

Maitland Boulevard, Maitland Avenue Interchange Feasibility Study Update

City of Maitland, Florida

Council Workshop

October 4, 2016



BURGESS & NIPLE
Engineers ■ Architects ■ Planners

Agenda

- ❖ Opening & Introductions
- ❖ Phase I Recap
- ❖ Phase II Effort
- ❖ Conclusions

Location Review

❖ Maitland Boulevard, Maitland Avenue

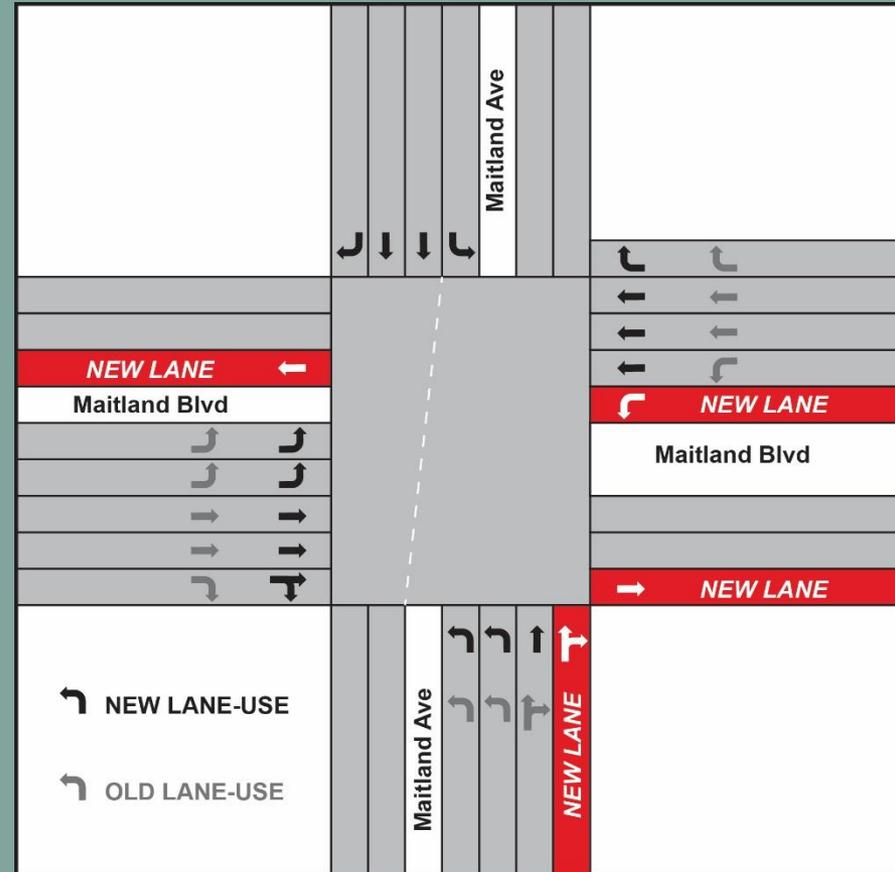


Phase 1 Study Purpose

- ❖ Evaluate the benefits and feasibility of a grade separated interchange.
- ❖ Low level analysis to start the conversation.
- ❖ Is it worth pursuing further?

Phase 1 Conclusions

- ❖ Planned widening project (by FDOT)
 - Long delays and backups will persist with forecasted traffic growth
 - Not an adequate long-term solution

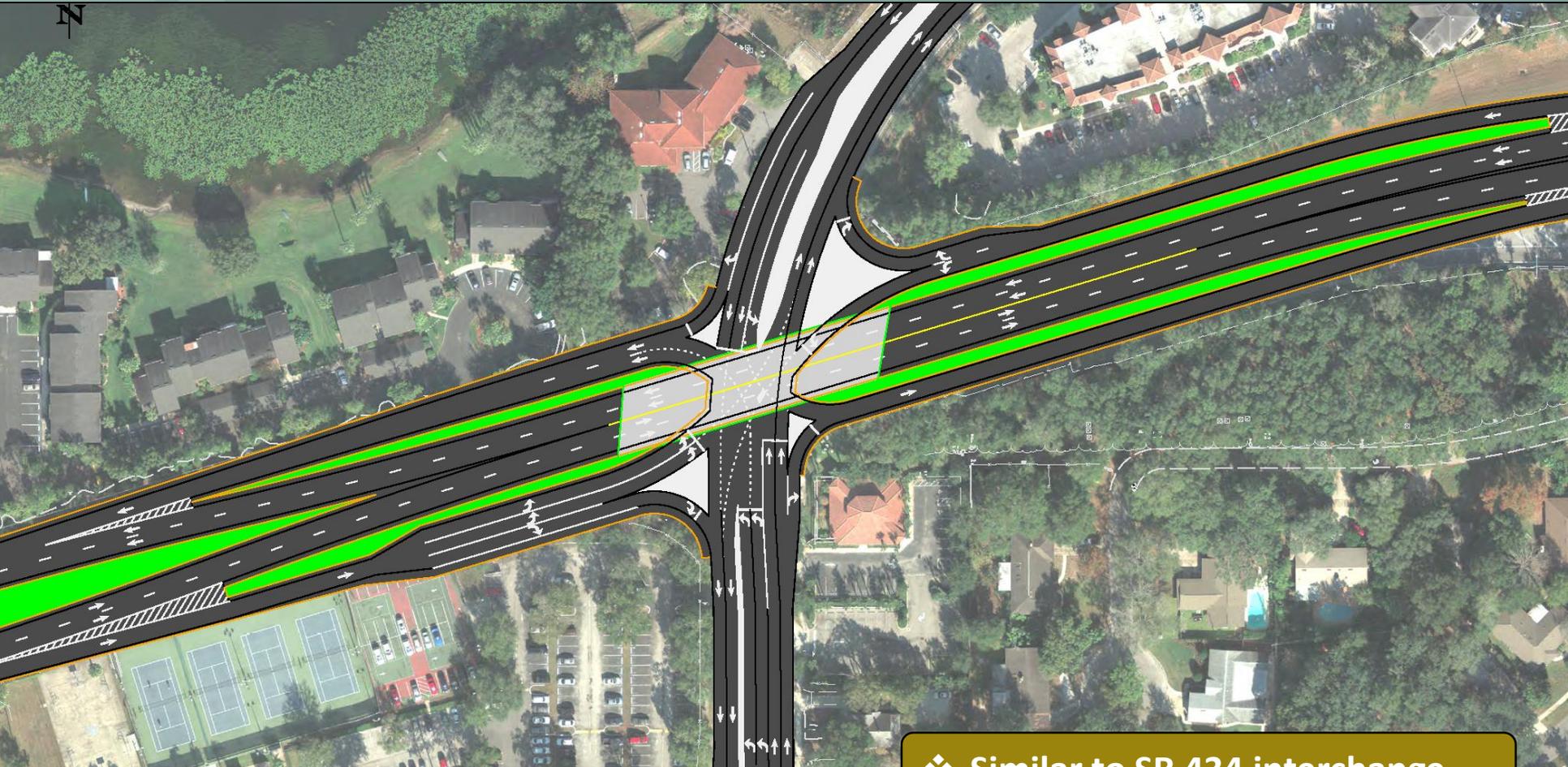


Proposed Lane Additions

Phase 1 Work

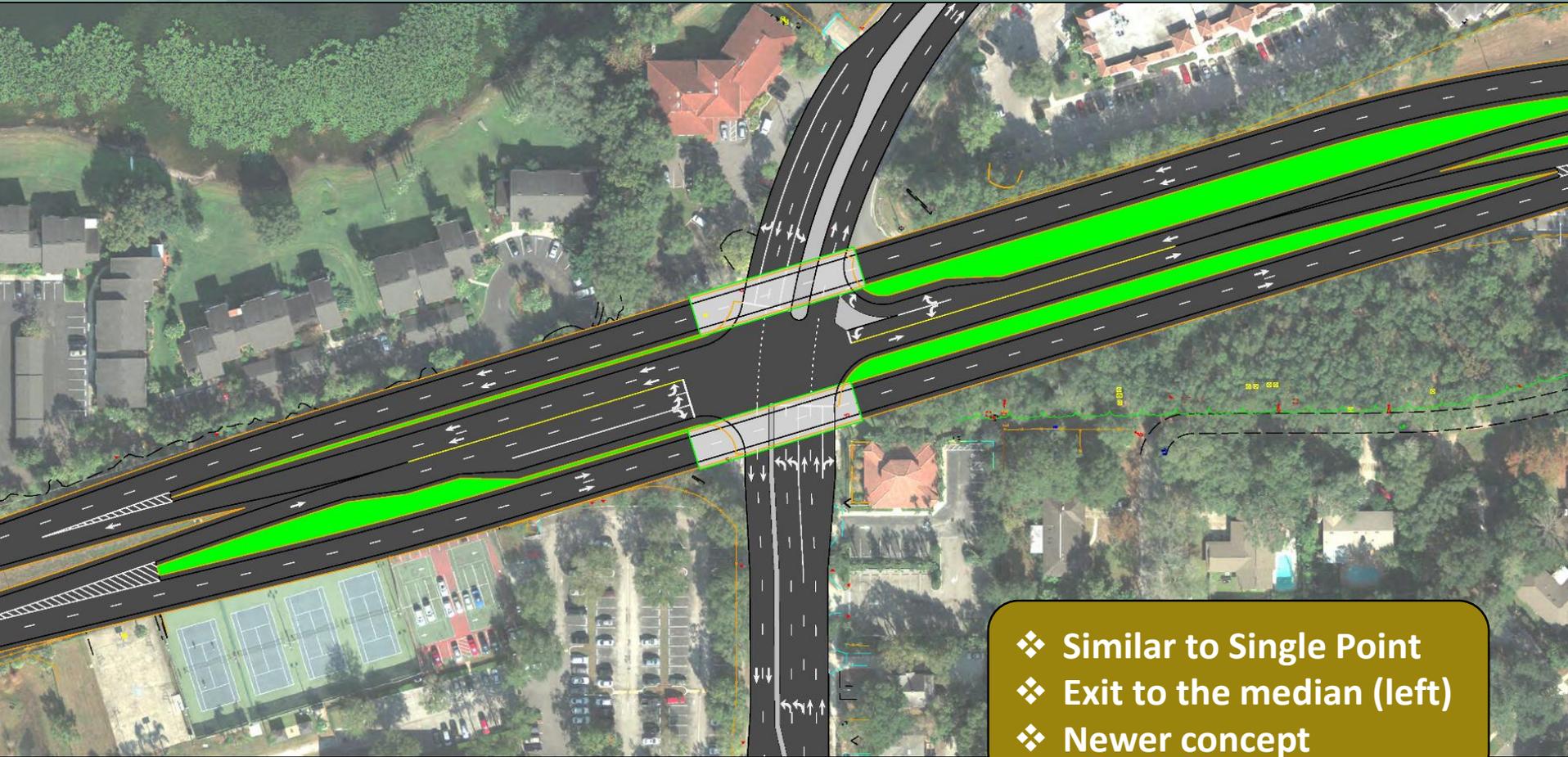
- ❖ **What type of intersection/interchange might work?**
 - **Single Point Urban Interchange**
 - **Median Urban Diamond**
 - **Tight Urban Diamond**

Single Point Urban Interchange



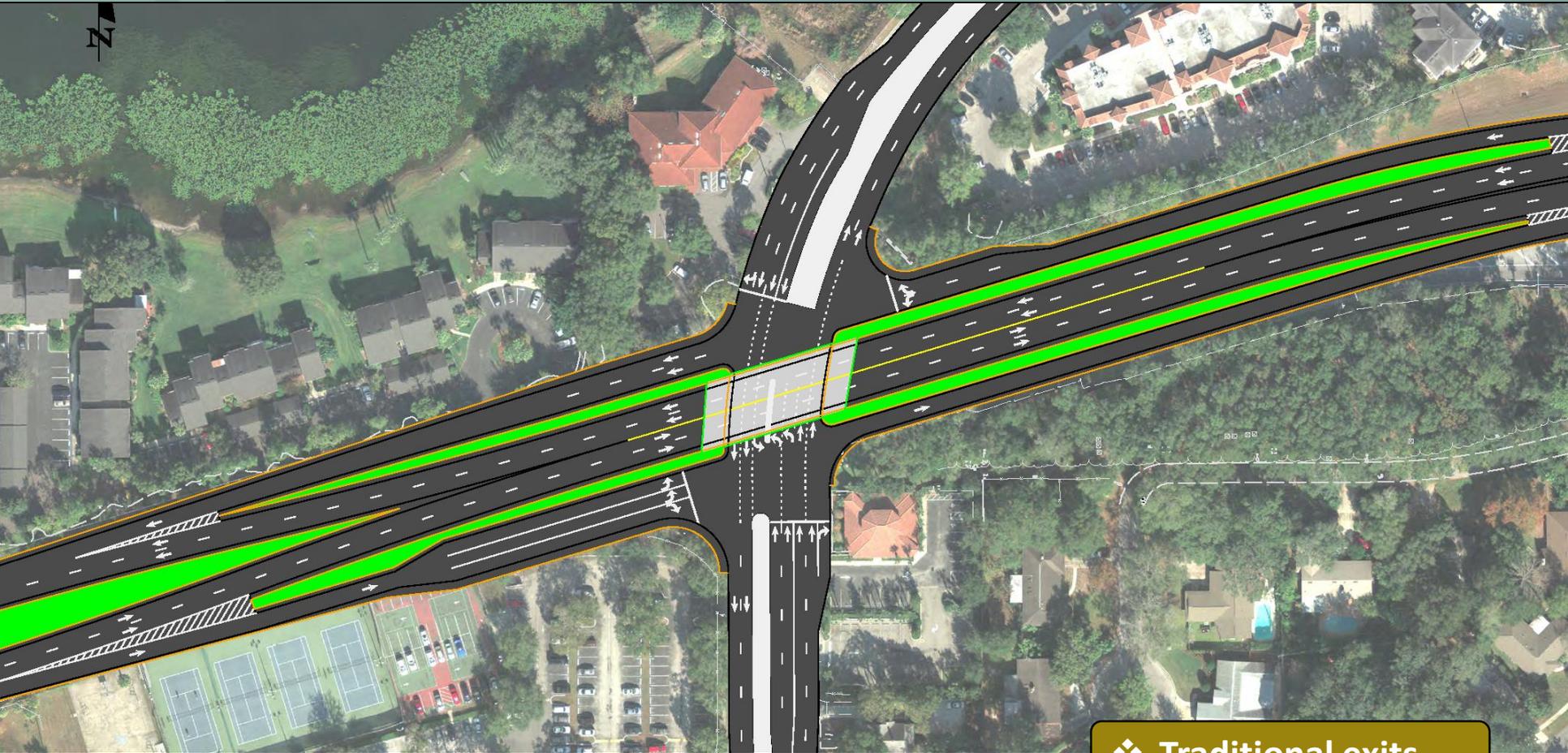
❖ Similar to SR 434 interchange

Median Urban Diamond



- ❖ Similar to Single Point
- ❖ Exit to the median (left)
- ❖ Newer concept

Tight Urban Diamond



❖ Traditional exits

Phase 1 Conclusions

❖ What are the traffic benefits of grade separation?

- Delay and backups eliminated
- Only two through lanes each direction needed on Maitland Boulevard

Estimated Average Traffic Delay Per Vehicle (in Seconds)

2040 Traffic Forecast	With Planned Widening	SPUI	MUD	TUD
AM Peak Hour	151.0	14.2	22.3	17.9
PM Peak Hour	140.7	12.8	18.5	19.4

Phase 1 Conclusions

- ❖ **Three options have similar:**
 - **Right-of-way impacts**
 - **Construction costs**
- ❖ **Different access and road connection challenges/restrictions**

Phase 2 Purpose

- ❖ **To select the alternative that provides the best long term solution at the Maitland Boulevard, Maitland Avenue intersection.**

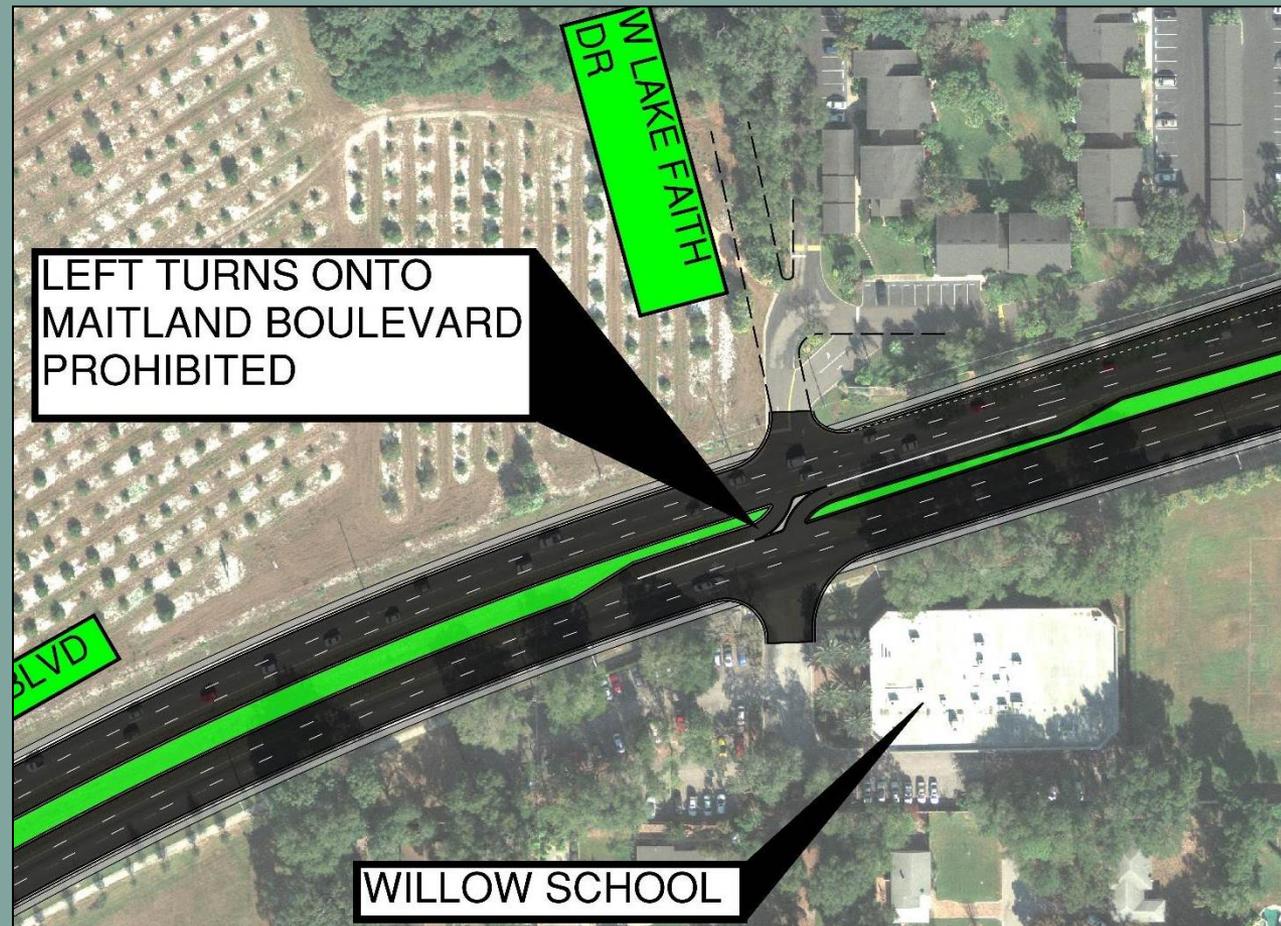
Phase 2 Conclusion



Single Point Urban Interchange (Option 2)

Key Considerations

- ❖ FDOT widening plan eliminates left turns out at Lake Faith Drive and former Willow School



Key Considerations

- ❖ Proximity of Greenwood Boulevard slip ramp to Maitland Avenue



Options Eliminated

❖ Tight Diamond Interchange (TDI)

- No significant advantages over the SPUI
- Less efficient than SPUI
- Eastbound to westbound U-turn maneuver is more challenging

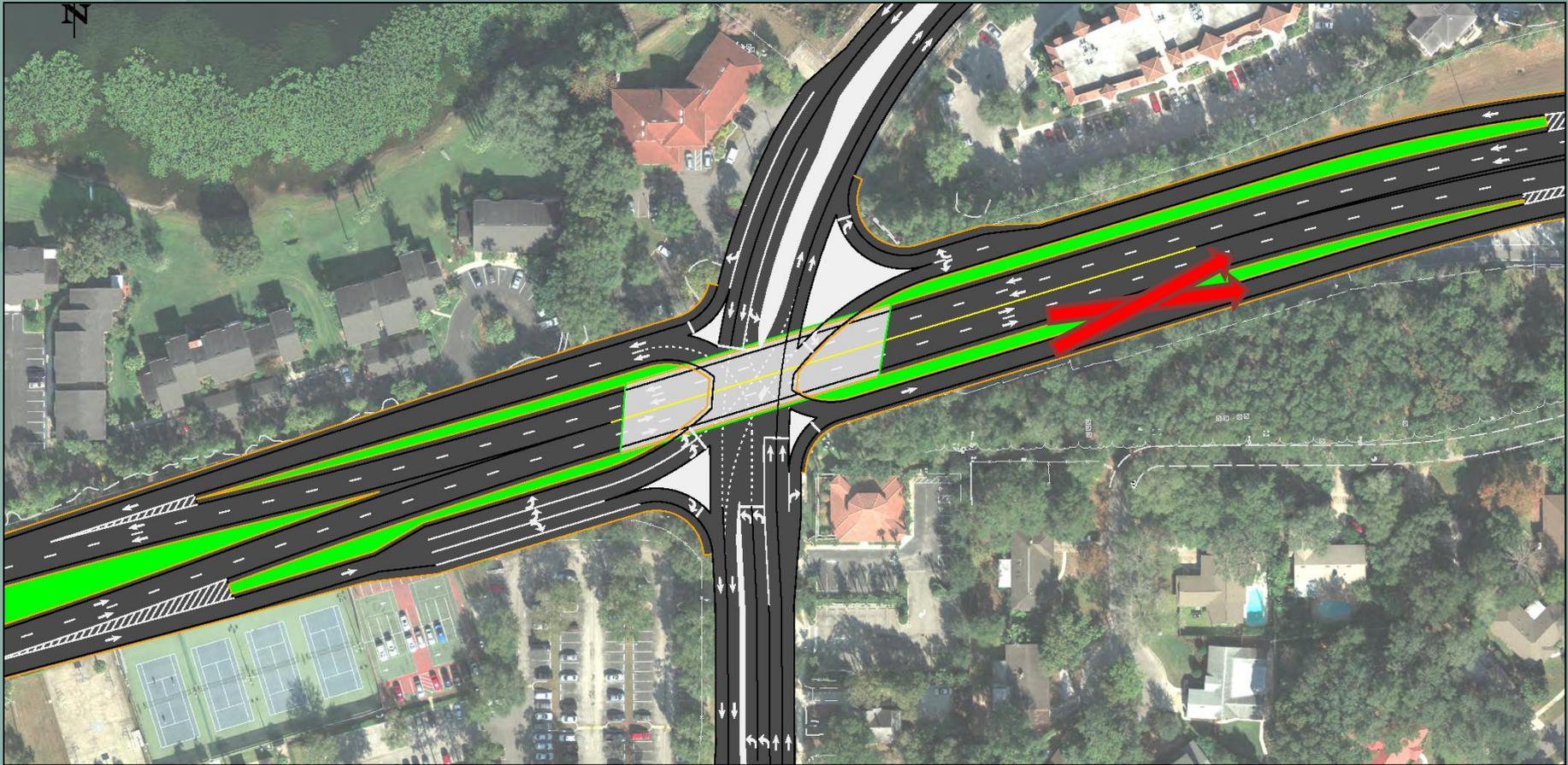
❖ Median Urban Diamond (MUD)

- Eastbound U-turn cannot be accommodated for school property access
- No significant advantages over SPUI
- Less familiar than SPUI

Phase 2 to Answer:

- ❖ How will the grade separation options connect into Maitland Boulevard east of Maitland Avenue and maintain the ramp from Maitland Boulevard to US 17/92 (Greenwood Drive)? Is it necessary to prohibit turning movements at the interchange to do so?

The Problem Identified in Phase 1



SPUI Option 1

MAITLAND BLVD / MAITLAND AVE GRADE-SEPARATED INTERCHANGE FEASIBILITY STUDY
EXHIBIT A
SPUI Option 1 - Focus View

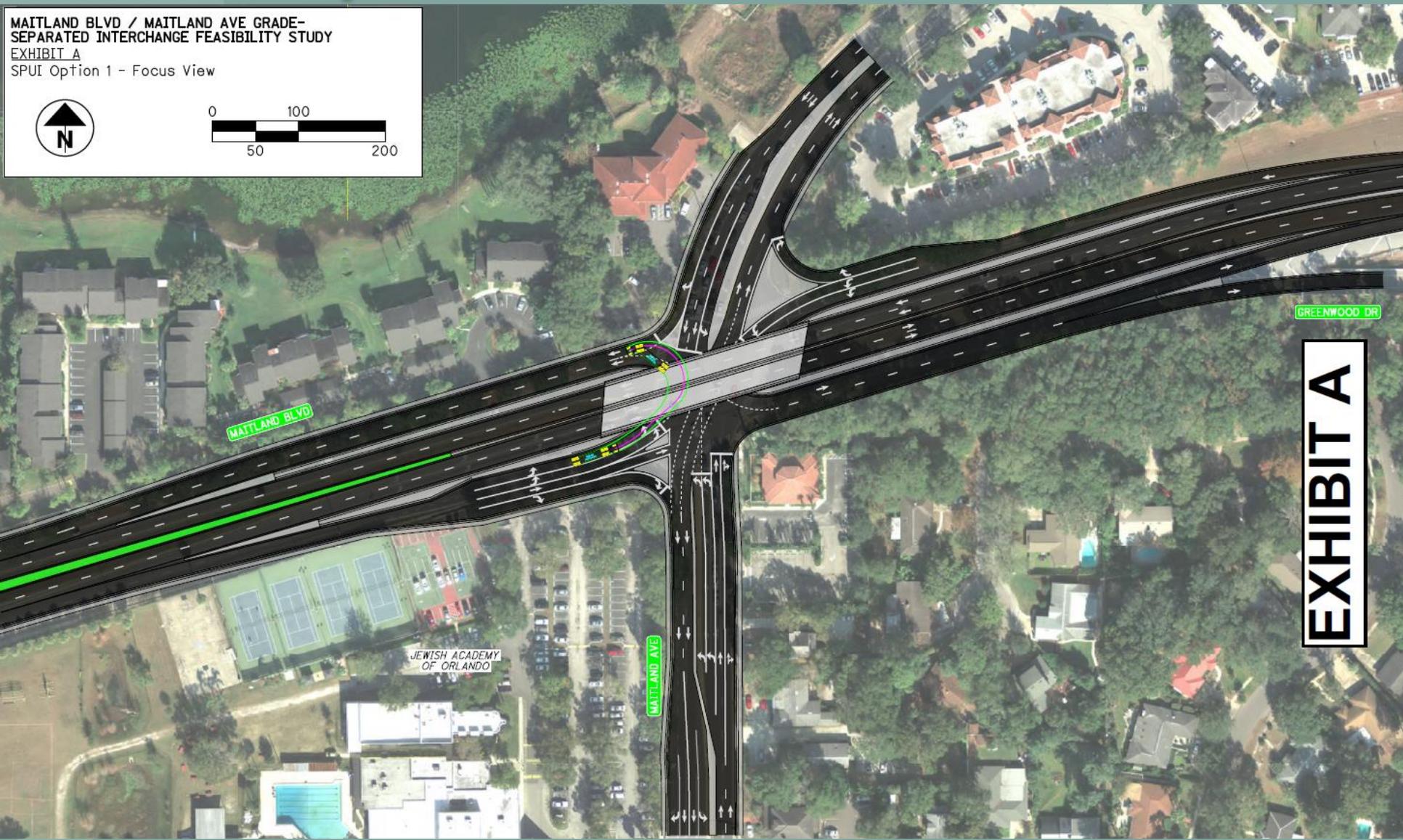
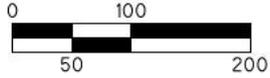


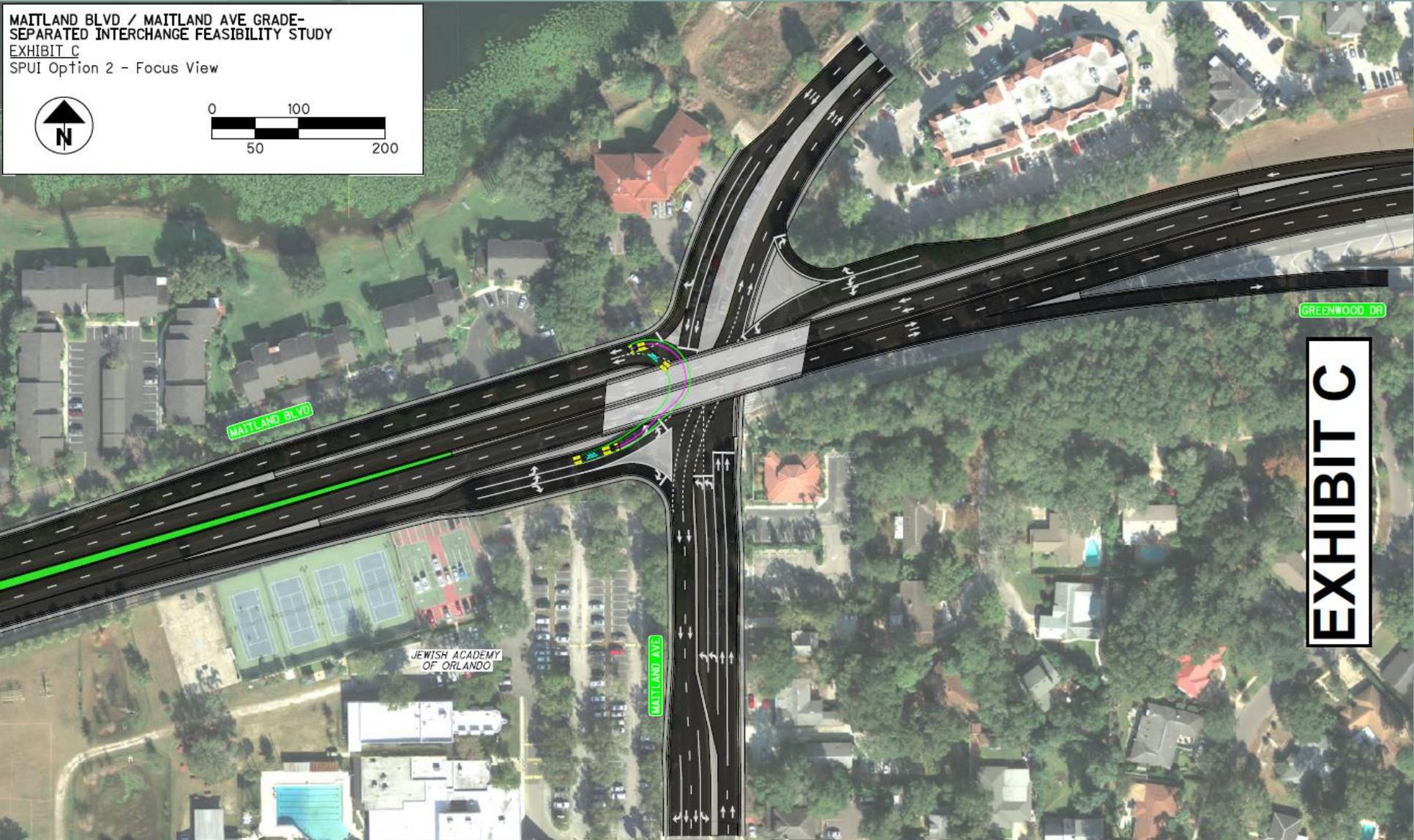
EXHIBIT A

SPUI Option 2

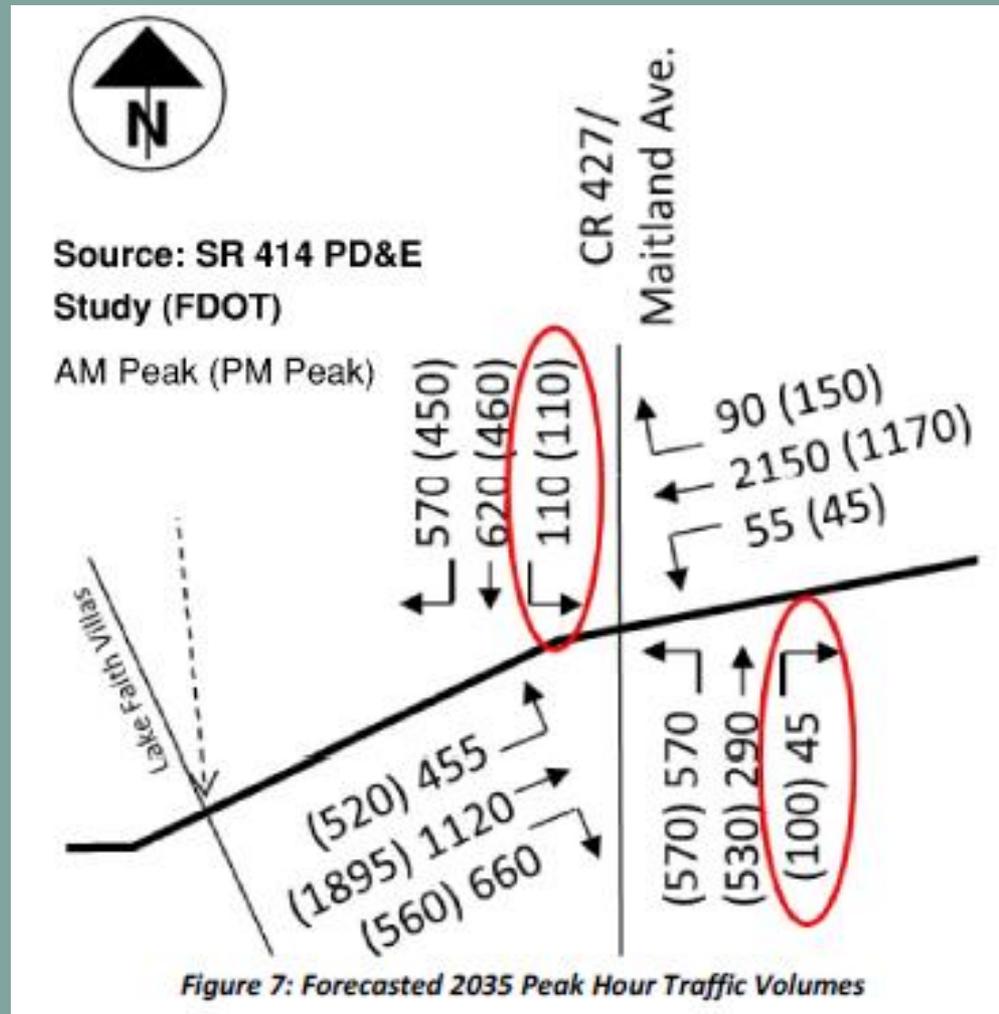
MAITLAND BLVD / MAITLAND AVE. GRADE-SEPARATED INTERCHANGE FEASIBILITY STUDY
EXHIBIT C
SPUI Option 2 - Focus View



A north arrow pointing upwards and a scale bar showing 0, 50, 100, and 200 feet.



Volumes



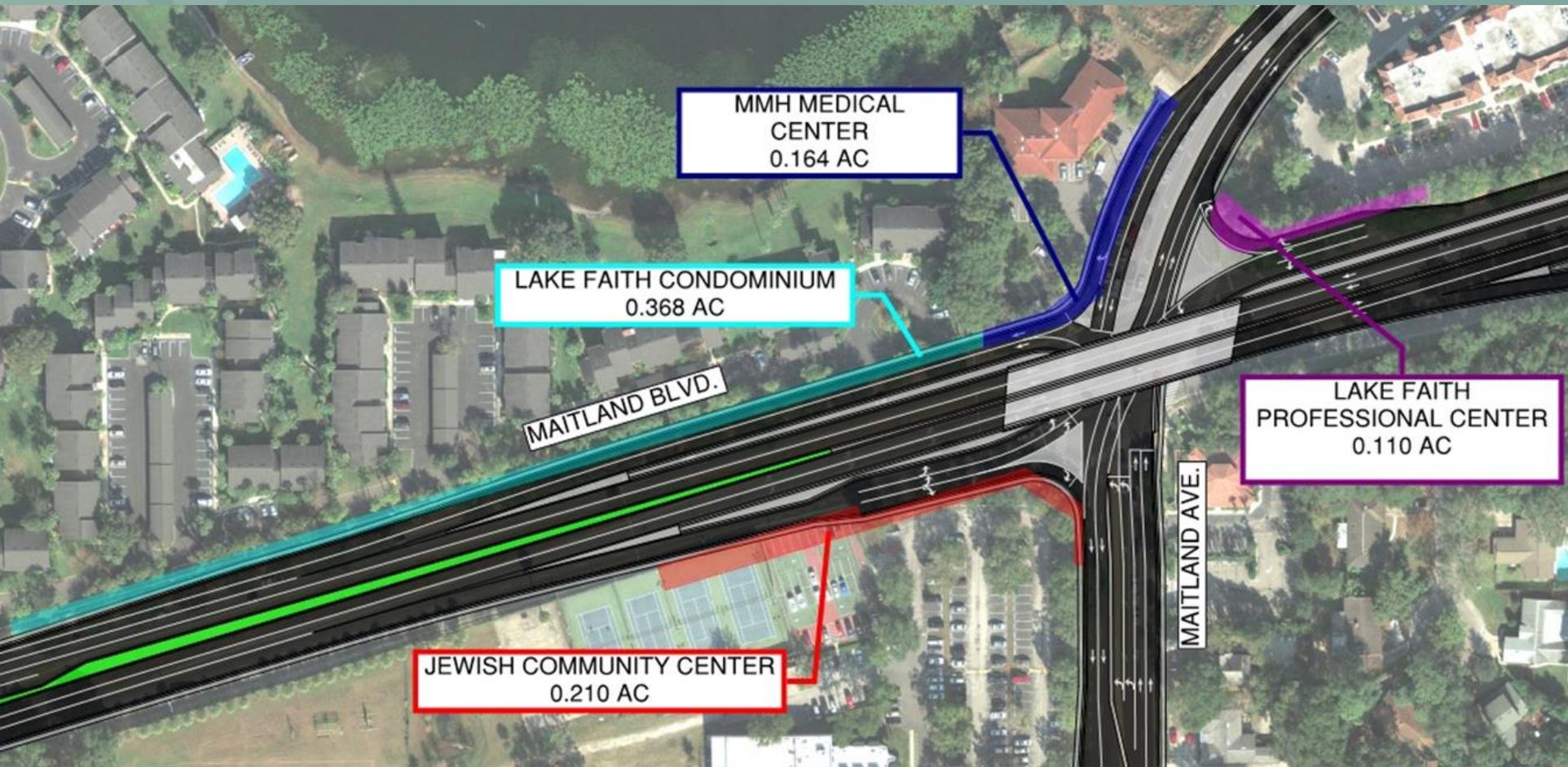
Key Phase 2 Question to Answer:

- ❖ How would a grade separation project connect into the proposed FDOT widening of Maitland Boulevard? Could the grade separation be logically integrated into the widening project or added as a “Phase 2” of the corridor improvement project.

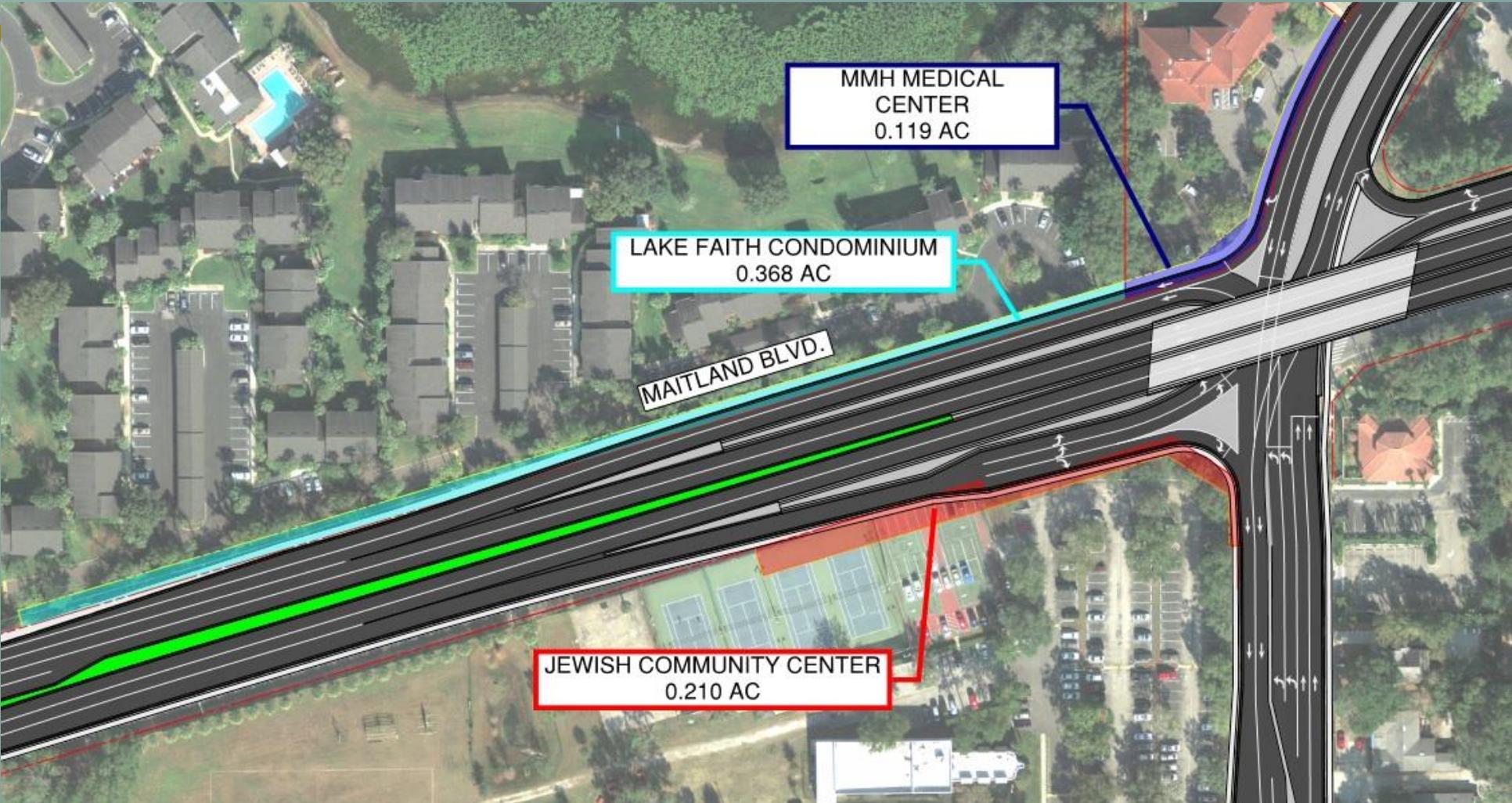
Key Phase 2 Question to Answer:

- ❖ Can the preliminary layouts be refined to minimize or eliminate property impacts?

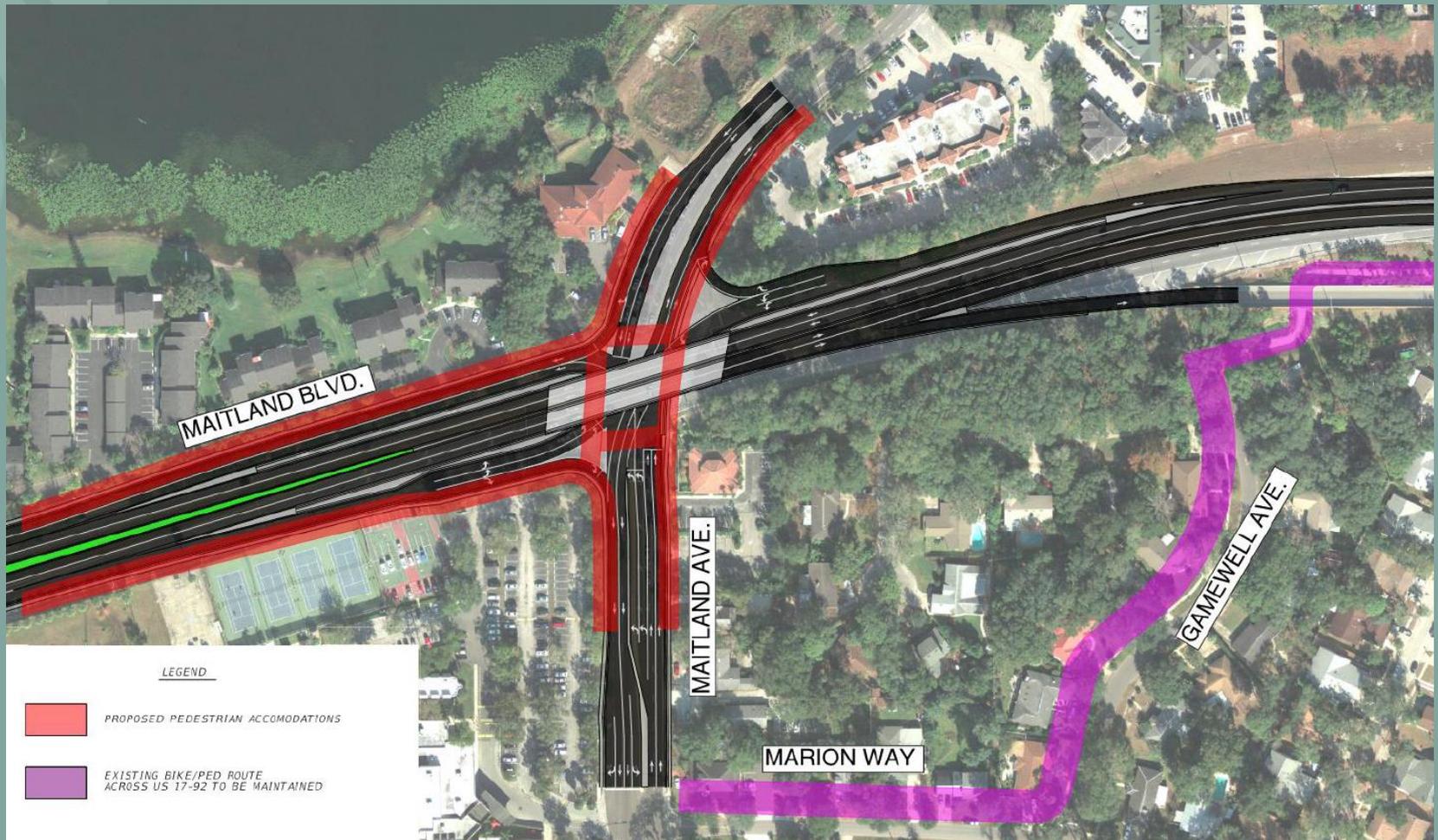
Phase 2 Report



Refined R/W Areas



Pedestrian Access



Bicycle Access

- **No bike lanes planned in FDOT Maitland Avenue project**
- **Accommodated by alternate routes**
 - **Sandspur Road**
 - **Marion Way**
 - **Gamewell Avenue**

Recommended Alternative Summary

- ❖ **SPUI Option 2**
- ❖ **Provides much faster connectivity for Maitland Boulevard to and from US 17/92**
 - **Less traffic using Maitland Avenue**
- ❖ **Will have property impacts**
- ❖ **Will require elimination of NBRT and SBLT movements to maintain access from Maitland Boulevard to Greenwood Drive slip ramp**

Recommended Layout



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