I-15/Tropicana Interchange

Alternatives Selection

NEVADA DOT

I-15/Tropicana Feasibility Study

Meeting Overview

Process:

- Design Charrette — Held 8-14
- Project concepts Screening Meeting — Held 10-14
- Alternatives Evaluation
- Alternatives Selection Meeting — We Are Here
- Additional Analysis if necessary
- Development of Preferred Alternative

Alternatives Summary

- Interchange Alternatives
  - 2 level results
  - Flyover results
  - Interchange type selection
- Tropicana Alternatives
  - Dean Martin grade separation
  - Limits of Tropicana widening for the interchange
  - Median Island Polaris to Procyon
- I-15 Improvements
  - NB CD Ramp entrance extension
    - 12 foot lanes
    - 11 foot lanes
  - NB Ramp Braid Alternative

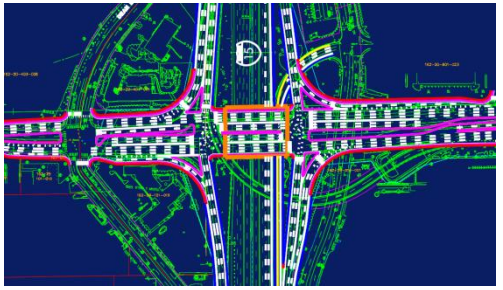
Interchange Evaluation

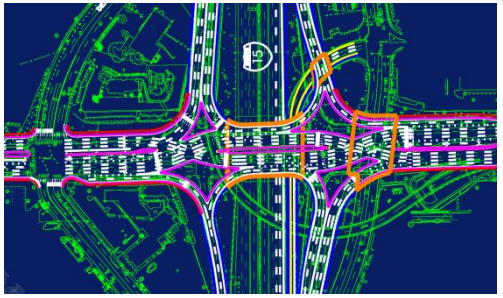
Interchange Type Selection Criteria

- Operations of interchange intersections
- Operations of through movements and adjacent intersections
- Interchange ramp queues
- Complexity of structures

2-level interchanges

- TDI
  - Simplest structures
- DDI
  - Complicated structures
  - unfamiliar configuration at major interchange
- SPUI
  - Complicated structures

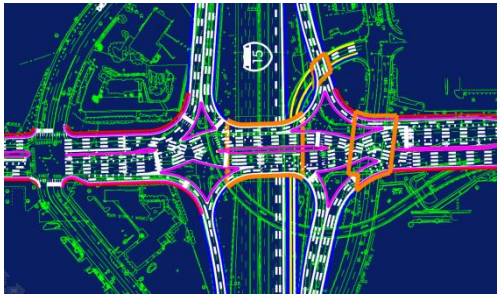




2-level Traffic Analysis

- TDI
  - LOS failures in SBL, WBL & NBR
  - Ramp queue impacts I-15 SB exit ramp

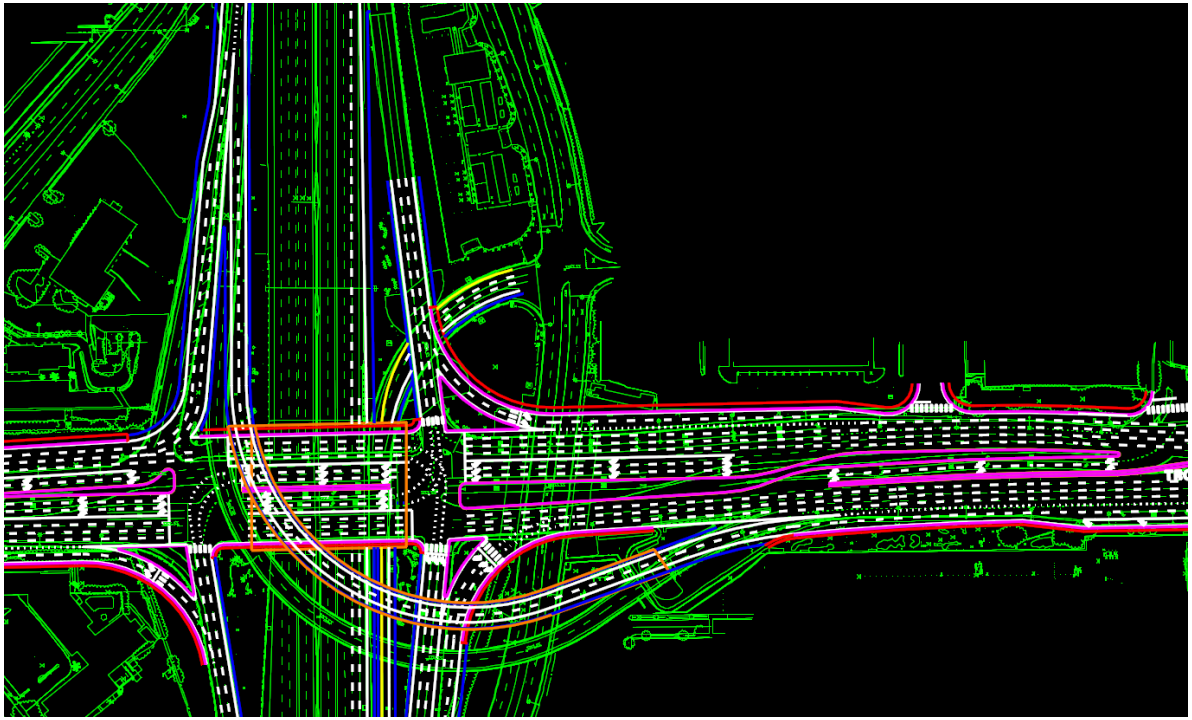
- DDI
  - LOS failures in SBL, SBR, EBT, WBT & NBR
  - Ramp queue impacts I-15 SB exit ramp



- SPUI
  - LOS failures in SBL, SBR, WBT & NBR
  - Ramp queue impacts I-15 SB exit ramp

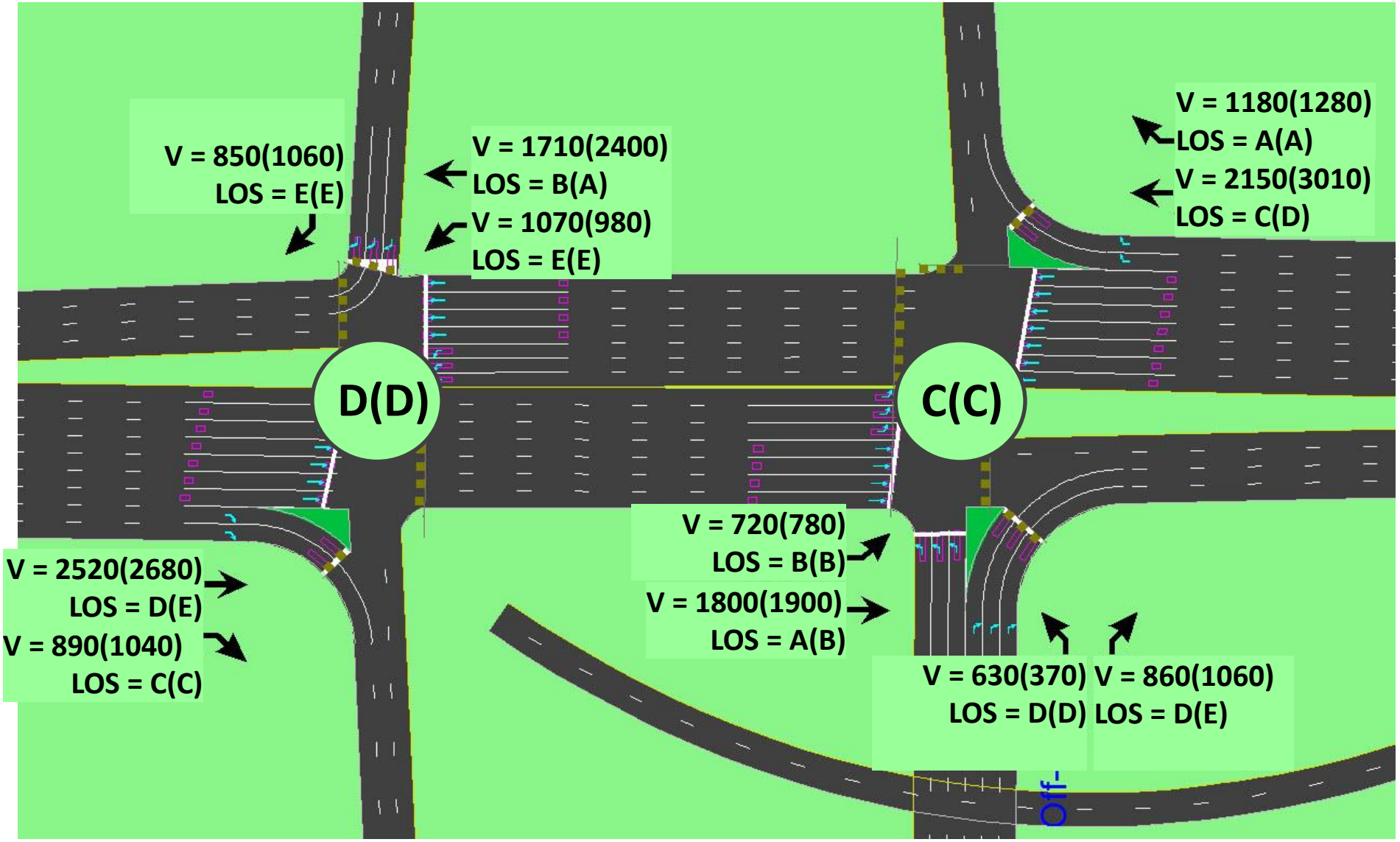
3-level interchanges

- Flyover



- Other types not evaluated once flyover was successful.

2035 AM(PM) Volume/Level of Service - TDI

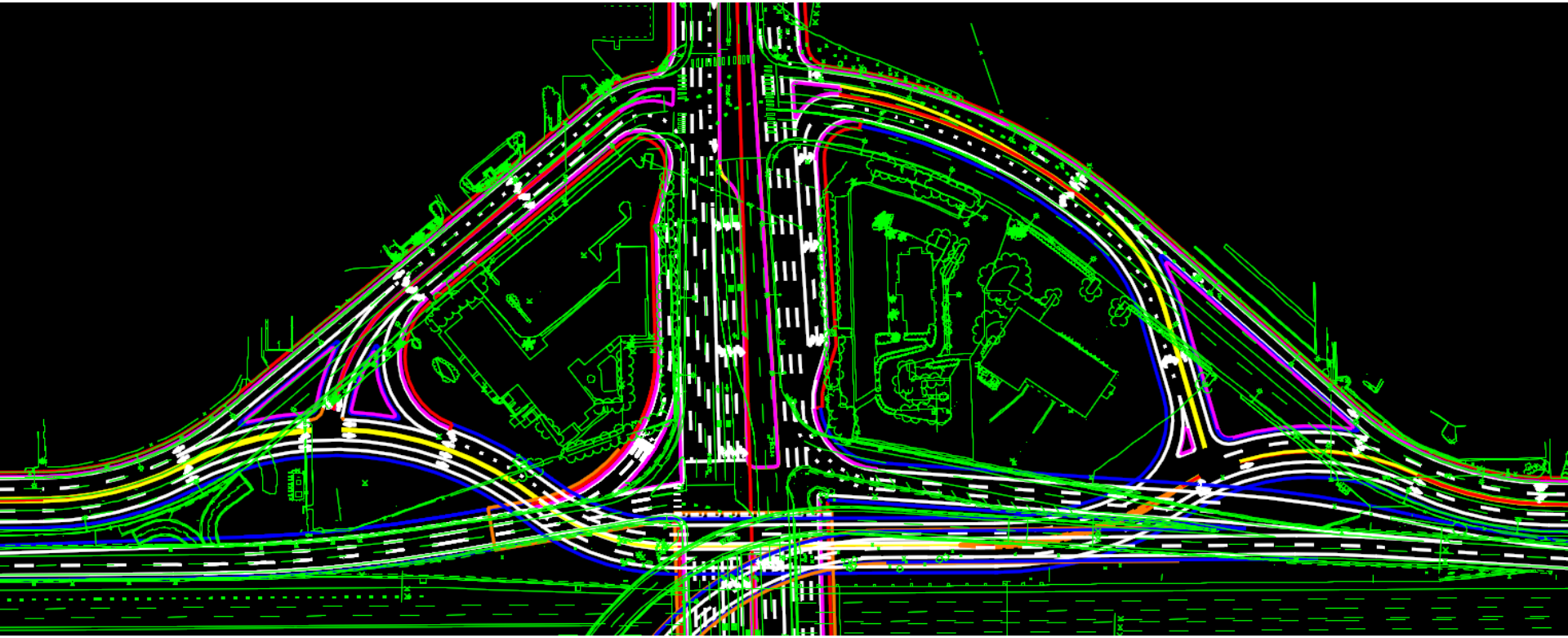


Tropicana Alternatives

- Tropicana Improvements
  - Grade separate Dean Martin through movements.
  - Widen Tropicana from 3 to 4 lanes in each direction – reduced limits.
  - Install “snake islands” between Procyon and Polaris to eliminate crossing traffic between the two signals.

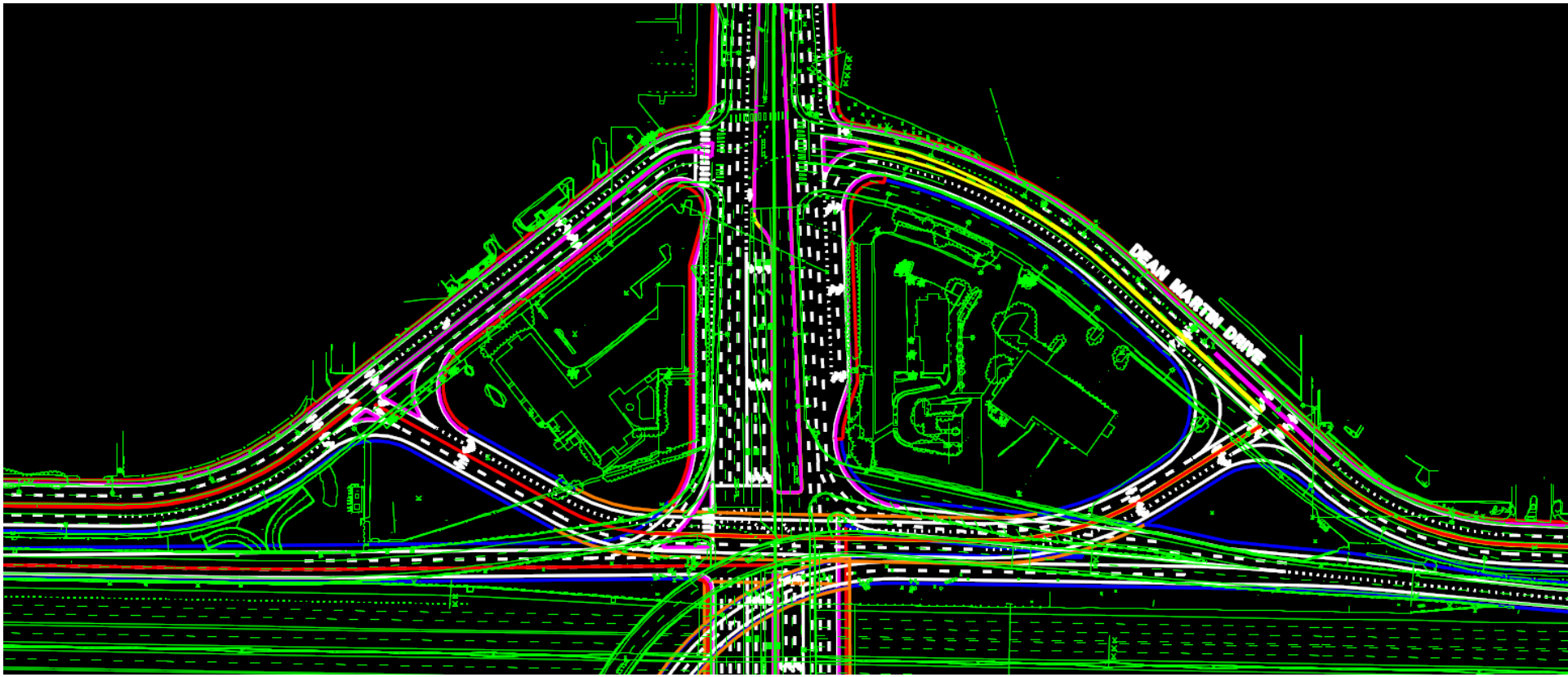
Tropicana Alternatives

- Grade separate Dean Martin through movements.



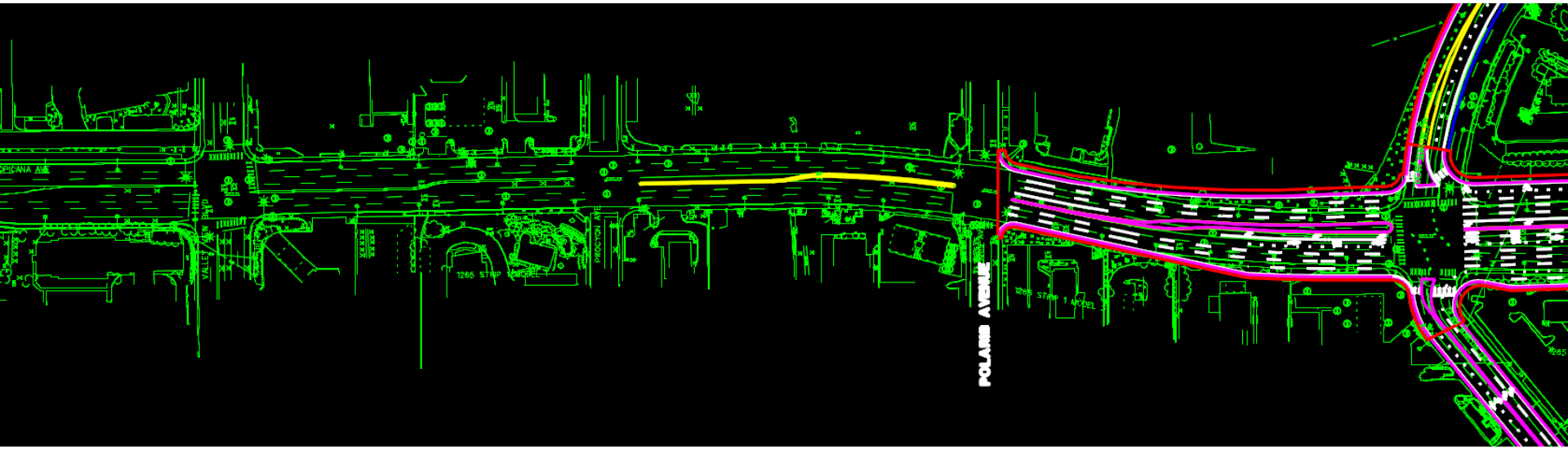
Tropicana Alternatives

- Dean Martin intersection options TBD



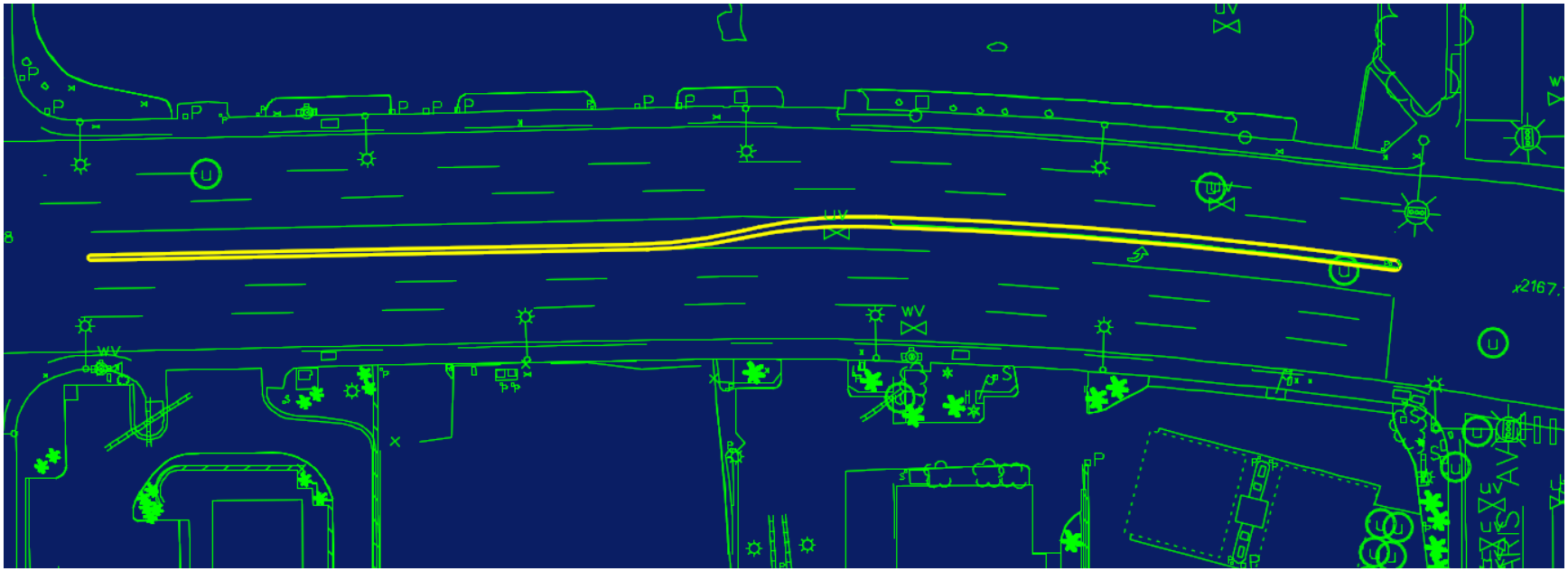
Tropicana Alternatives

- Widen Tropicana from 3 to 4 lanes in each direction – from Polaris to the interchange.



Tropicana Alternatives

- Install “snake islands” between Procyon and Polaris to eliminate crossing traffic between the signals.



I-15 Alternatives

- I-15 NB options
  - NB CD Ramp Entrance as Auxiliary
    - 12-Foot lane past Spring Mountain (2CD drop 1 at SM)
    - 12-Foot lane to Spring Mountain (2CD Aux to Flamingo & SM)
    - 12-Foot lane to Spring Mountain (1CD, Aux to SM)
    - 11-Foot lanes (previous options discussion)
  - Weaving elimination
    - Braid CC-215 to I-15 with Tropicana exit.
    - Braid Russell to I-15 entrance with CD.
    - Braid Tropicana and Flamingo ramps.

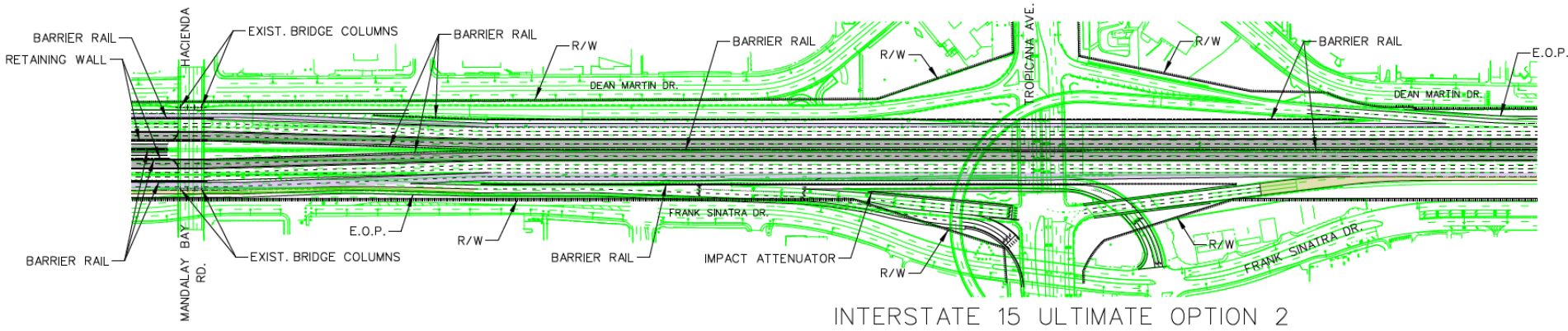
NB CD Ramp Entrance

- Option 1 – Extend 2-lane CD; one to Flamingo, one past Spring Mountain. (roll plot)

INTERSTATE 15 ULTIMATE OPTION 1

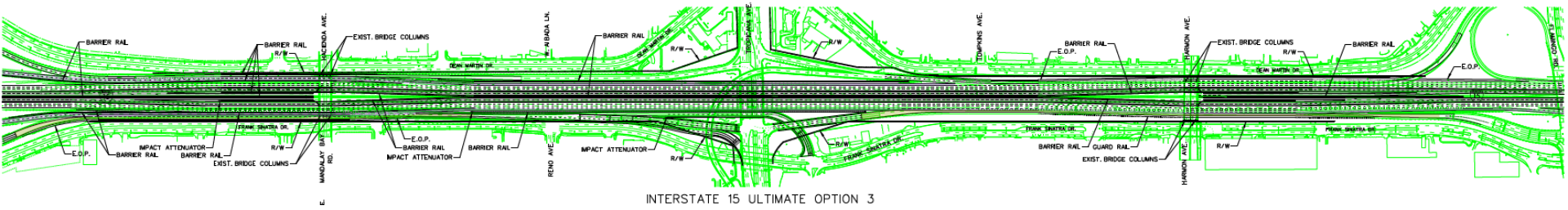
NB CD Ramp Entrance

- Option 2 – Extend 2-lane CD; one to Spring Mountain, merge one before Tropicana. (roll plot)



NB CD Ramp Entrance

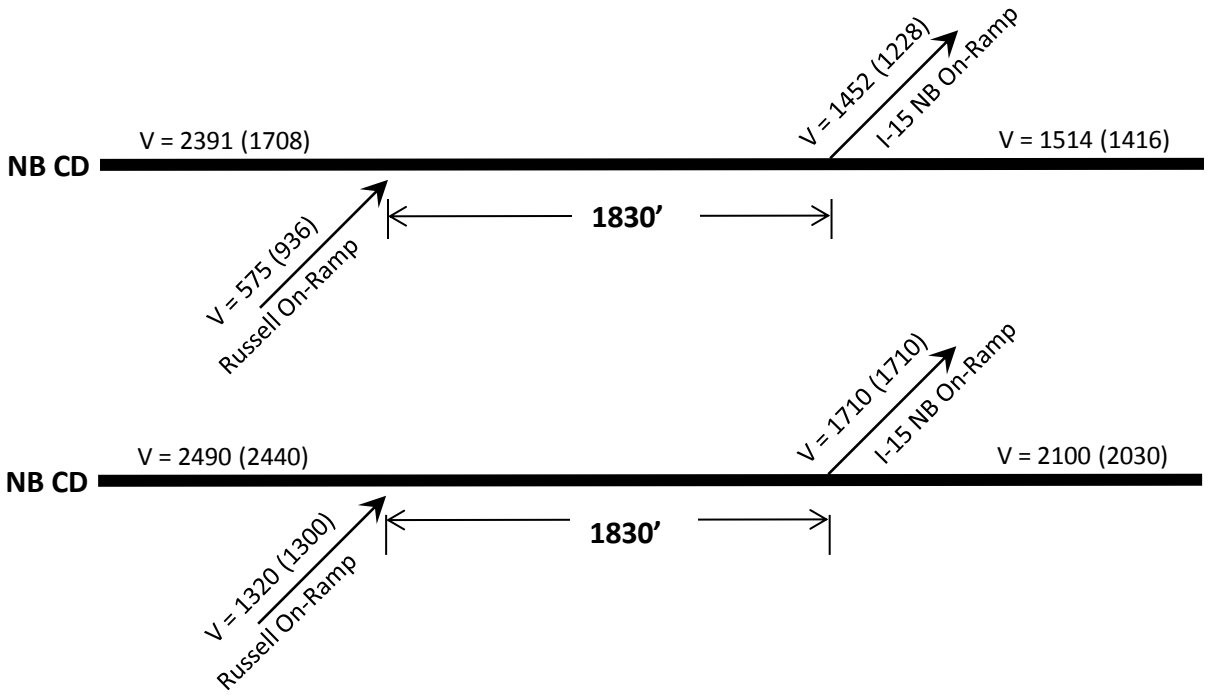
- Option 3 – Extend 1-lane CD to Spring Mountain. (roll plot)



INTERSTATE 15 ULTIMATE OPTION 3

Traffic Analysis Results

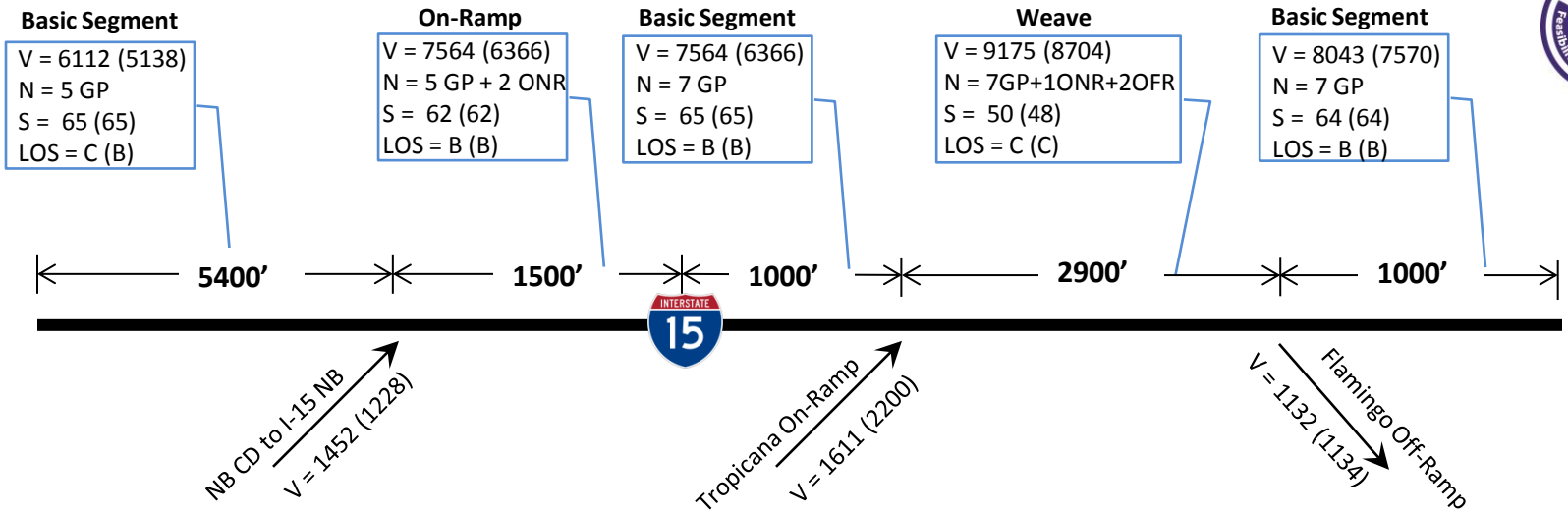
Weave Analysis on NB CD between Russell On-Ramp & I-15 NB On-Ramp				
	2014 Existing Condition AM (PM)	2014 Option-1/2 AM (PM)	2035 No-Build AM (PM)	2035 Option-1/2 AM (PM)
LOS	D (D)	C (C)	F (F)	F (F)
Weaving Segment Speed (mph)	32 (29)	36 (35)	21 (22)	30 (31)



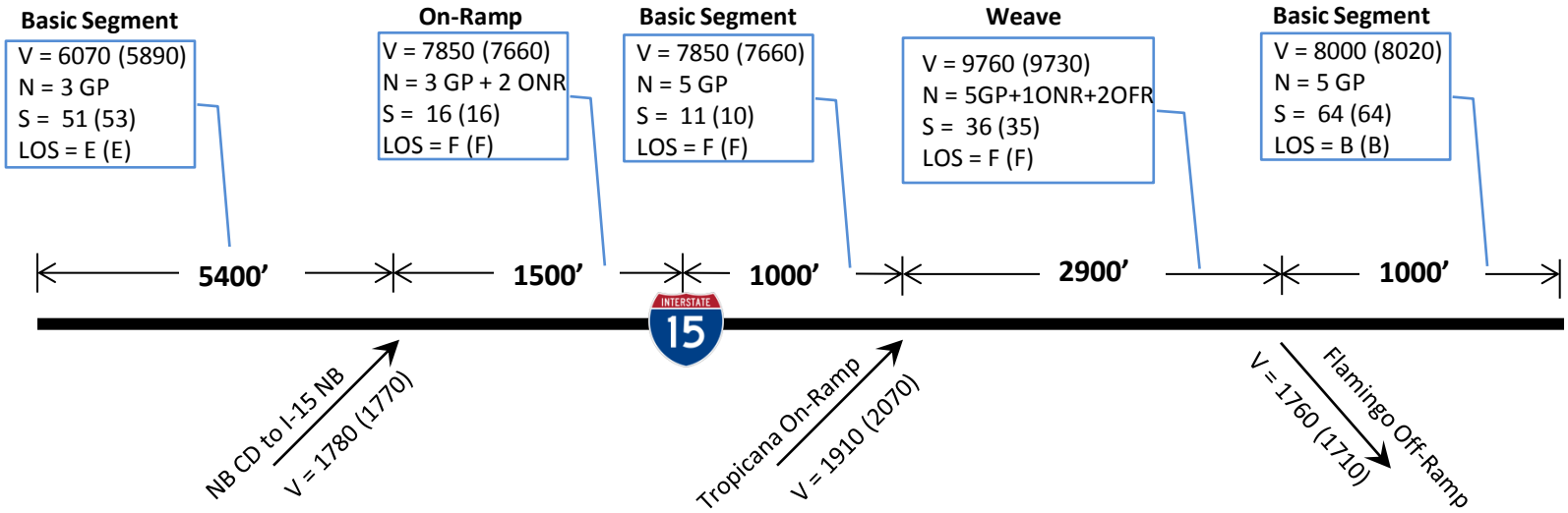
2014 Existing Condition

2035 No-Build

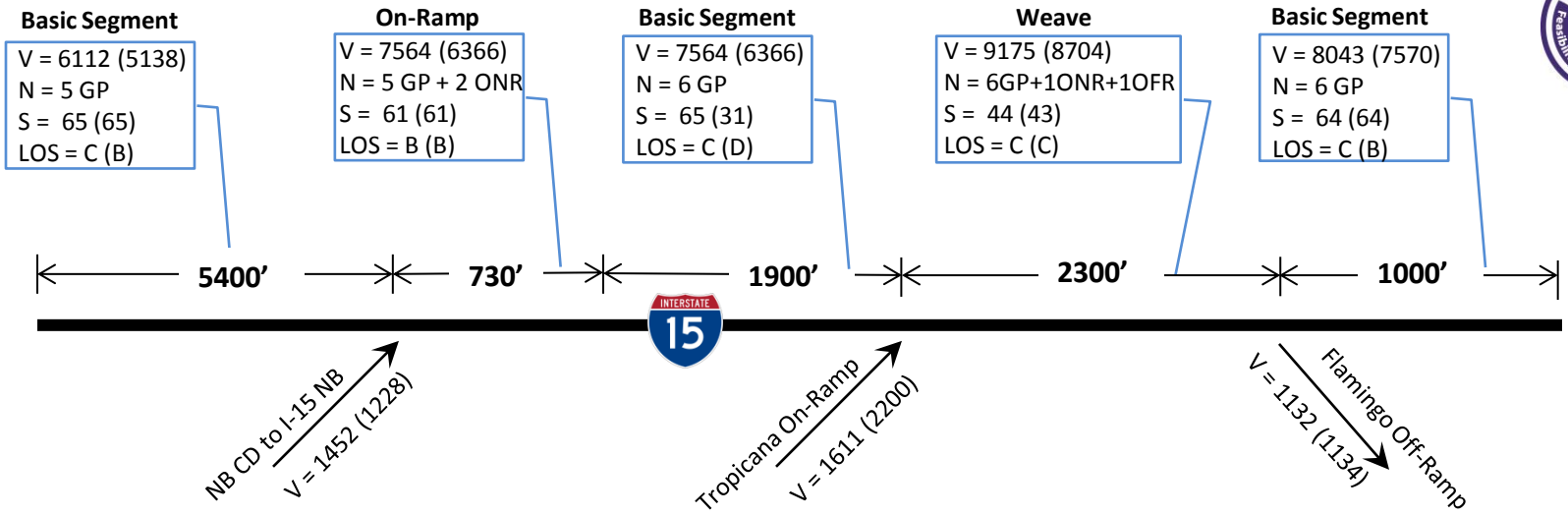
2014 AM(PM) Option-1 (5 GP Lanes)



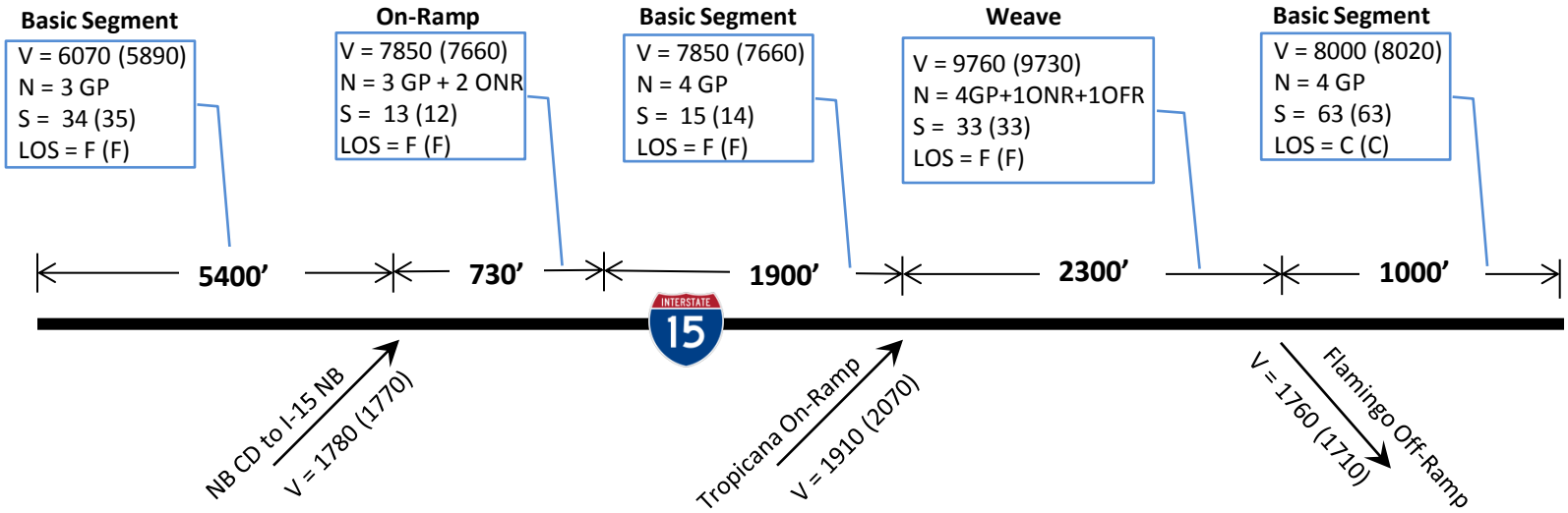
2035 AM(PM) Option-1 (3 GP + 2 HOV Lanes)



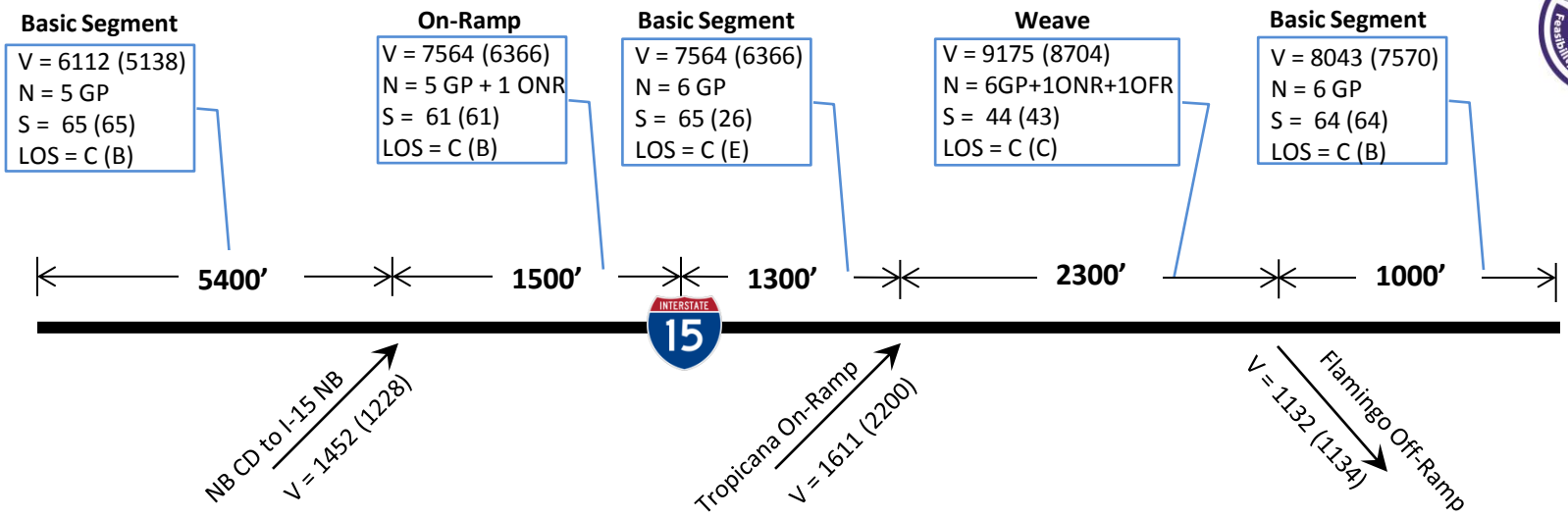
2014 AM(PM) Option-2 (5 GP Lanes)



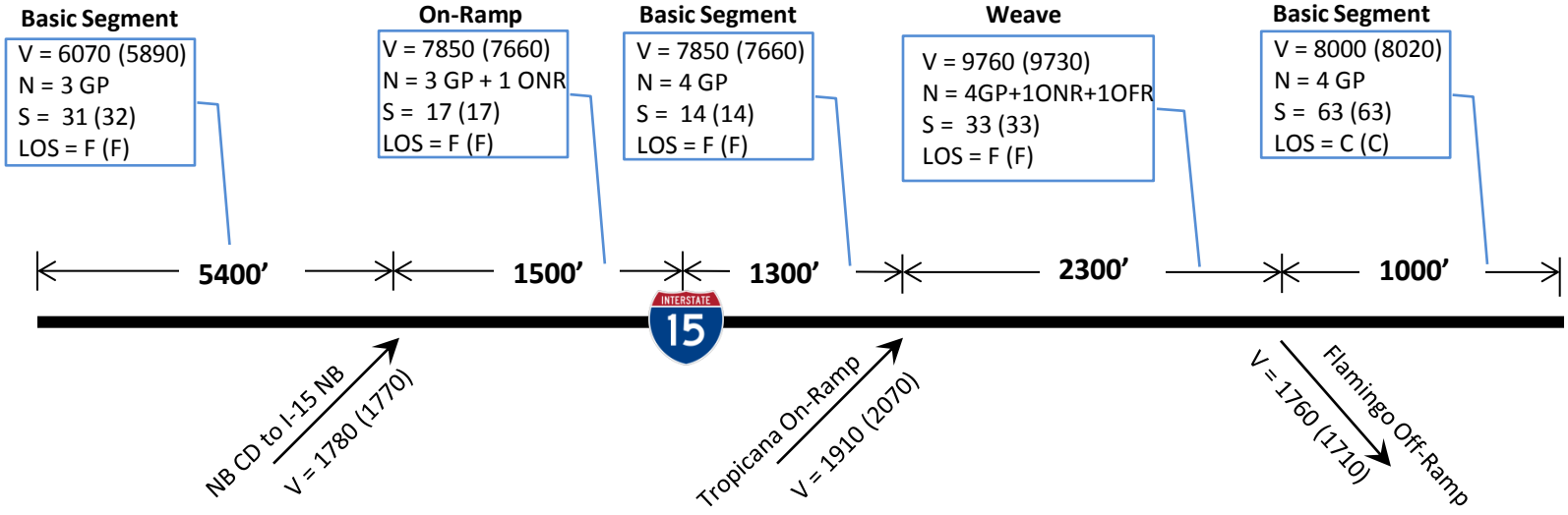
2035 AM(PM) Option-2 (3 GP + 2 HOV Lanes)



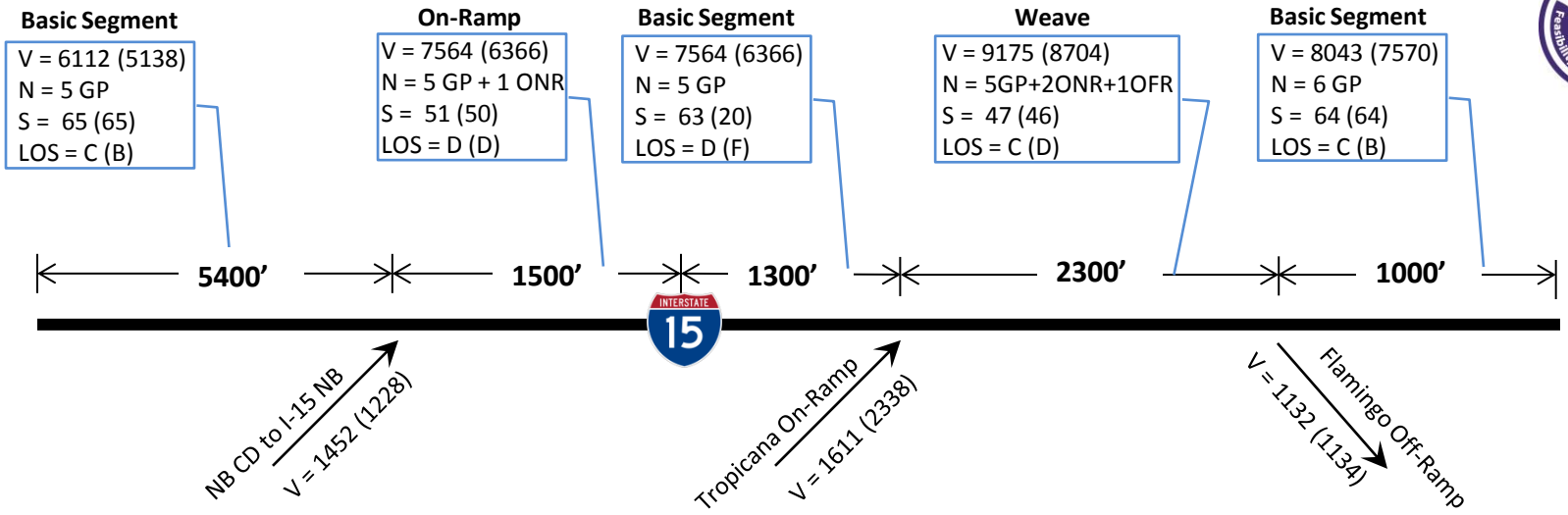
2014 AM(PM) Option-3 (5 GP Lanes)



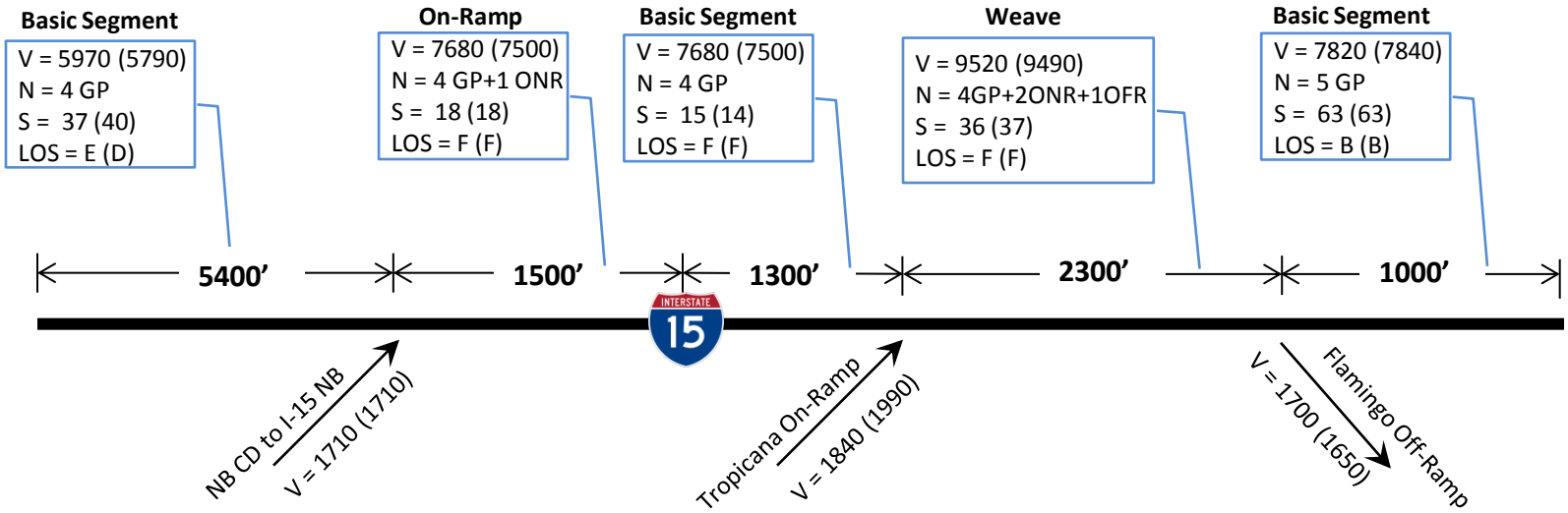
2035 AM(PM) Option-3 (3 GP + 2 HOV Lanes)



2014 AM(PM) Existing Condition (5 GP Lanes)



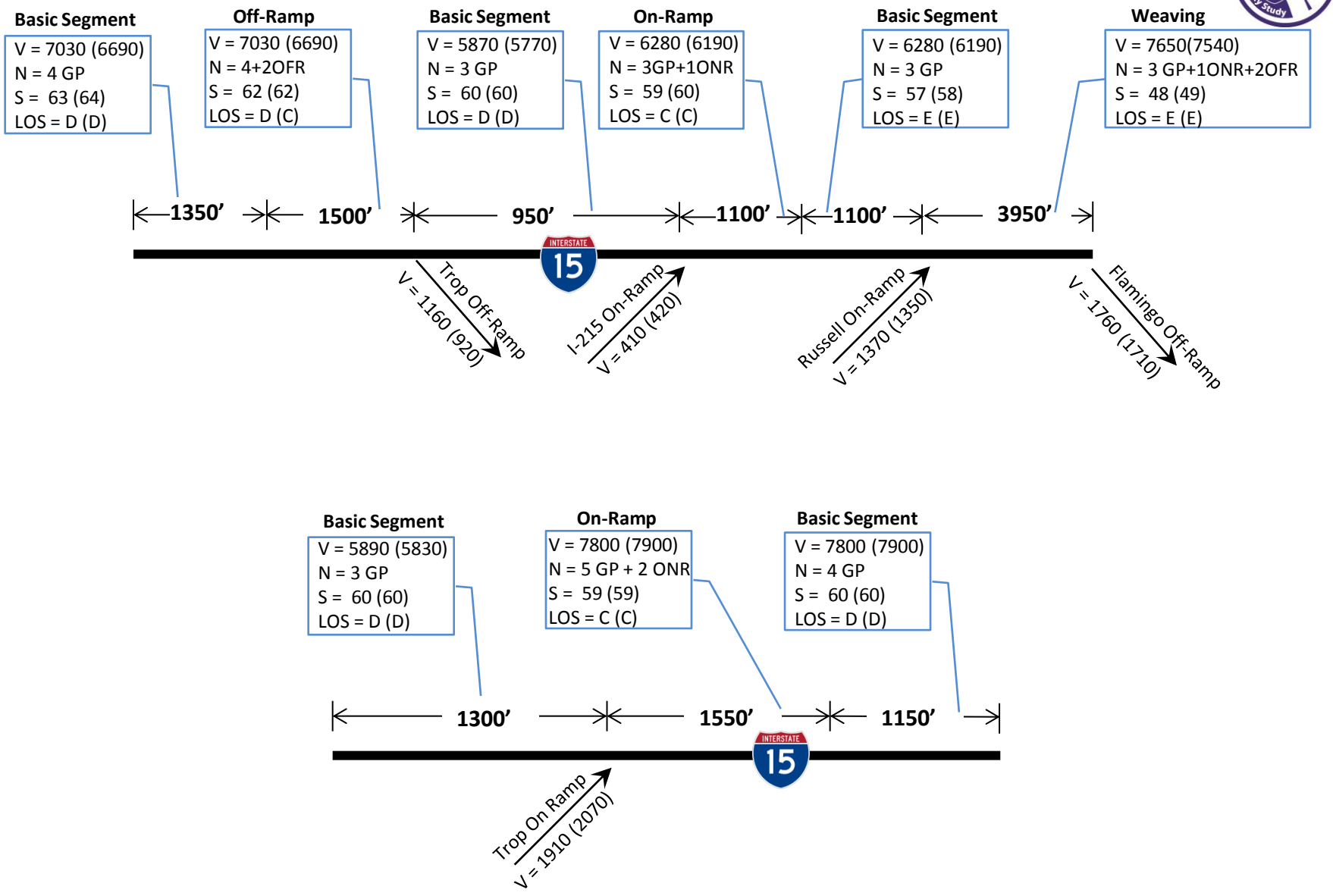
2035 AM(PM) No-Build Condition (4 GP + 1 HOV Lanes)



NB Ramp Braiding

- Braid ramps at Russell and Tropicana. (roll plot)

2035 AM(PM) Option-4 Braid (3 GP + 2 HOV Lanes)



Next Steps

- CORSIM analysis
  - NB I-15 CD
  - NB Braided Ramps*
  - Final interchange (w/wo flyover)
- Stakeholder Outreach
- Public Meeting
- NEPA Class recommendation
- RTP update
- Final Report

- Backtracks?

Closing Remarks

Thank You for your time

Have a great week(end)