

SR 424 AT INTERSTATE 81

Interchange Improvement on State Route 424 (Greater Hazleton Chamber of Commerce Beltway)
over Interstate 81 in Hazle Township, Luzerne County

NOVEMBER 14, 2024

WELCOME

Meeting Purpose

Introduce the **SR 424 at Interstate 81** project description & location

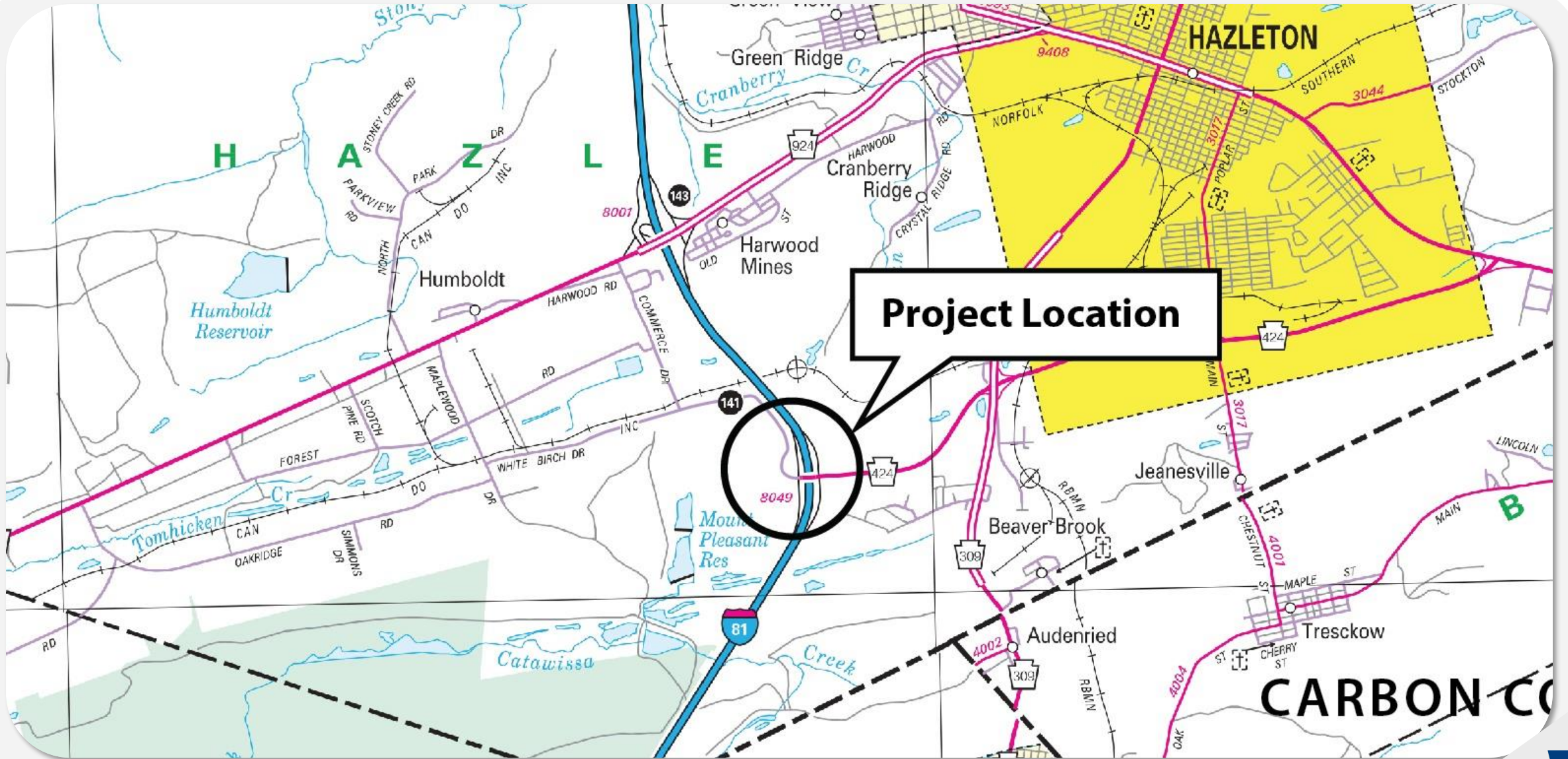
Receive **feedback & open discussion**

Present overall **project design** process, status and **anticipated schedule**

Review **Diverging Diamond Interchange (DDI)** implementation & examples



PROJECT OVERVIEW



PROJECT OVERVIEW

Project Purpose

- Develop an appropriate transportation solution for the interchange at SR 0424 and Interstate 81 (I-81), Exit 141
- Modernize interchange design to improve operations and mobility
- Address level of service deficiencies at ramp junctions and across the interstate



PROJECT DESIGN

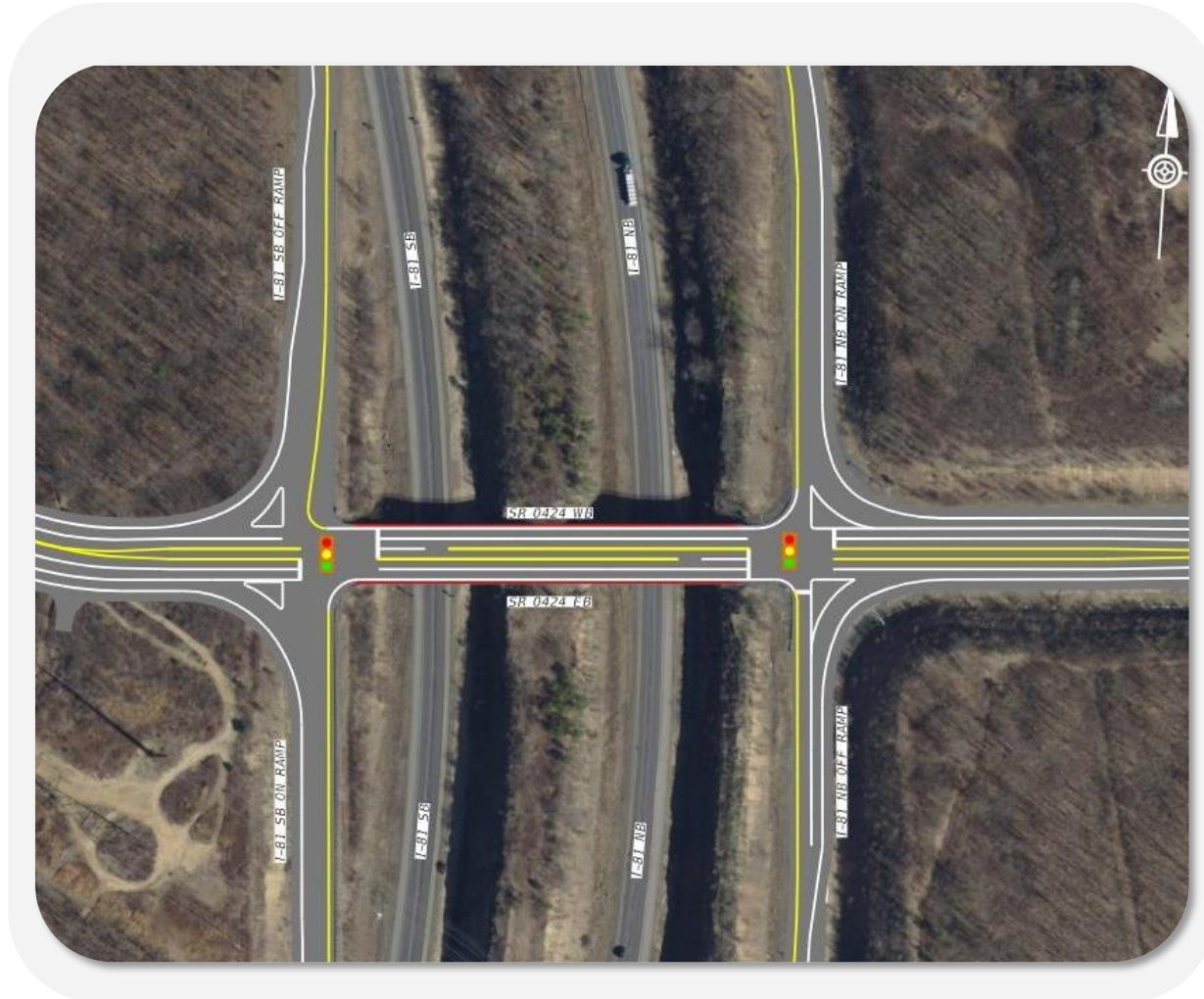
ALTERNATIVES STUDIED

- Existing Conventional Diamond Interchange (No-Build)
- Echelon Interchange
- Single Point Urban Interchange (SPUI)
- Modified Conventional Diamond Interchange
- Loop Interchange
- Flyover Interchange
- Diverging Diamond Interchange (DDI)

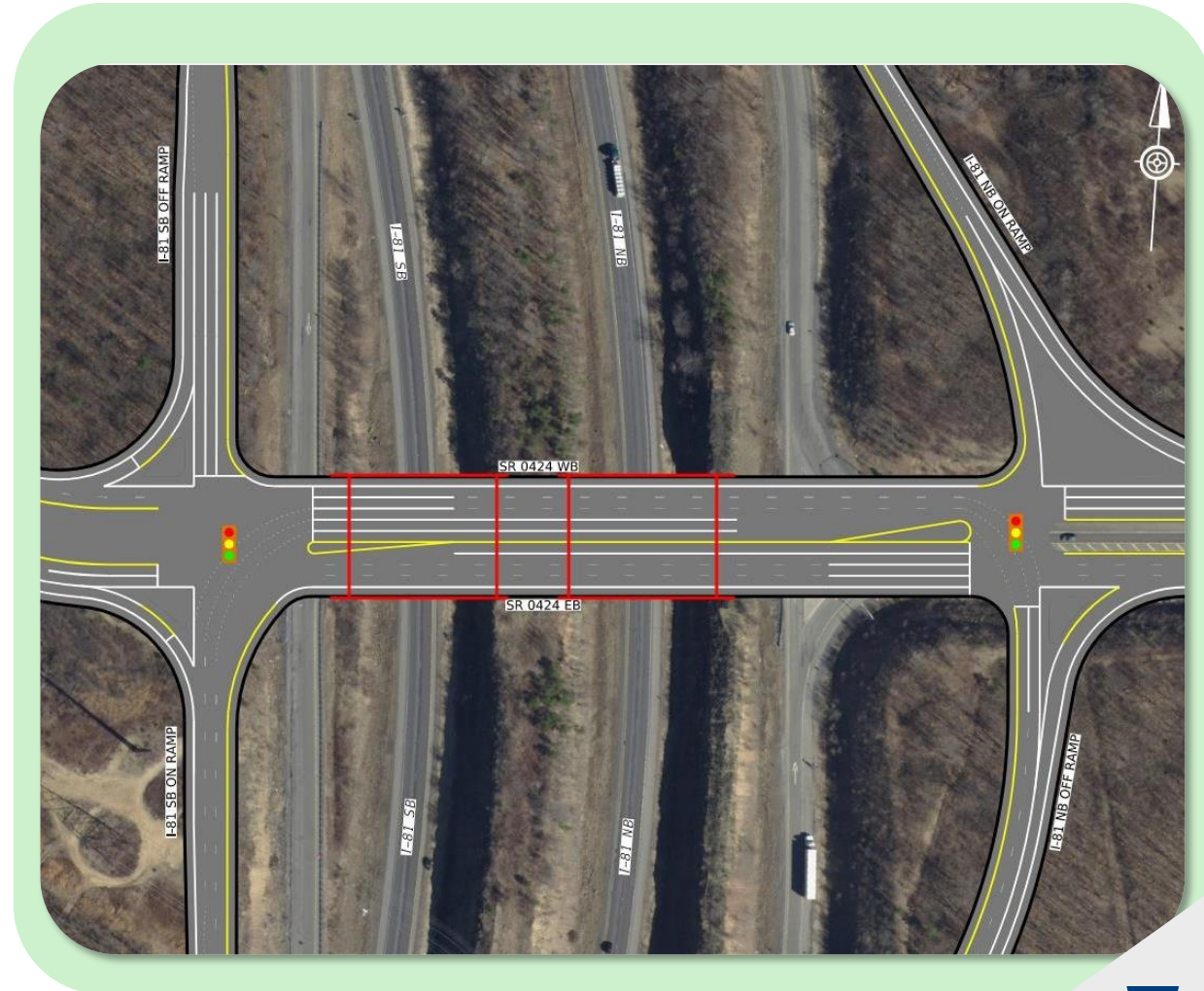


ALTERNATIVES STUDIED

Conventional Diamond Interchange (No-Build)



Modified Conventional Diamond Interchange



ALTERNATIVES STUDIED

Single Point Urban Interchange (SPUI)

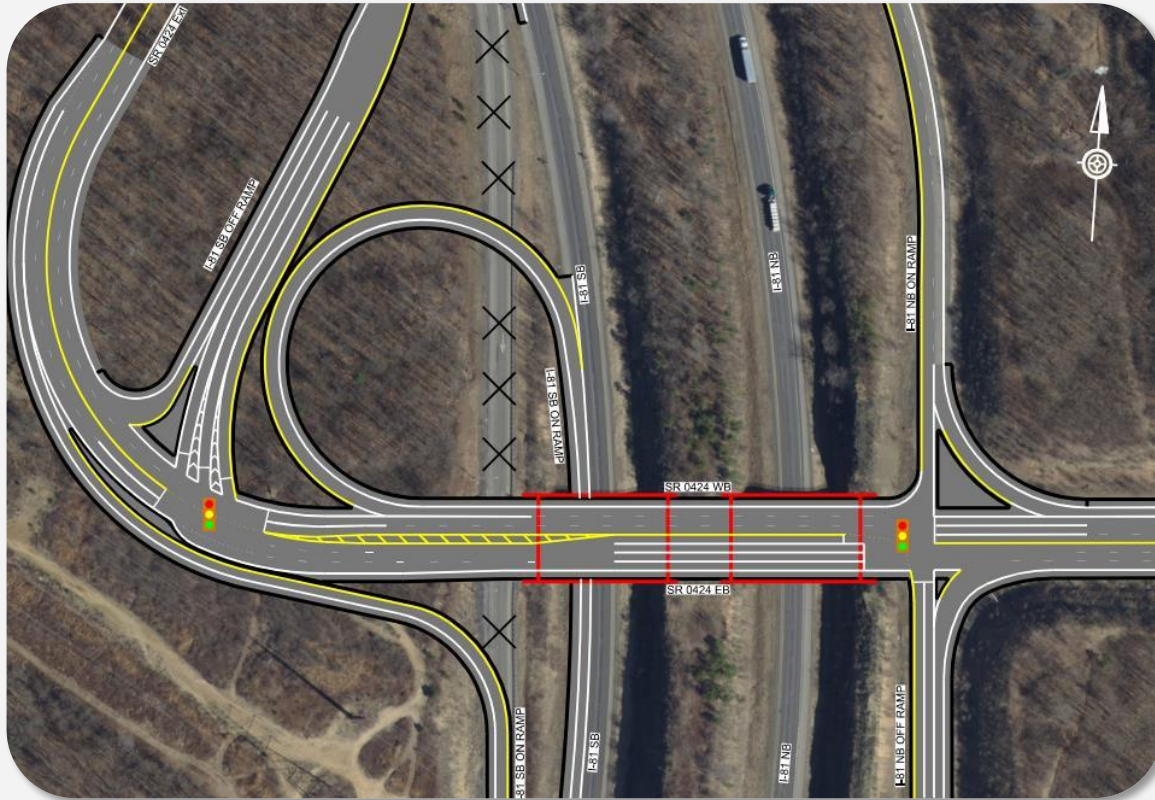


Echelon Interchange

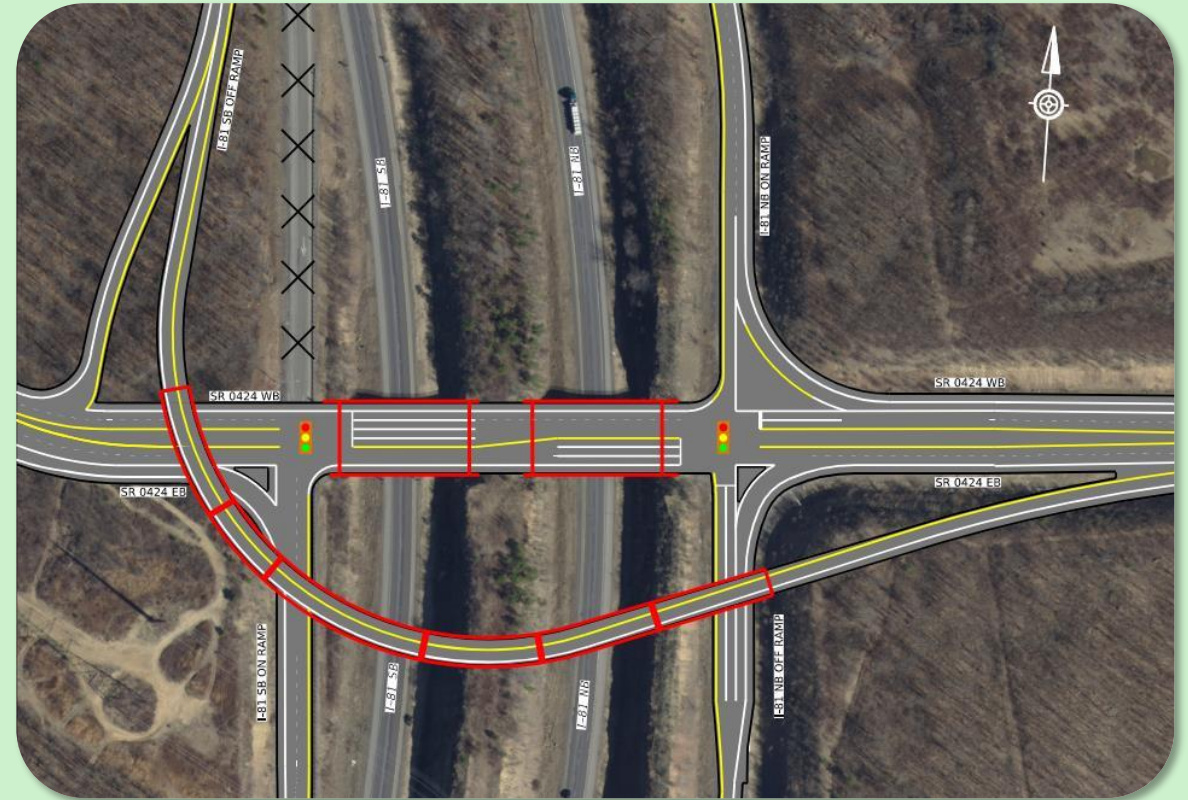


ALTERNATIVES STUDIED

Loop Interchange

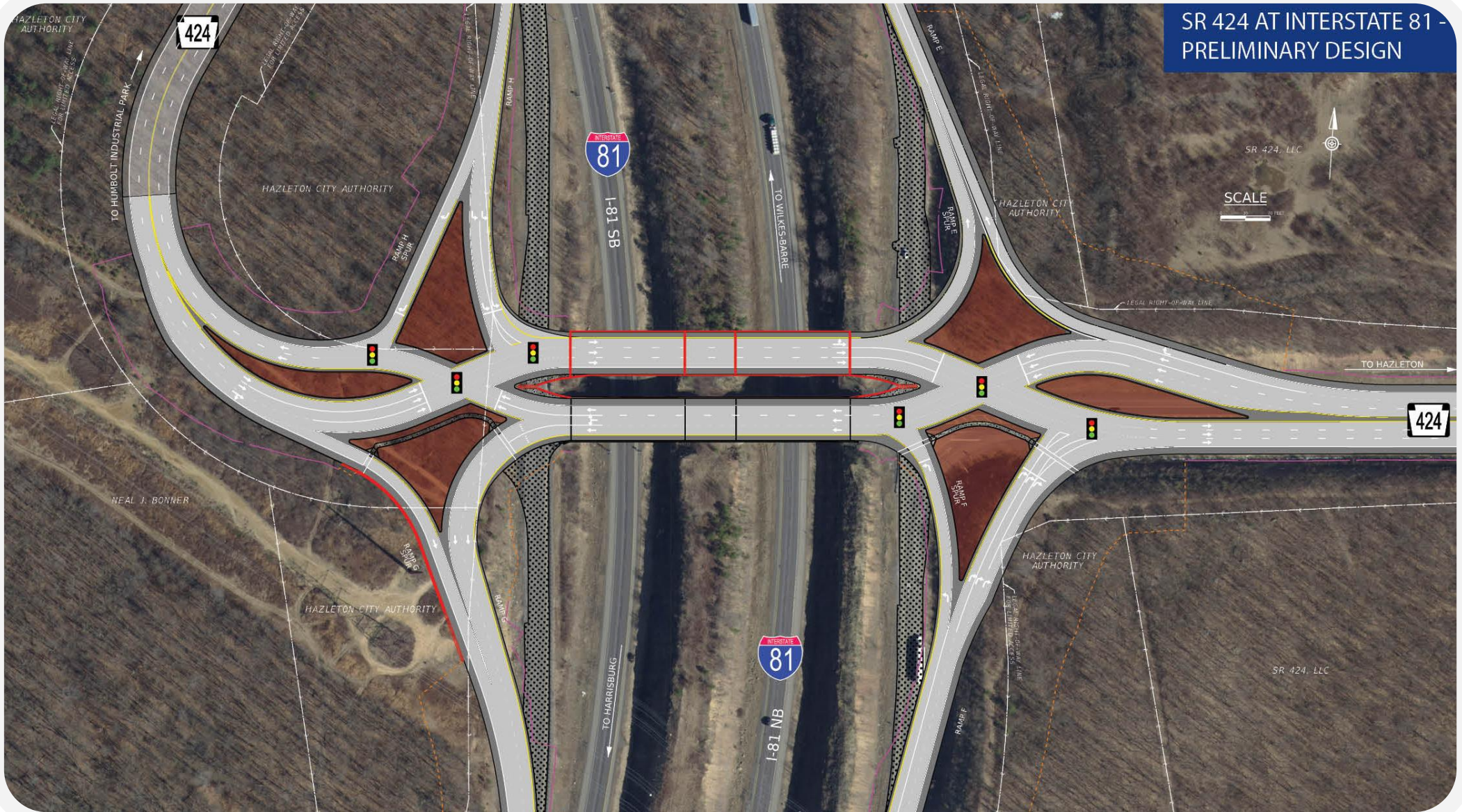


Flyover Interchange



DIVERGING DIAMOND INTERCHANGE (DDI)

SR 424 AT INTERSTATE 81 -
PRELIMINARY DESIGN



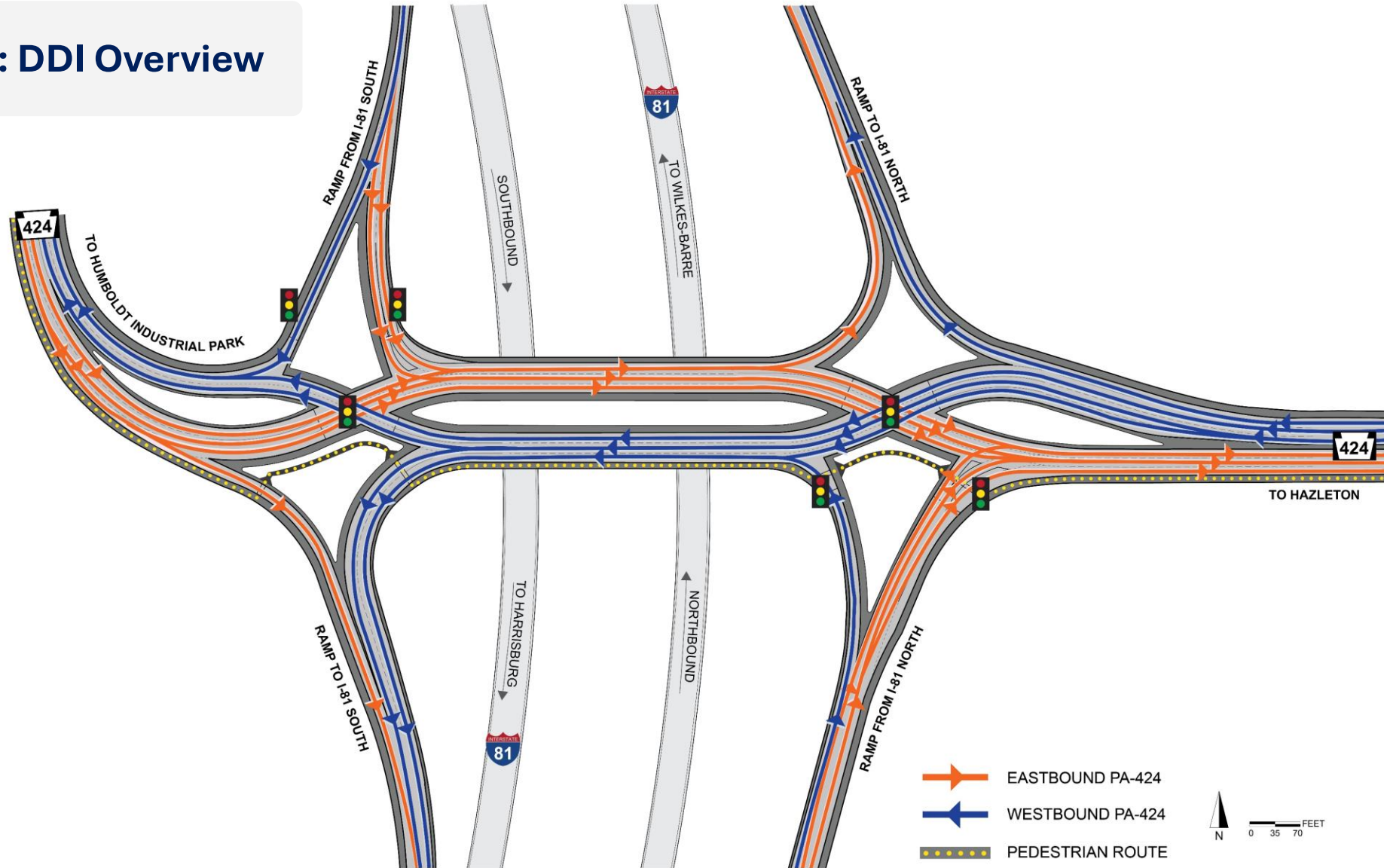
ALTERNATIVES COMPARISON

	Existing Diamond	Modified Diamond	Loop	Flyover	DDI
Traffic – Deficient Movements	▼	▶	▲	▲	▲
Traffic – Queues/Blocking	▼	▶	▲	▶	▲
Safety - Conflict Points	▶	▼	▶	▲	▲
Structures – Reuse Existing?	▲	▼	▼	▼	▲
Structures – New Structure?	▲	▲	▲	▼	▼
Environmental	▲	▶	▶	▶	▶



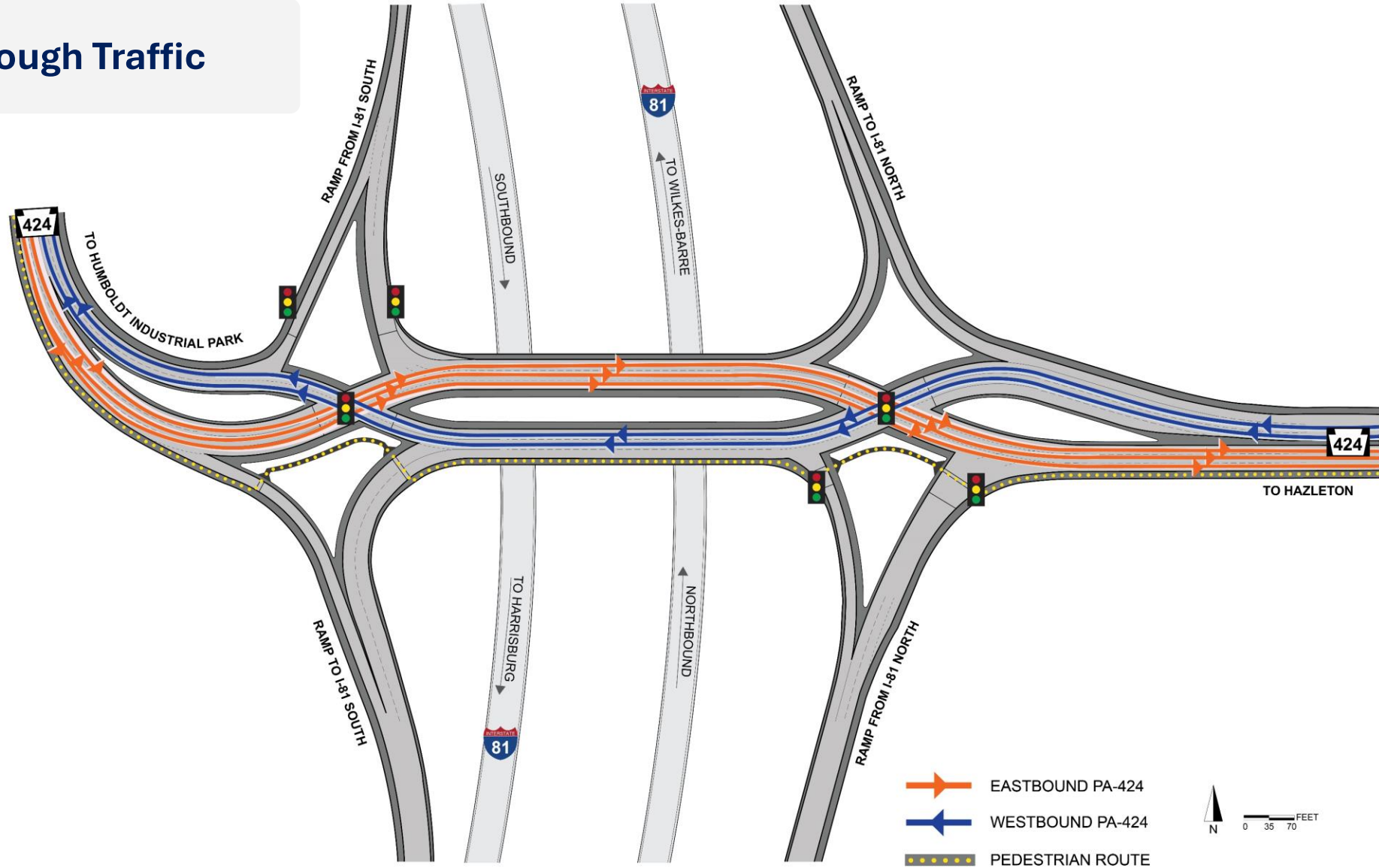
HOW A DDI WORKS

SR 424 at I-81: DDI Overview



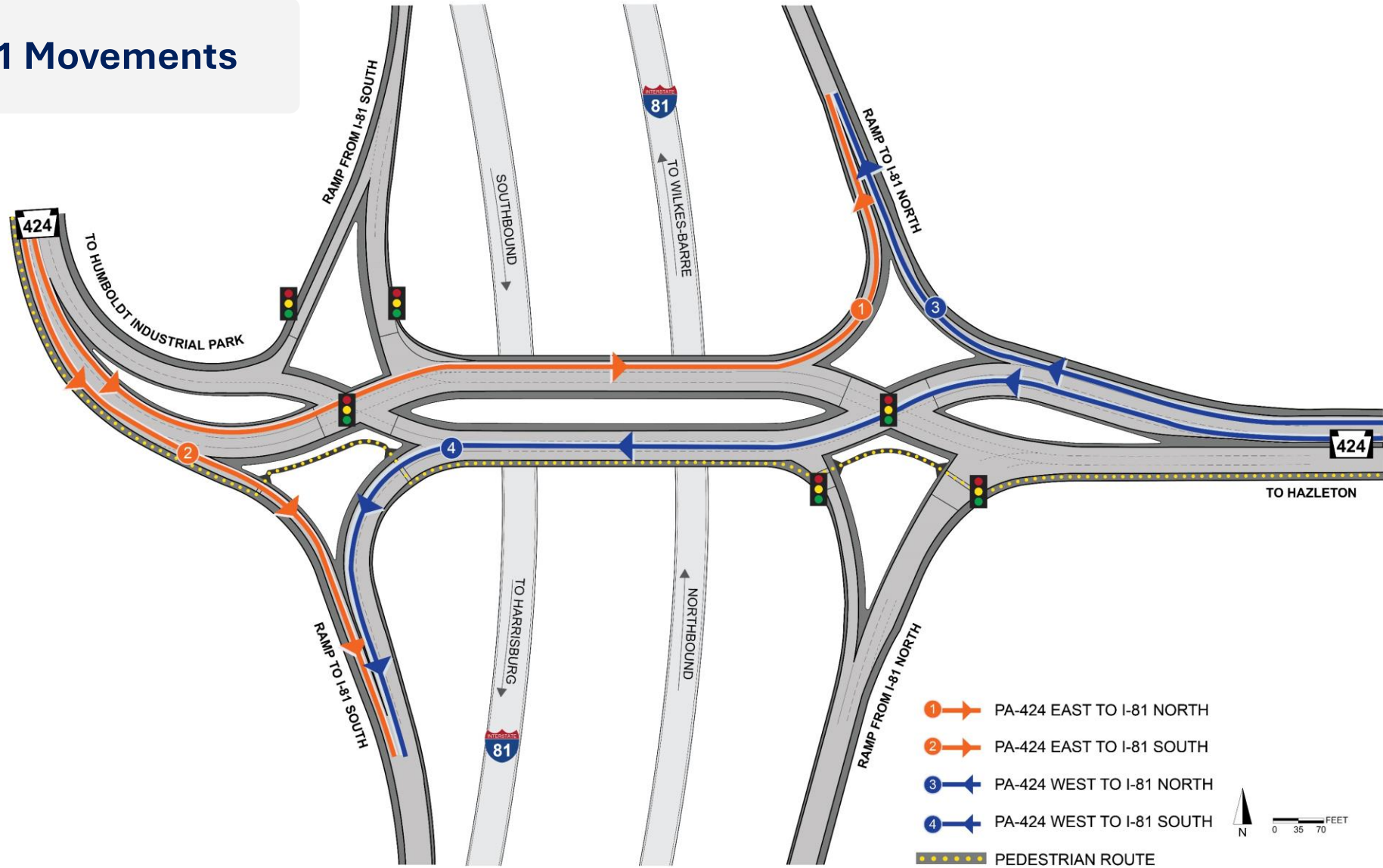
HOW A DDI WORKS

PA 424 Through Traffic



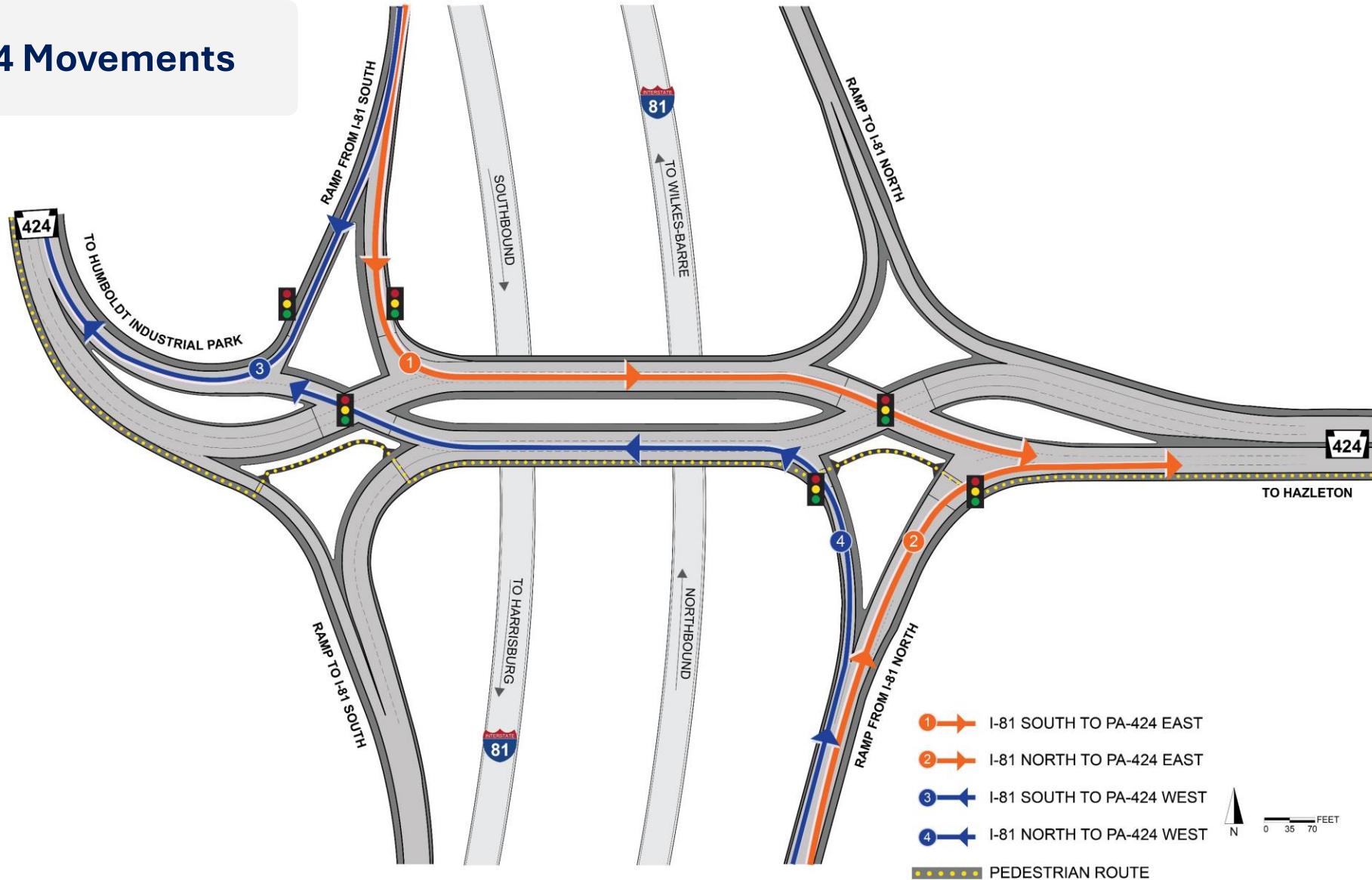
HOW A DDI WORKS

PA 424 to I-81 Movements

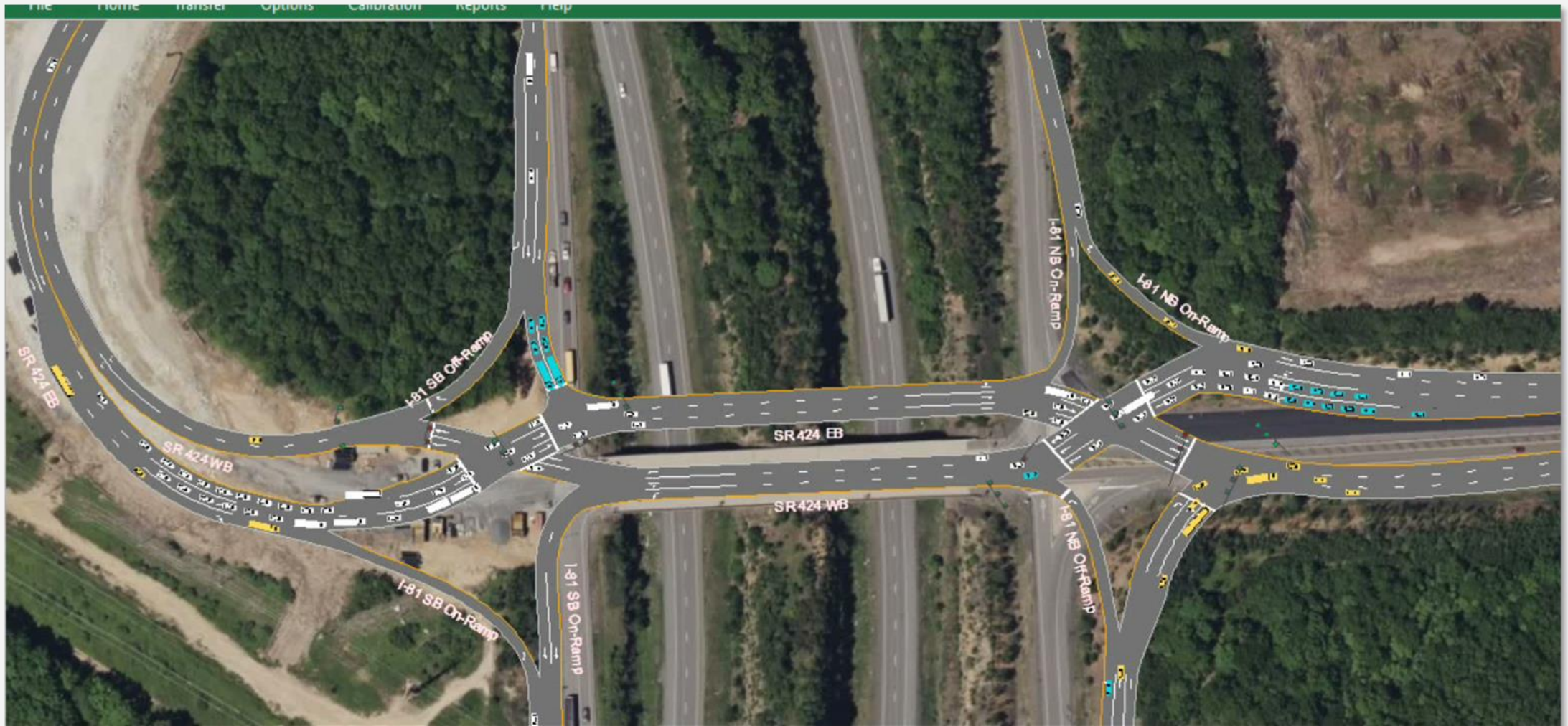


HOW A DDI WORKS

I-81 to PA 424 Movements



TRAFFIC SIMULATION



WHY A DDI?

- Similar ROW footprint as conventional diamond
- Novel “cross-over” design greatly increases ramp capacity
 - Reduces conflicts at the highest volume movements
 - Uses simple two-phase signal patterns
- Ideal for high-interchanging volume (to/from interstate)
- Reduces total interchange conflict points, number of predicted crashes
- Offers design flexibility for pedestrians
- Promotes reduced speeds through the interchange
- Makes use of existing SR 424 bridge



DDIs IN PENNSYLVANIA

Open to Traffic

- **District 8-0:** I-83 & SR 851, York County (2021)
- **District 8-0:** SR 222 & SR 322, Lancaster County (2021)
- **District 12-0:** I-70 & SR 19, Washington County (2017)

Under Construction

- **District 12-0:** I-70 & SR 51, Westmoreland County

Under Design

- **District 5-0:** SR 422 & Penn Avenue, Berks County
- **District 5-0:** SR 22 Section WDR MacArthur Road, Lehigh County
- **District 6-0:** US 30 Section AIR, Airport Road, Chester County
- **District 11-0:** I-376 & SR 22 / SR 30, Allegheny County

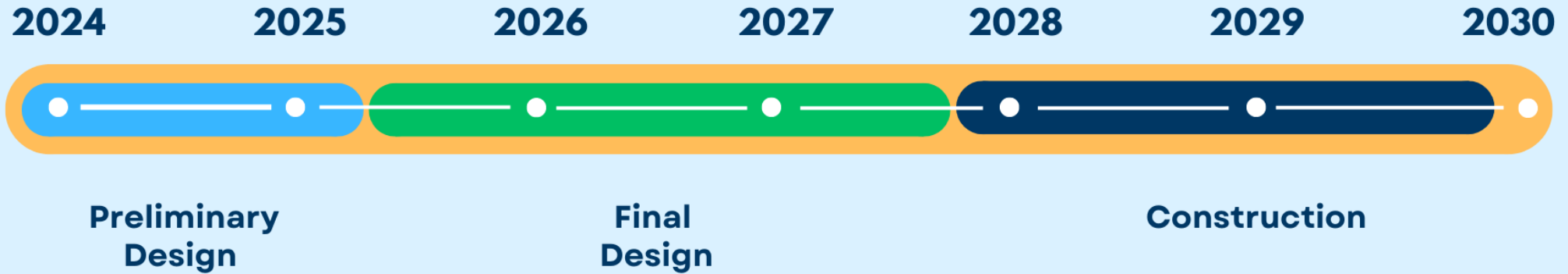


DDI DRIVE THROUGH (EXAMPLE)



PROJECT SCHEDULE

SR 424 at Interstate 81 Schedule



PUBLIC INVOLVEMENT

Outreach Initiatives

Public Meeting – November 14, 2024

Public Comment Form available in-person and electronically via project website

Public involvement opportunity **notifications** issued by PennDOT and local publications

Informational materials and resources available on the **project website**

*Public Comment Forms will be accepted through **November 30, 2024:**
Email to amlolli@pa.gov or mail to:
55 Keystone Industrial Park
Dunmore, PA 18512*



MORE INFORMATION

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amlolli@pa.gov

For more information on the SR 424 at Interstate 81 project:
<https://www.penndot.pa.gov/RegionalOffices/district-4/PublicMeetings/Luzerne%20County/Pages/Route-424-Expansion-Project.aspx>



Thank You