 115 in./mi.
- Very Rough Track around 275 in./mi.



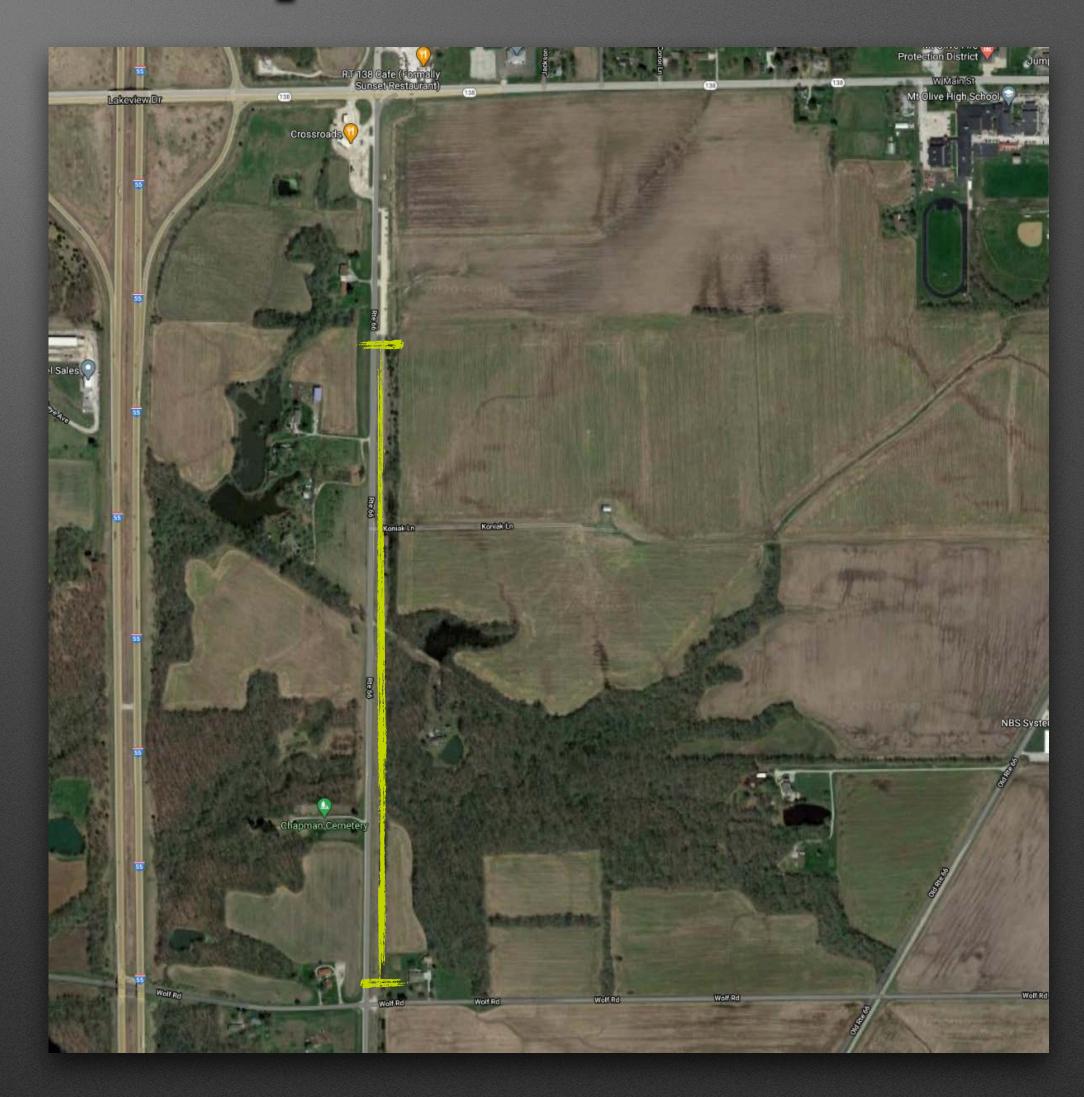
# US 45 Proposed Site

- Abandoned alignment of US 45
- Existing road and roadbed severely deteriorated
- Flat and straight sight
- Frost heave susceptible soils?
- Prairie remnants



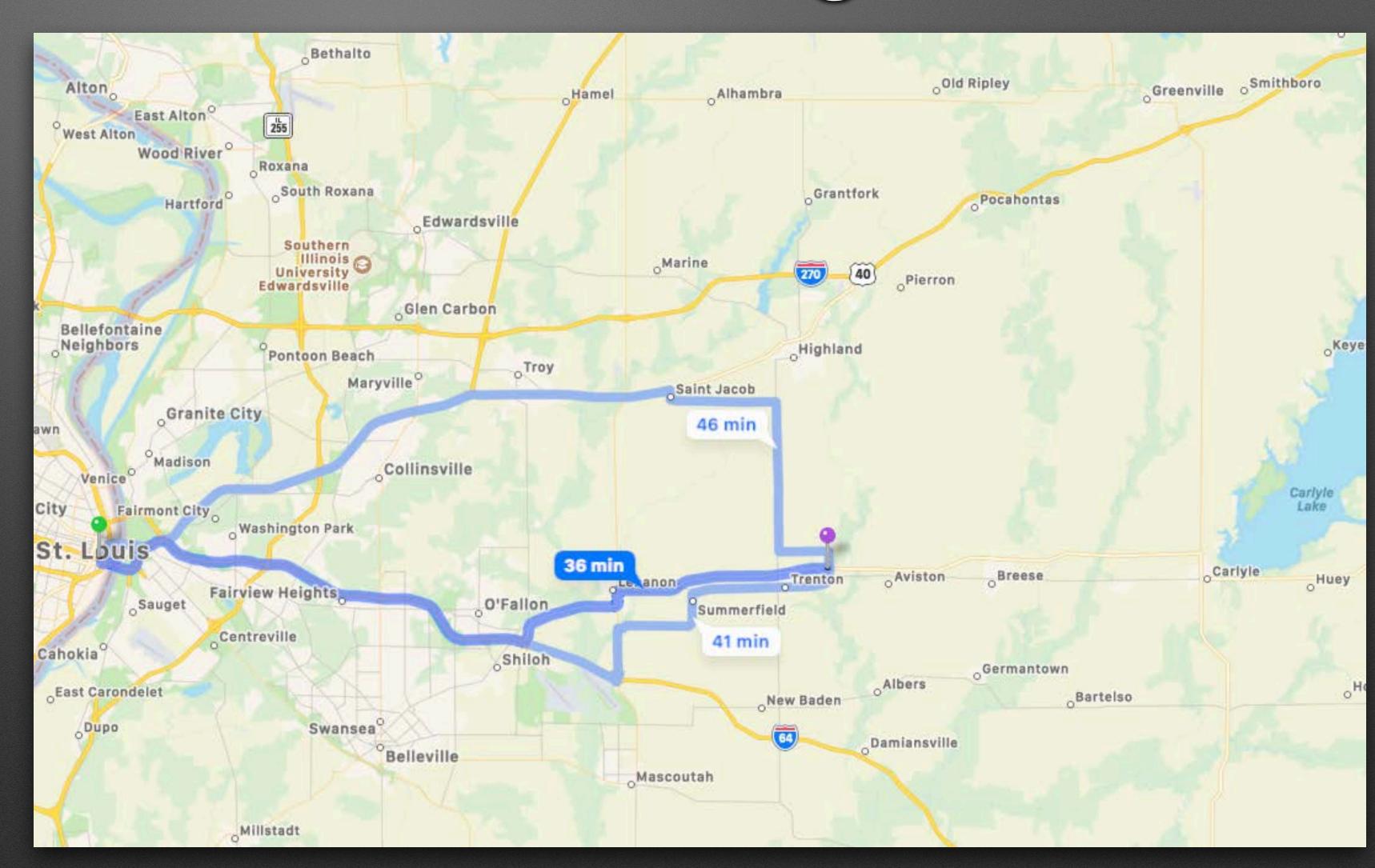
# Historic Route 66 - Proposed Site

- Existing abandoned 2 lanes of PCC pavement approx. 1 mile in length
- Concerns
  - Private Entrance in the middle
  - Park and Ride (North end)
  - Multiple access points
- Historic Pavement
  - Only if Route 66 Museum was constructed

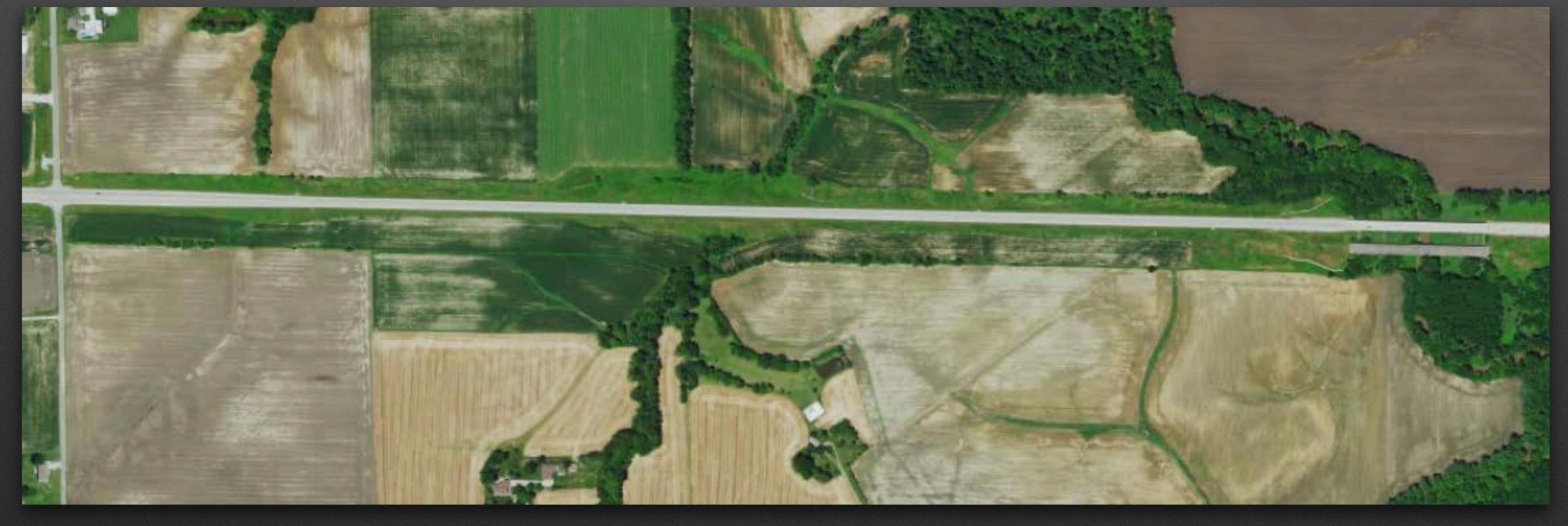


#### Current Site and Design

- US 50 near Trenton and Aviston, IL
- Originally planned as 4 lane expressway
- 90 minutes from Springfield, IL
- 36 Minutes from St. Louis, MO





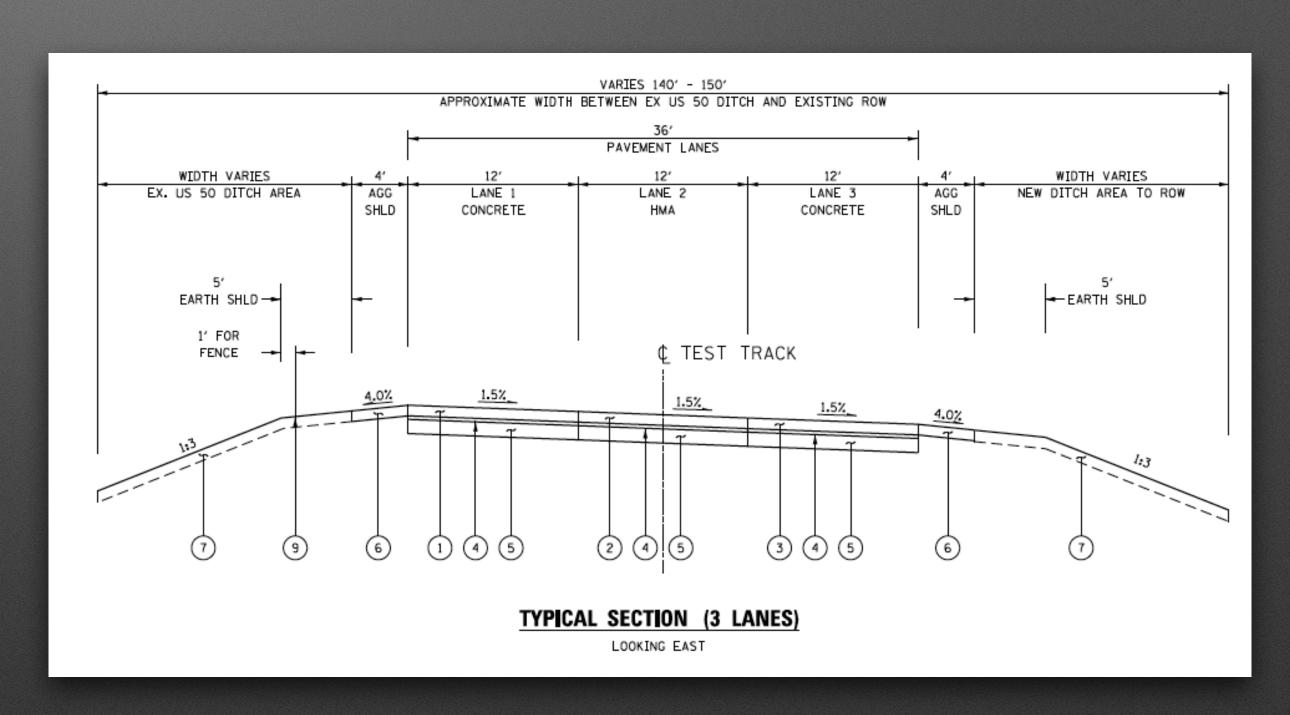


# Current Design

- 3 lanes, 0.75 miles long
- Continuously Reinforced Concrete
- Dense Graded Hot-Mix Asphalt
- Stone Matrix Asphalt
- Jointed Plain Concrete (15' Joints)

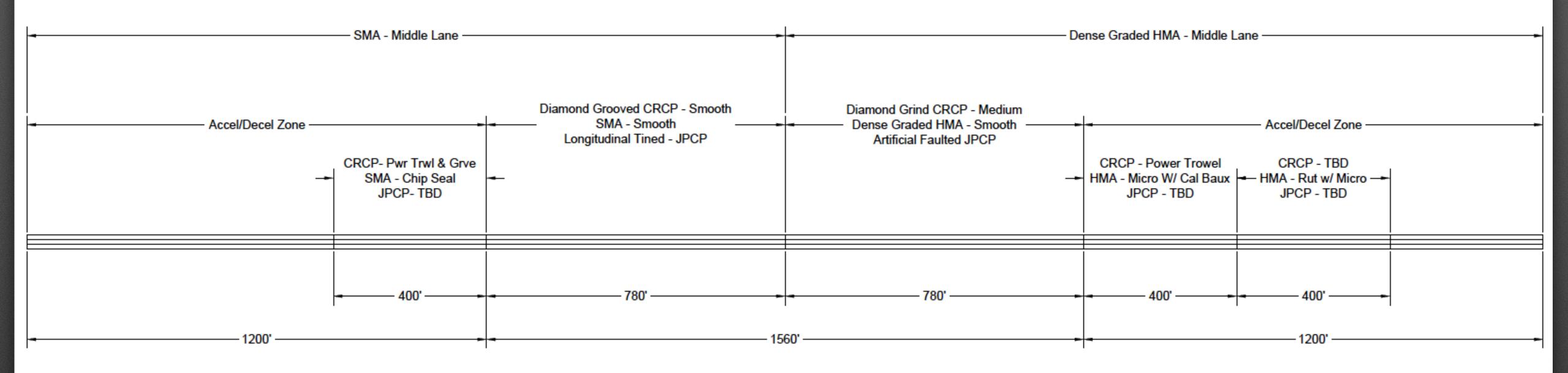
# Current Design (Cont.)

- 12" Aggregate Subgrade Improvement
- 3" Bituminous Aggregate Mixture Subbase
- 8.5" CRCP
- 8.5" HMA
- 8.5" JPCP



#### Other Uses and Research

- Skid pads for locked-wheel tester correlation
- Ground penetrating radar verification plates
- Falling weight deflectometer verification
- Mobile LiDAR
- Environmental research for preservation techniques
- Pavement marking research
- Other ideas



### Current Layout

Ride Quality - Smooth (30-65 in./mi.), Medium (66-100 in./mi.)

Friction - Low Mu, Medium Mu, High Mu

Rutting and Faulting Sections - Ruts built with Micro, Still engineering the artificial faults

#### Final Details

- Planned 2021 Construction
- Current Estimates > \$3 million
- Funding using State Planning and Research
- IDOT Currently sees about 30 profilers / year

#### Future Plans

- Building (Vehicle Bays, Storage, Conference Room...)on other side of Crackerneck Road
- AASHTO-R56 implementation
- Operator Certification
- Reciprocity of profiler and operator certification
- Permanent Staff to manage the facility

# Great things in business are never done by one person. They're done by a team of people. - Steve Jobs



Tiffany Brase - D8
Research Staff



Mike Harrell
Bill Vavrik



Francis Nelson III

#### Questions

John Senger

**Engineer of Pavement Technology** 

Illinois Department of Transportation

John.Senger@illinois.gov

217-782-8582

