

Illinois DOT's IRI Specification

2021-2024

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Illinois Late to the Game

Illinois attempted a move to IRI specifications several times before 2021

Finally agreed to complete research project based on shadow data

R27-199 was charged with developing realistic IRI specifications for implementation

Also included a balanced risk option for overlays

Illinois DOT's IRI Specification

Standard sublots (HMA and PCC)

- Less than 45 in./mi.
 - (HMA=\$45, PCC=\$60) incentive per inch/mile below
 - 45 in./mi. to 75 in./mi. – full pay
 - 75 in./mi. to 100 in./mi.
 - (HMA=\$20, PCC=\$37.50) incentive per inch per mile above
 - >100 in./mi.
 - \$500 and corrections to 75 in./mi. or remove and replace
-
- Max positive pay adjustment per subplot (HMA=\$800 , PCC=\$1200)
 - Max negative pay adjustment per subplot (HMA=\$500, PCC=\$750)

Illinois DOT's IRI Specification

Balanced Risk Option for Overlays

- Sublot (0.10 mile) must be above 125 in./mi. prior to construction.
 - IDOT completes these measurements before any construction activities occur
 - HMA overlay must be greater than 2.25" of new material.
- $0.2 \times \text{MRI}_0 + 20 = \text{MRI}_I$
 - Incentive = \$20.00 / in./mi. below MRI_I
- $0.2 \times \text{MRI}_0 + 50 = \text{MRI}_F$
- $0.2 \times \text{MRI}_0 + 75 = \text{MRI}_D$
 - Disincentive = \$8.00 / in./mi. above MRI_D
- Max positive pay adjustment \$300.00 per sublot
- Max negative pay adjustment \$200.00 per sublot

Areas of Localized Roughness Specification

Started at 150 in./mi.



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graph TD; A[Started at 150 in./mi.] --> B[District personnel and contractors had a lot of trouble with this threshold]; B --> C[In 2023, ALR was raised to 200 in./mi.]; C --> D[Aligns with Bridge Smoothness specification];
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District personnel and contractors had a lot of trouble with this threshold

In 2023, ALR was raised to 200 in./mi.

Aligns with Bridge Smoothness specification

Illinois Test Procedures for Collecting IRI

Measuring preconstruction makes things a little more difficult

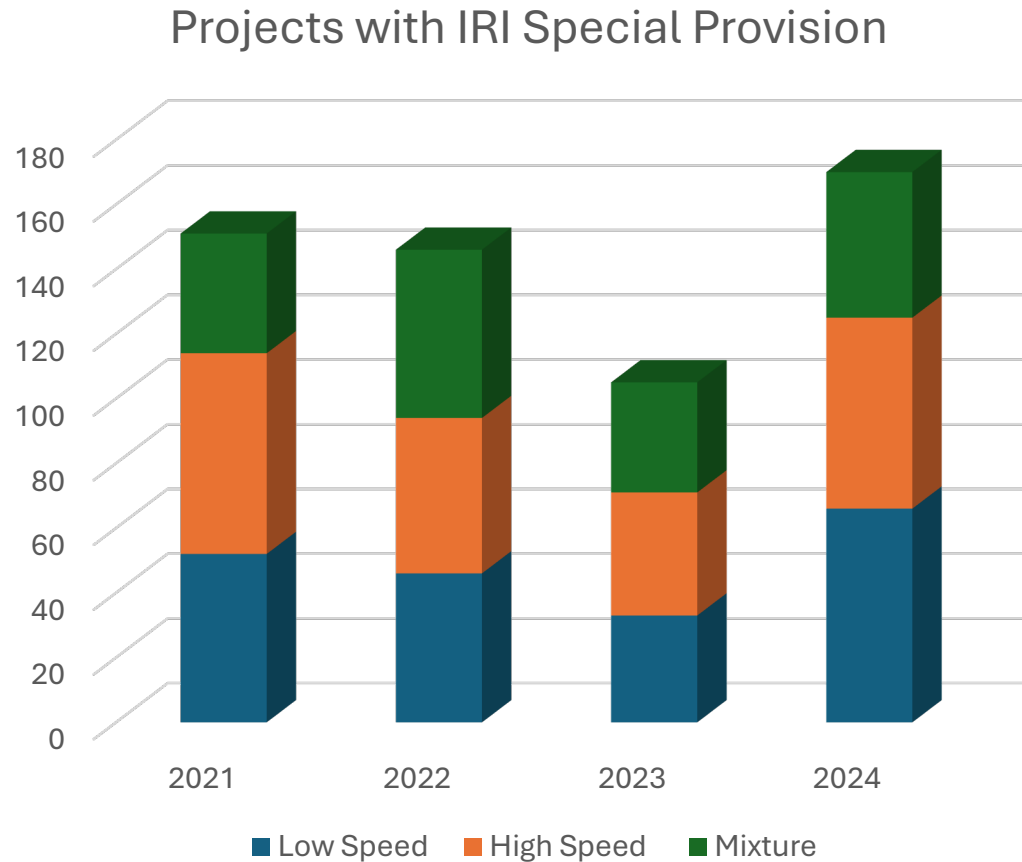
Collect additional 500' beyond both beginning and end of planned construction

IDOT sets control points for beginning of data collection (#5 rebar or PK nail)

Preconstruction and Quality Control measurements require 3 passes on each lane

Quality assurance requires 1 pass on the entirety of each lane

IDOT's programming is growing



- IDOT's annual program is now between \$4-5 billion
- June 2025 letting is projected to be approximately \$1 billion



2021 IRI Data

58 Contracts with high-speed mainline paving

8123 sublots (3927 balanced risk, 4196 standard)

5146 sublots received a positive pay adjustment

Average initial IRI – 127.94 in./mi.

Average QC IRI – 49.82 in./mi.

Average QA IRI – 49.93 in./mi.

Smoothest subplot – 28.90 in./mi.

2022 IRI Data

92 Contracts with high-speed mainline paving

9877 sublots (3648 balanced risk, 6229 standard)

6795 sublots received a positive pay adjustment

Average initial IRI – 110.76 in./mi.

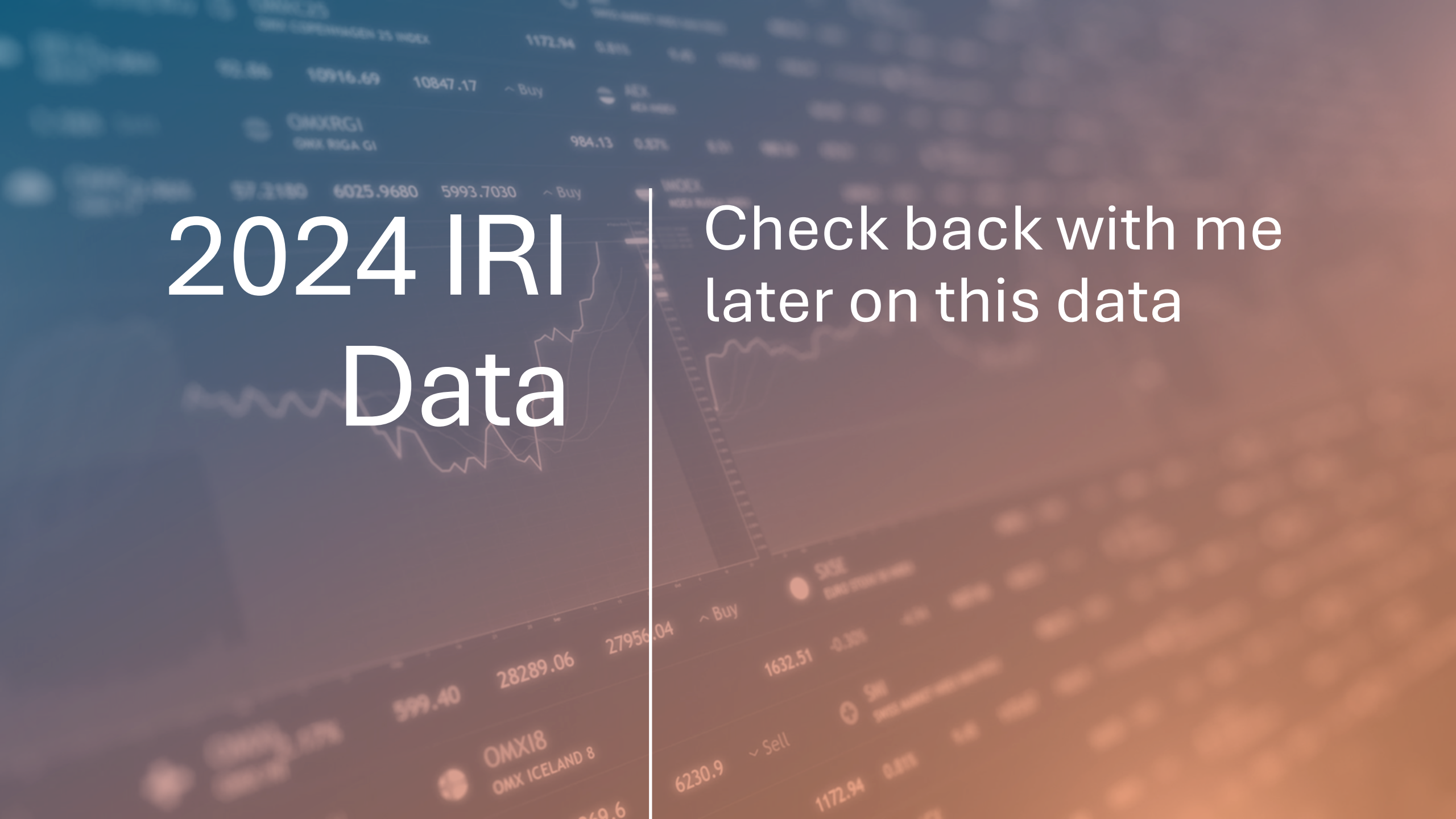
Average QC IRI – 46.59 in./mi.

Average QA IRI – 45.20 in./mi.

Smoothest subplot – 27.68 in./mi.

2023 IRI Data

Check back with me
later

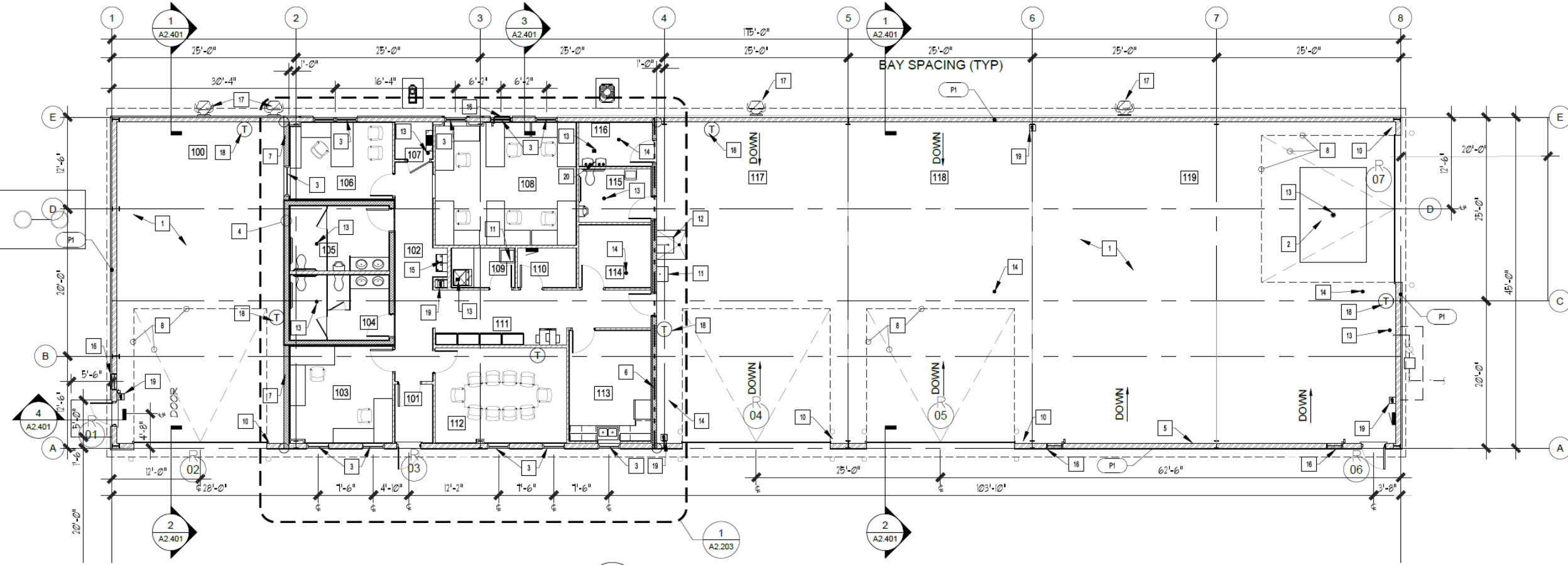


2024 IRI Data

Check back with me
later on this data



ICART Building Under Construction

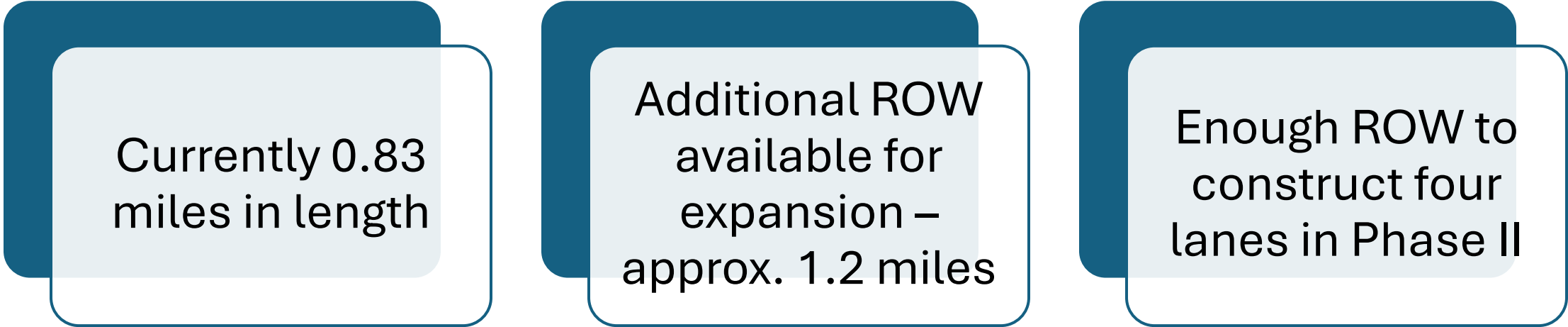


FLOOR PLAN KEY NOTES: 1

SCALE: 1/8" = 1'-0" (IN FEET)
0 4 8 16
1 FLOOR PLAN
Scale: 1/8" = 1'-0"
N

2 Hour Fire Barrier
UL DESIGN U905

Illinois Certification and Research Track



Currently 0.83
miles in length

Additional ROW
available for
expansion –
approx. 1.2 miles

Enough ROW to
construct four
lanes in Phase II

Approximately 2 Miles

Existing facility

ROW for Expansion



Proposed options so far

Continuous Pavement Friction Certification

Start, stop, and low speed profiler certification

Large HMA pad for AASHTO PP 108 Nav. Drift

Pavement Instrumentation

- Temperature Trees
- Moisture probes
- Strain gauges

Cross slope measurement verification

Retroreflectivity

Tire-Pavement Noise

ICART Expansion

Illinois Certification and Research Track Expansion Survey



Thank you! Questions?



Illinois Department of Transportation

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