

Moving Millions for Fun!

Silver Dollar City
1976



Moving Millions for **FUN!**

2024 TEAM CONFERENCE

March 14, 2024

Presented by: Great River Engineering

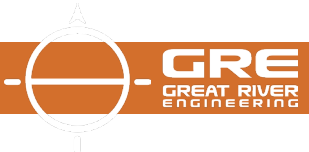
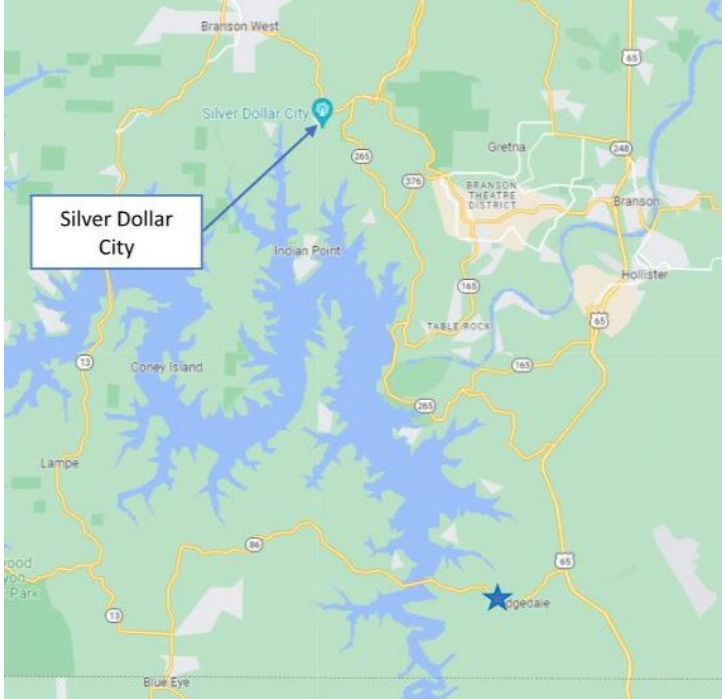
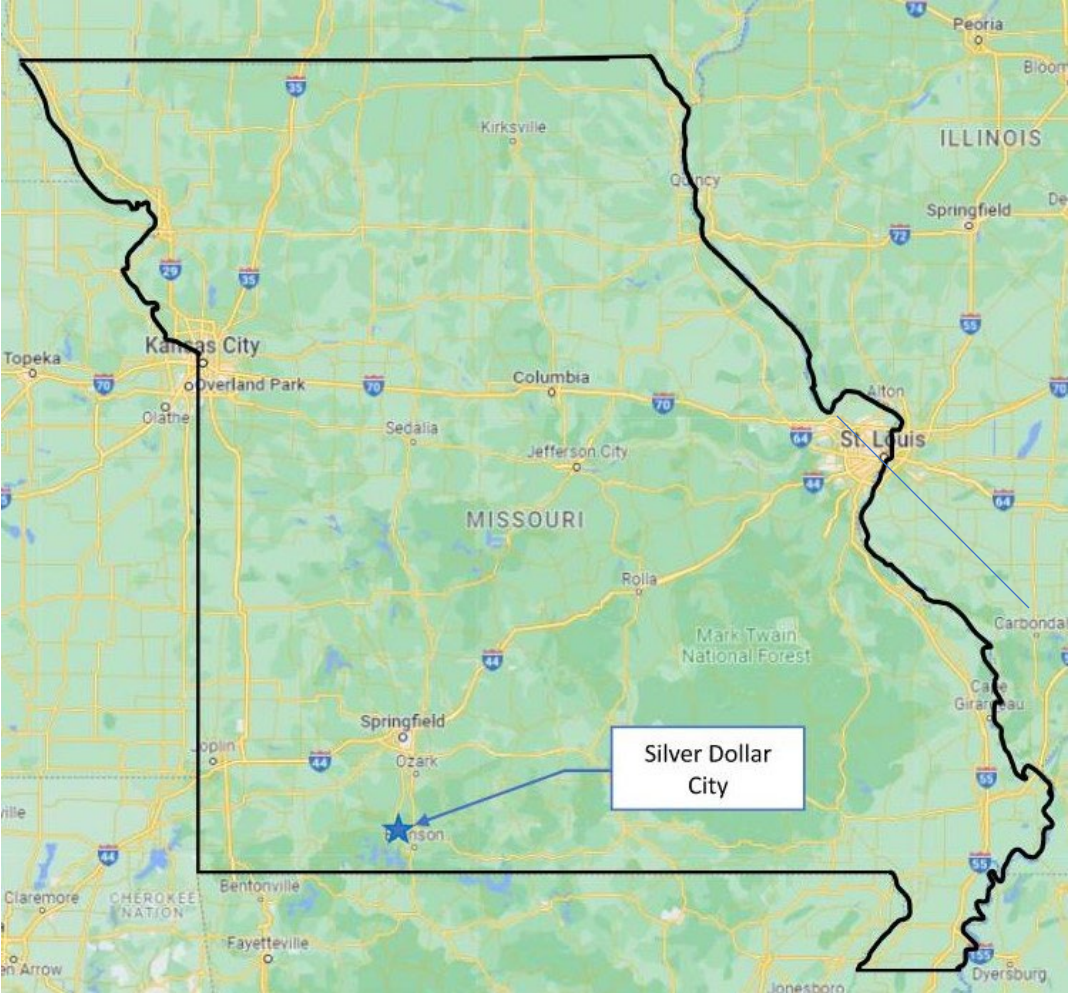
Jerany Jackson, PLA, ASLA

Mike Beaty, PE, PTOE

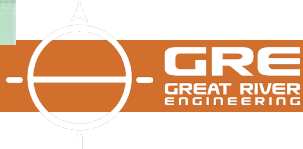
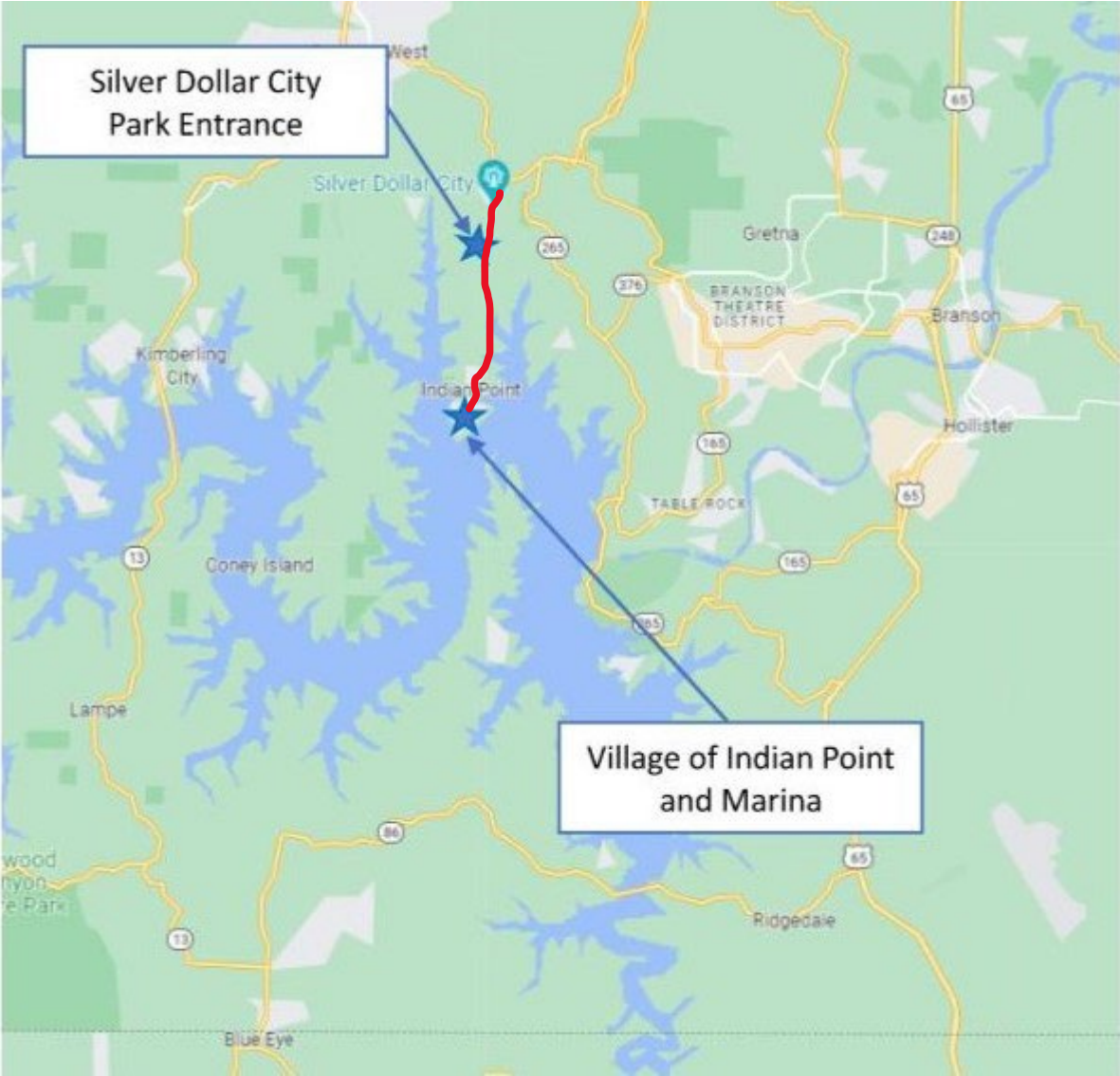
Shannon Shank, PE, PTOE



Where is Silver Dollar City?

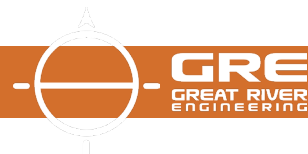


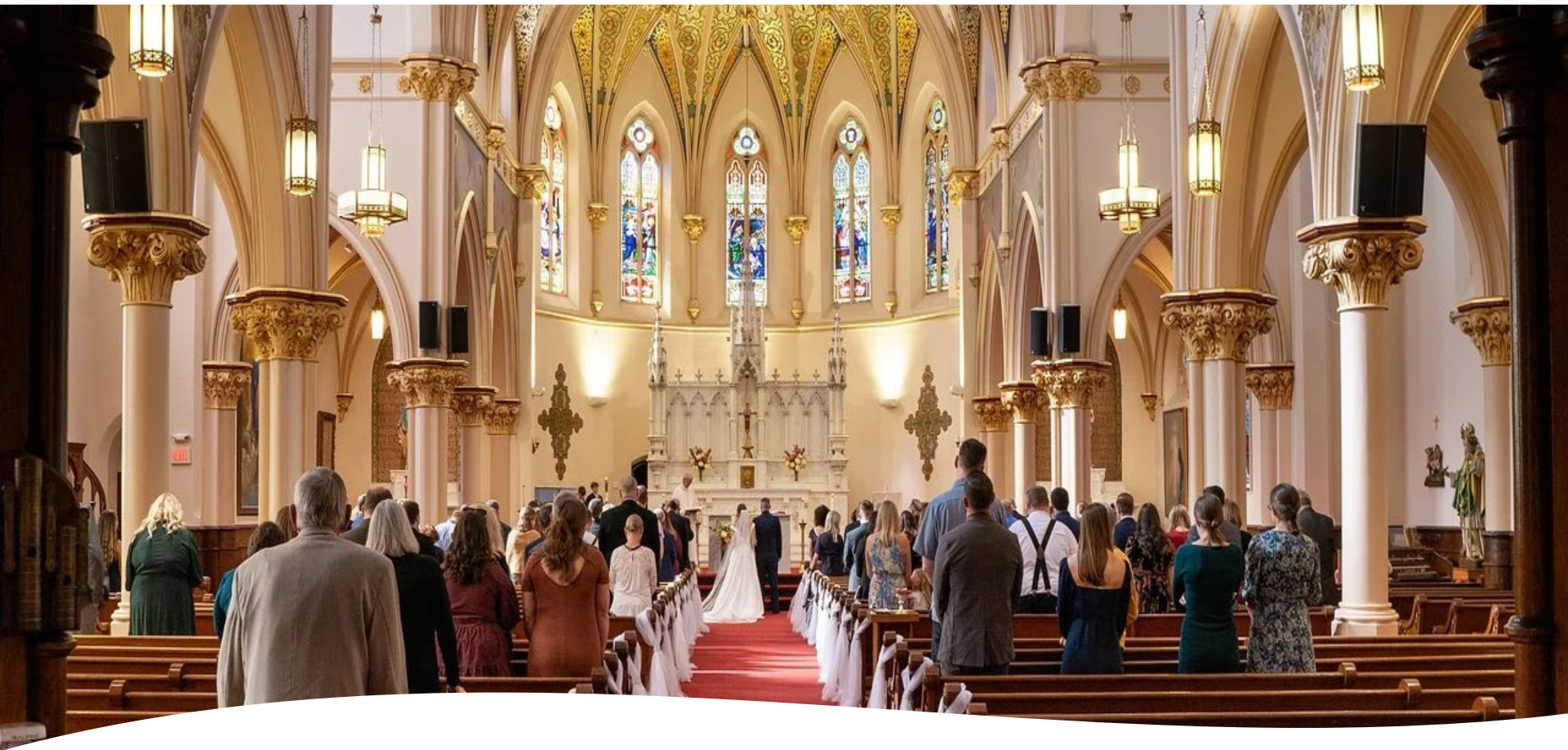
Indian Point / Table Rock Lake



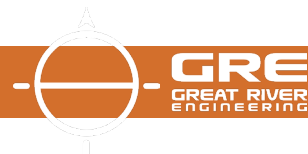


There's Going To Be A Wedding





Branson Destination Wedding





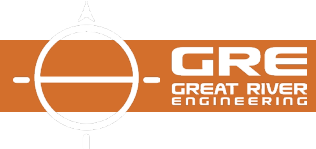
SUMMER RAINSTORM

Silver Dollar City Closes

➤ Mass Exodus

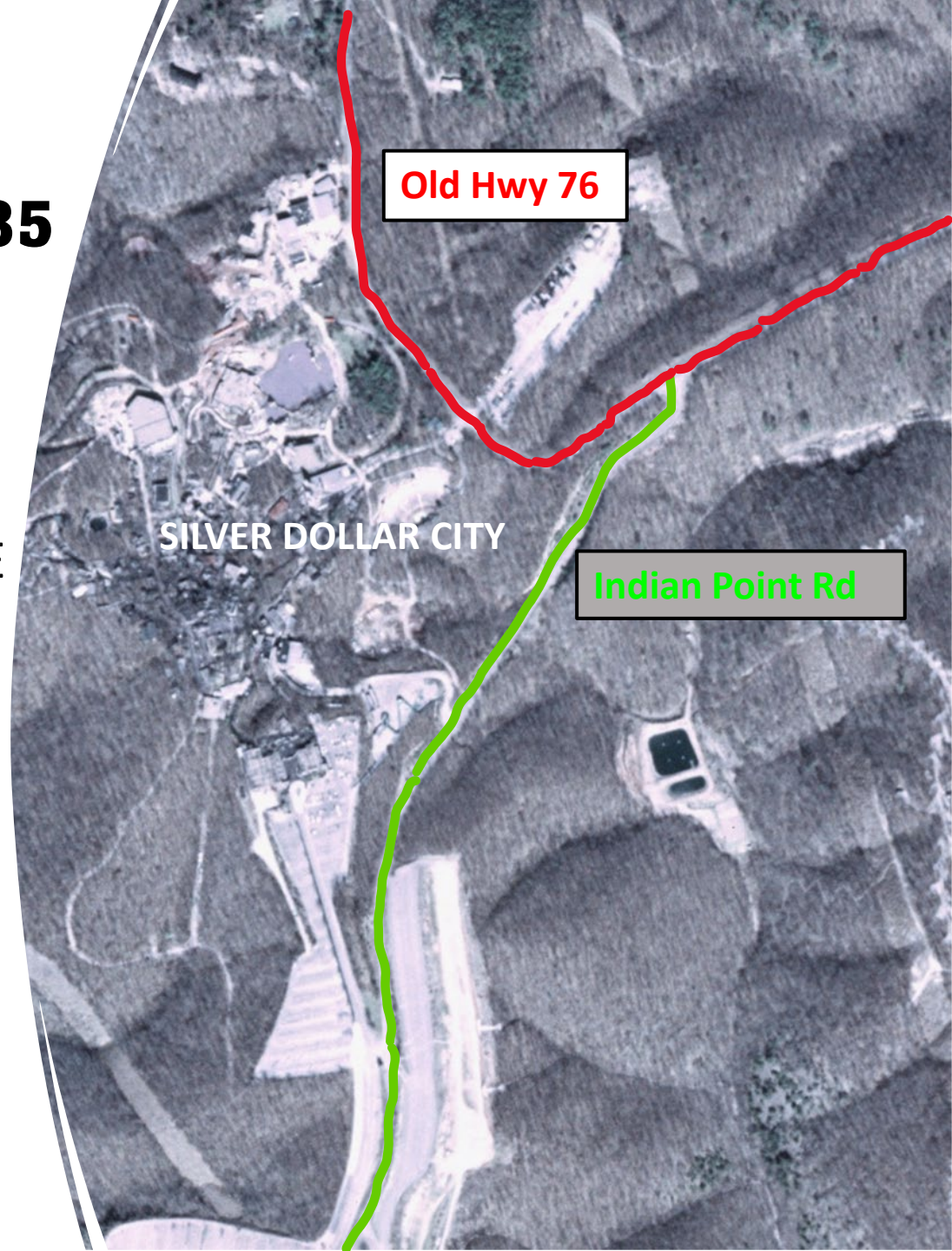
➤ Traffic Snarls...





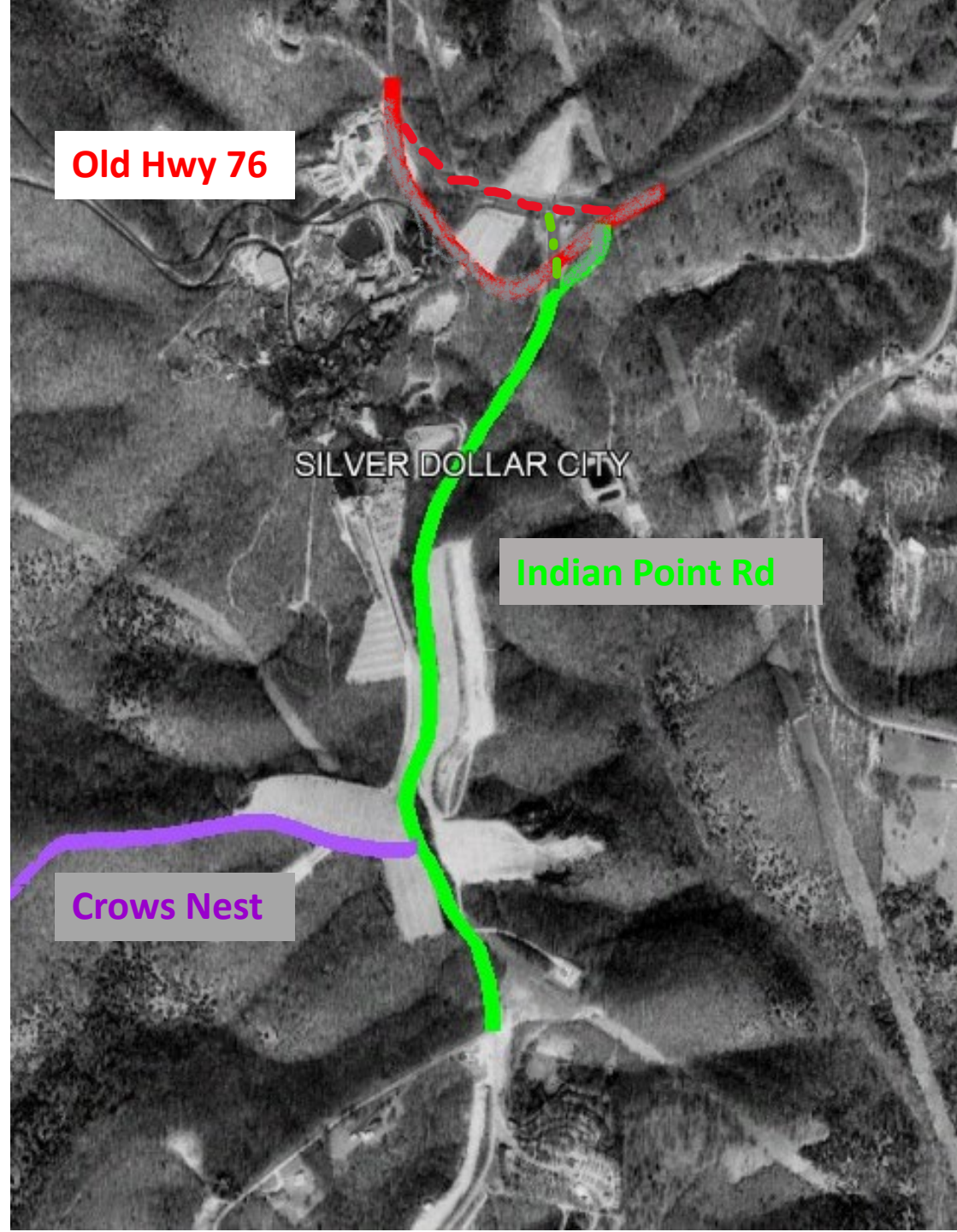
BACKGROUND - 1985

- HWY 76 PASSES VERY CLOSE TO SILVER DOLLAR CITY
- INDIAN POINT ROAD
 - Awkward alignment with Hwy 76
 - Travels south through the theme park parking lots



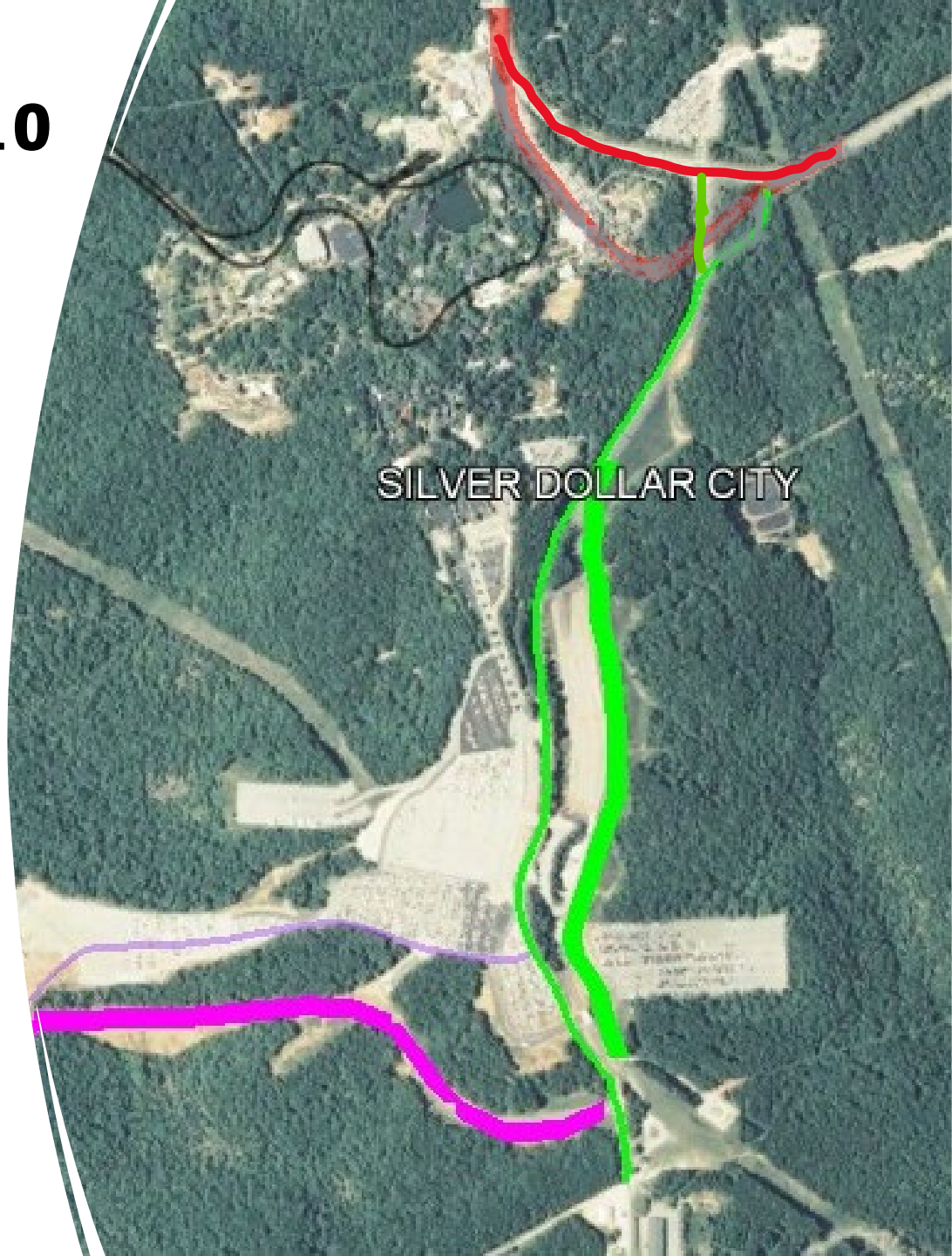
BACKGROUND - 1990

- NEW HWY 76 ALIGNMENT
- INDIAN POINT ROAD
 - New alignment with Hwy 76
 - Still travels south through the theme park parking lots
- CROWS NEST ROAD
 - Travels west through the theme park parking lot

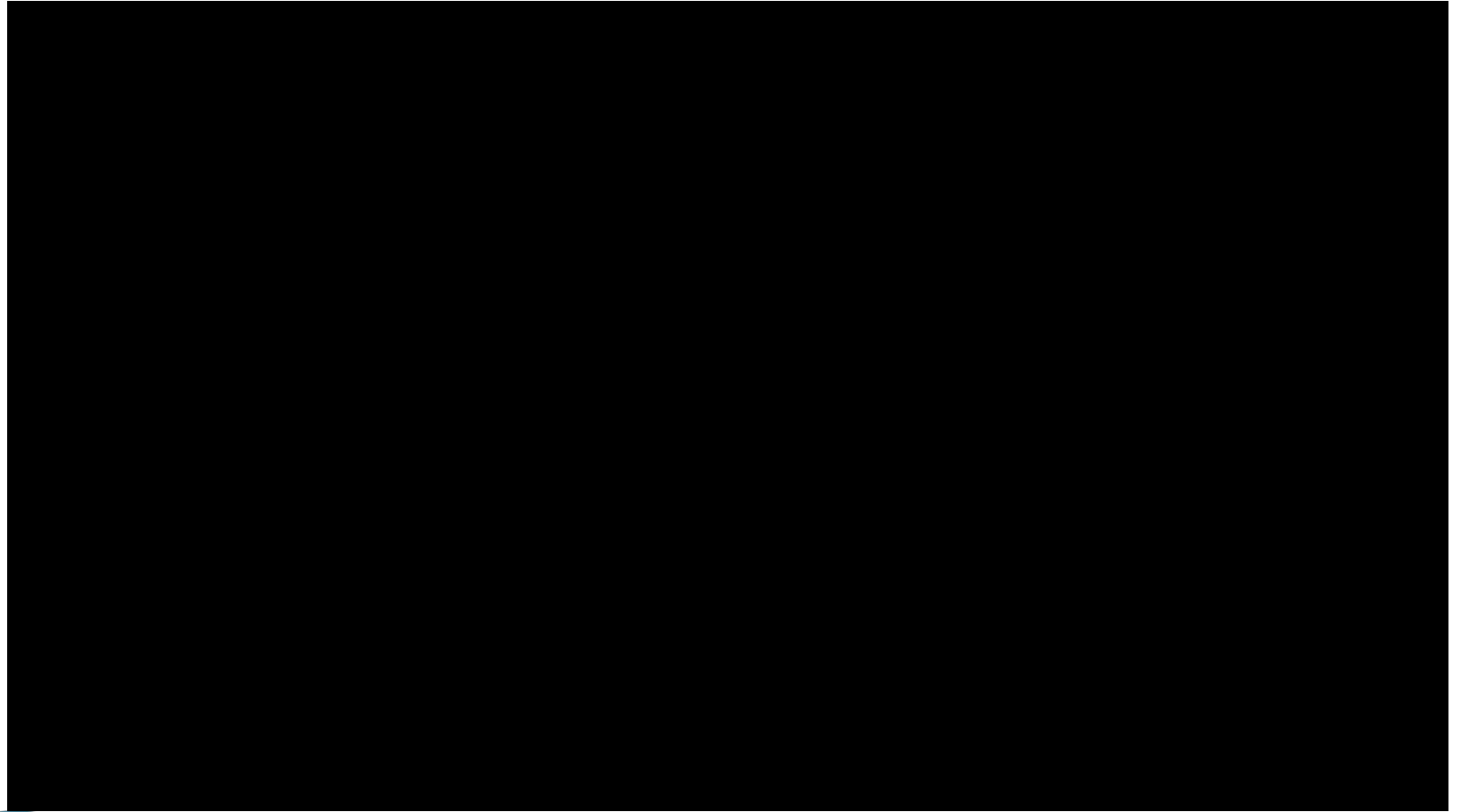


BACKGROUND - 2010

- NEW INDIAN POINT ROAD
- NEW CROWS NEST



Background – A History of Congestion



Vehicular and Pedestrian Circulation Objectives

SDC PARKING PROJECT PRIORITIES

1

Onsite Parking

There is an immediate need for Onsite parking spaces (min 1,200).

2

Ease and Speed

Increase ease and speed of parking lot access to better manage traffic congestion.

REDUCE CONFLICTS



At Silver Dollar City

GOALS:

- Improved Safety
- Reduce Delays
- Increase Driver Comfort

WEAVING TRAFFIC

Cars are unsure which lane they should be in

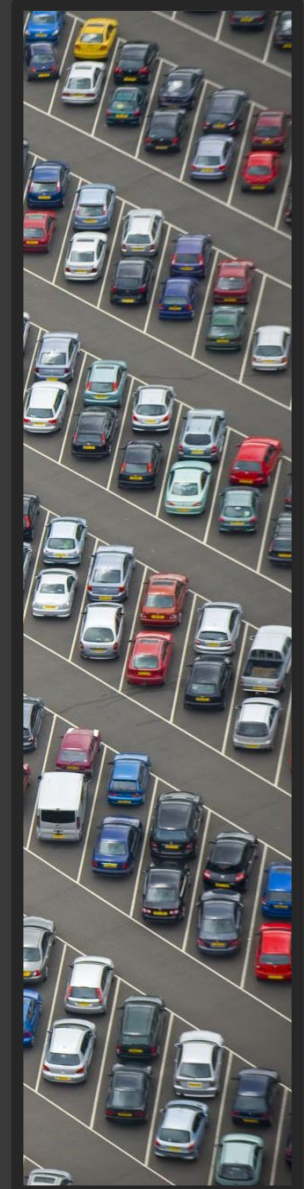


SHUTTLE/TRAM CONFLICTS

Trams drive on the road in the midst of the cars and pedestrians

PEDESTRIAN/VEHICLE CONFLICTS

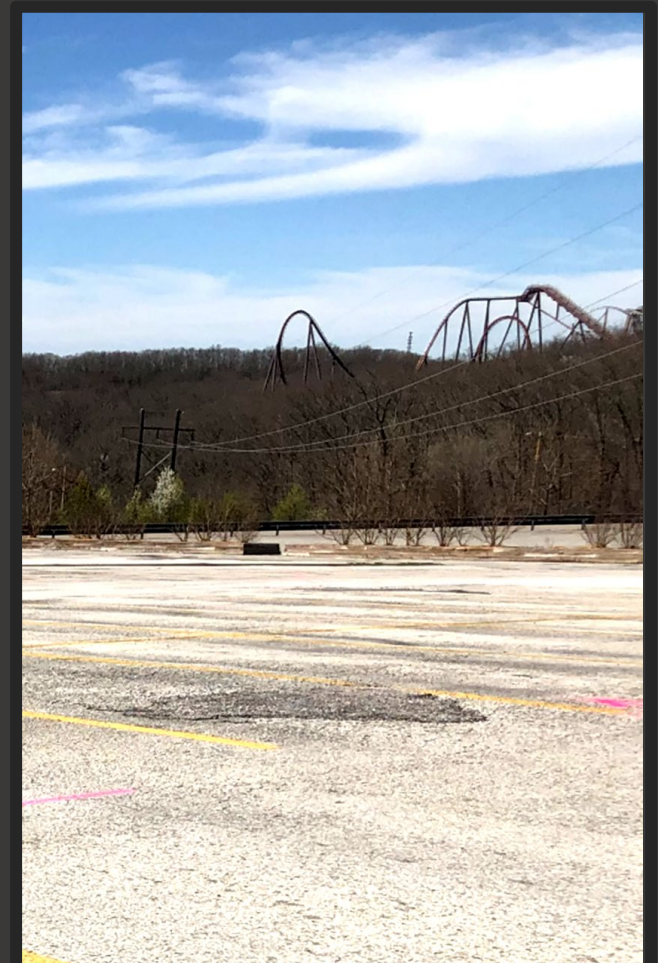
Traffic is stopped by families crossing the street randomly



Parking and Circulation Priorities

1. INCREASE PARKING CAPACITY

- Maximize Existing Parking
- **Add 1,200 New Parking Spaces**
- Provide for Future Expansion of Paid Parking
- Provide for Flexible Changeable Parking – Paid vs Free



Vehicular and Pedestrian Circulation

2. IMPROVE TRAFFIC FLOW

ELIMINATE ENTRANCE DELAY

- Maintain Circulatory Flow
- Advanced Notice (Wayfinding)
- **Funnel Traffic to Destination**
 - Vehicles to Park Entrance (76 Hwy)
 - Paid Parking Vs Free Parking
 - Pedestrians from Parking
 - To Tram or Walkway
 - Then to Ticket Counter and Park

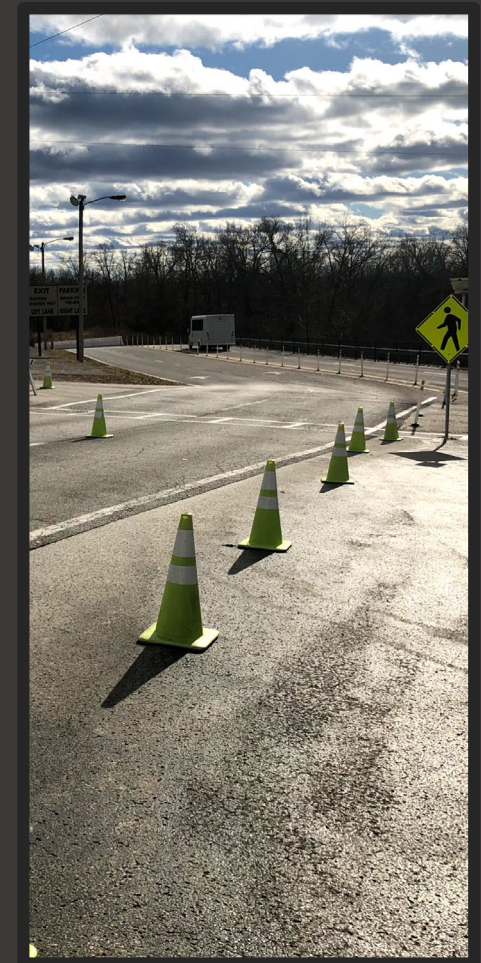


Vehicular and Pedestrian Circulation

2. IMPROVE TRAFFIC FLOW

ELIMINATE ENTRANCE DELAY (Cont.)

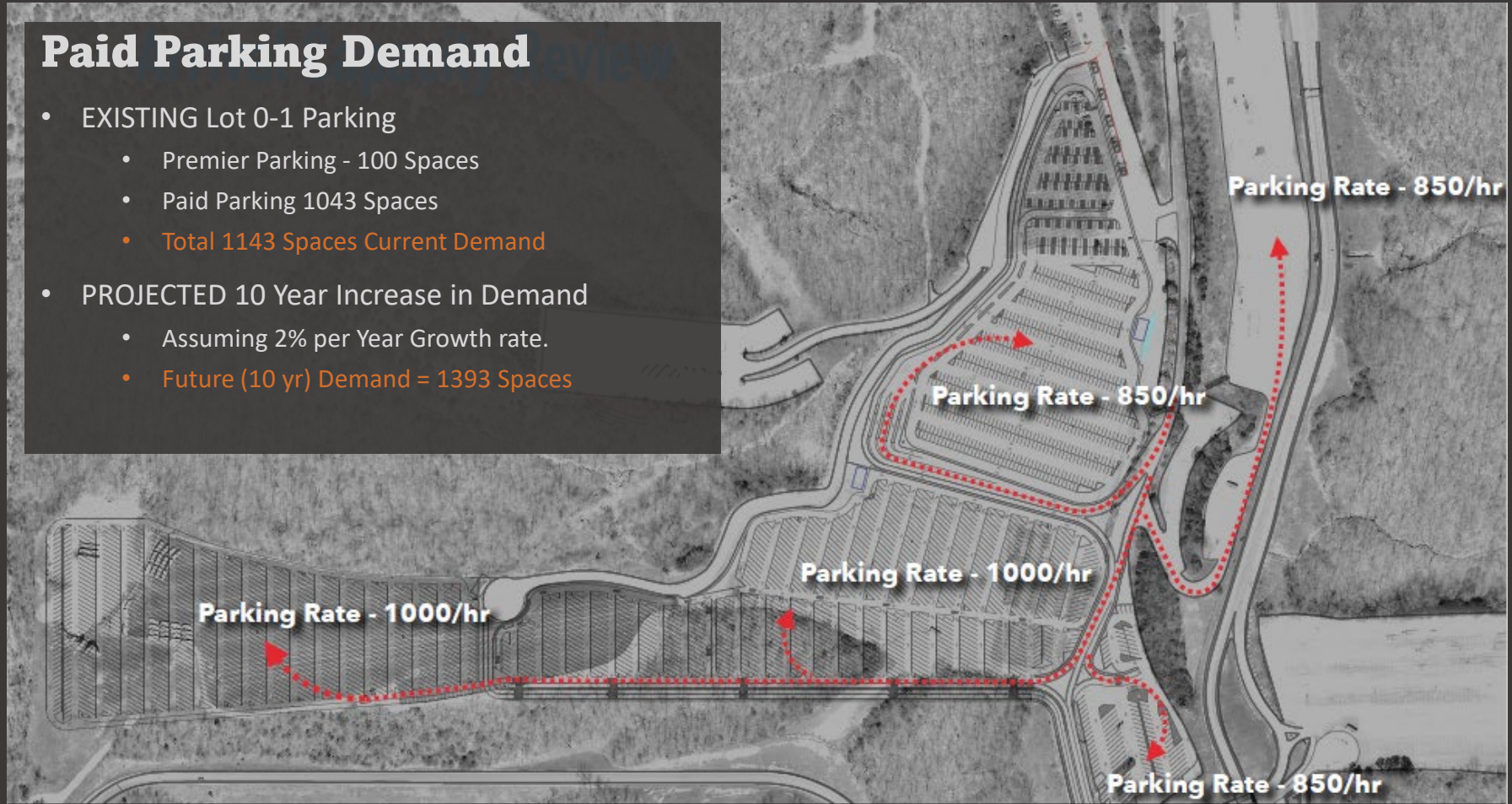
- **Prohibit Crossing Movements**
 - Vehicles vs Vehicles
 - Vehicles vs Pedestrians
 - Vehicles vs Trams
 - Trams vs Peds
- Right Turns Entering - Left Turns Exiting
- Use Grade Separations Where Possible



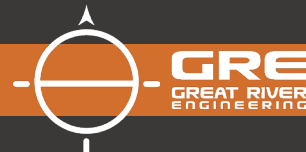
Flow Circulation Demand

Paid Parking Demand

- EXISTING Lot 0-1 Parking
 - Premier Parking - 100 Spaces
 - Paid Parking 1043 Spaces
 - Total 1143 Spaces Current Demand
- PROJECTED 10 Year Increase in Demand
 - Assuming 2% per Year Growth rate.
 - Future (10 yr) Demand = 1393 Spaces



EVALUATED ESTIMATED DEMAND AND LOADING RATES



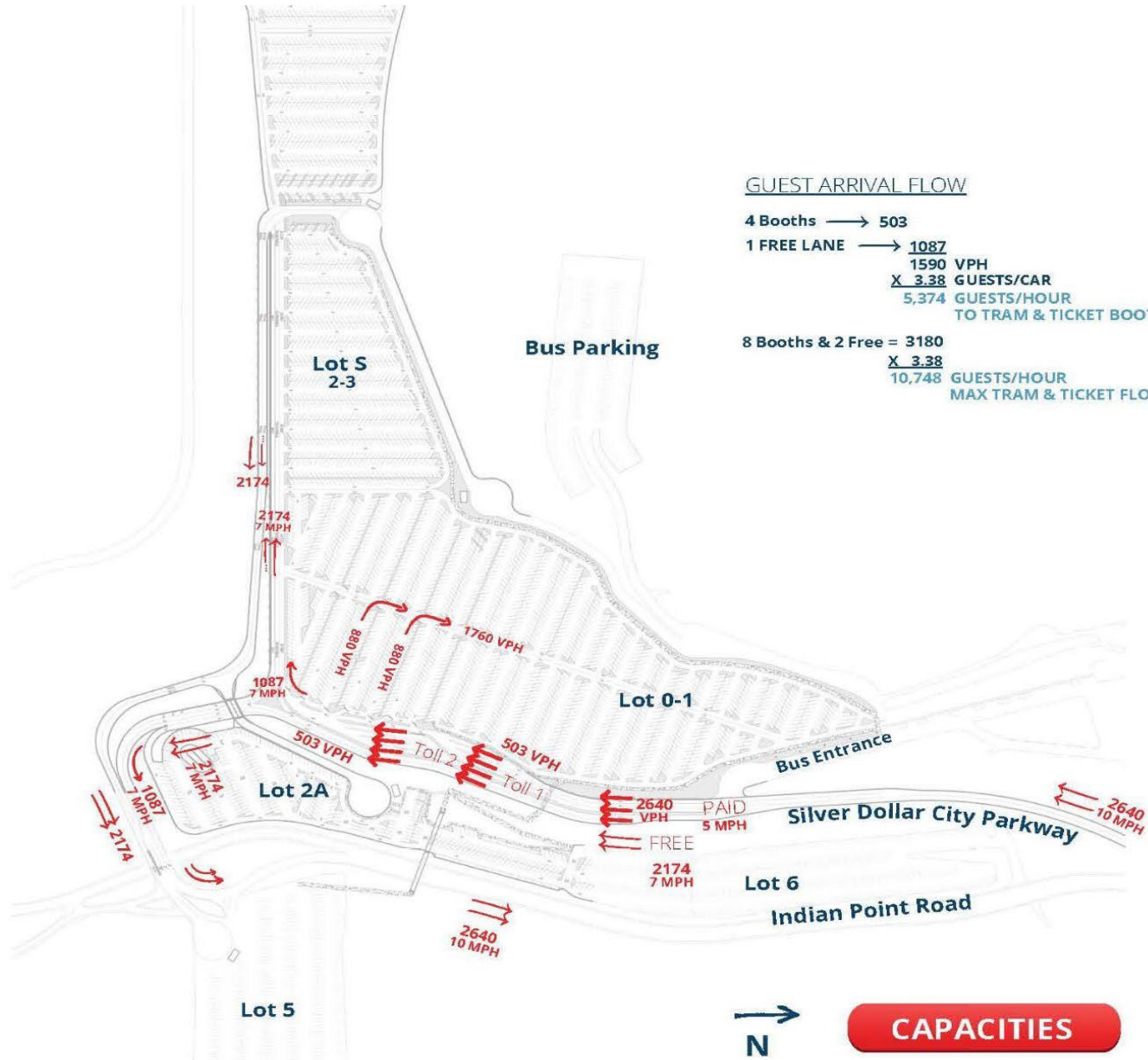
Toll Booth Queue

THE TOLL BOOTH QUEUE IS A FUNCTION OF:

- VEHICLE ARRIVAL RATE (850 VPH)
- AVERAGE PROCESSING TIME PER VEHICLE
 - 20 SECONDS / VEHICLE
 - 180 VPHPB
 - 8 BOOTHS = 1,440 VPH
- MAXIMUM EXPECTED QUEUE IS 11 VEHICLES (275 FEET) PER LANE



Vehicular Capacities

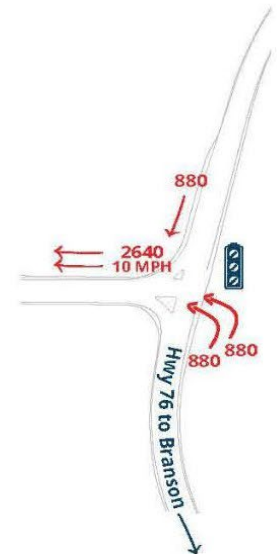
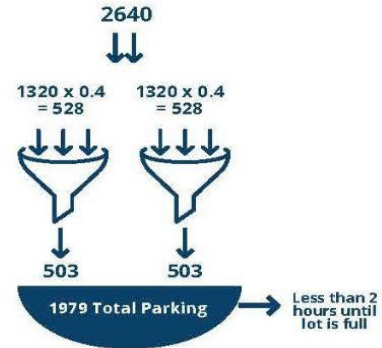


GUEST ARRIVAL FLOW

4 Booths → 503
 1 FREE LANE → 1087
 1590 VPH
 X 3.38 GUESTS/CAR
 5,374 GUESTS/HOUR
 TO TRAM & TICKET BOOTHS

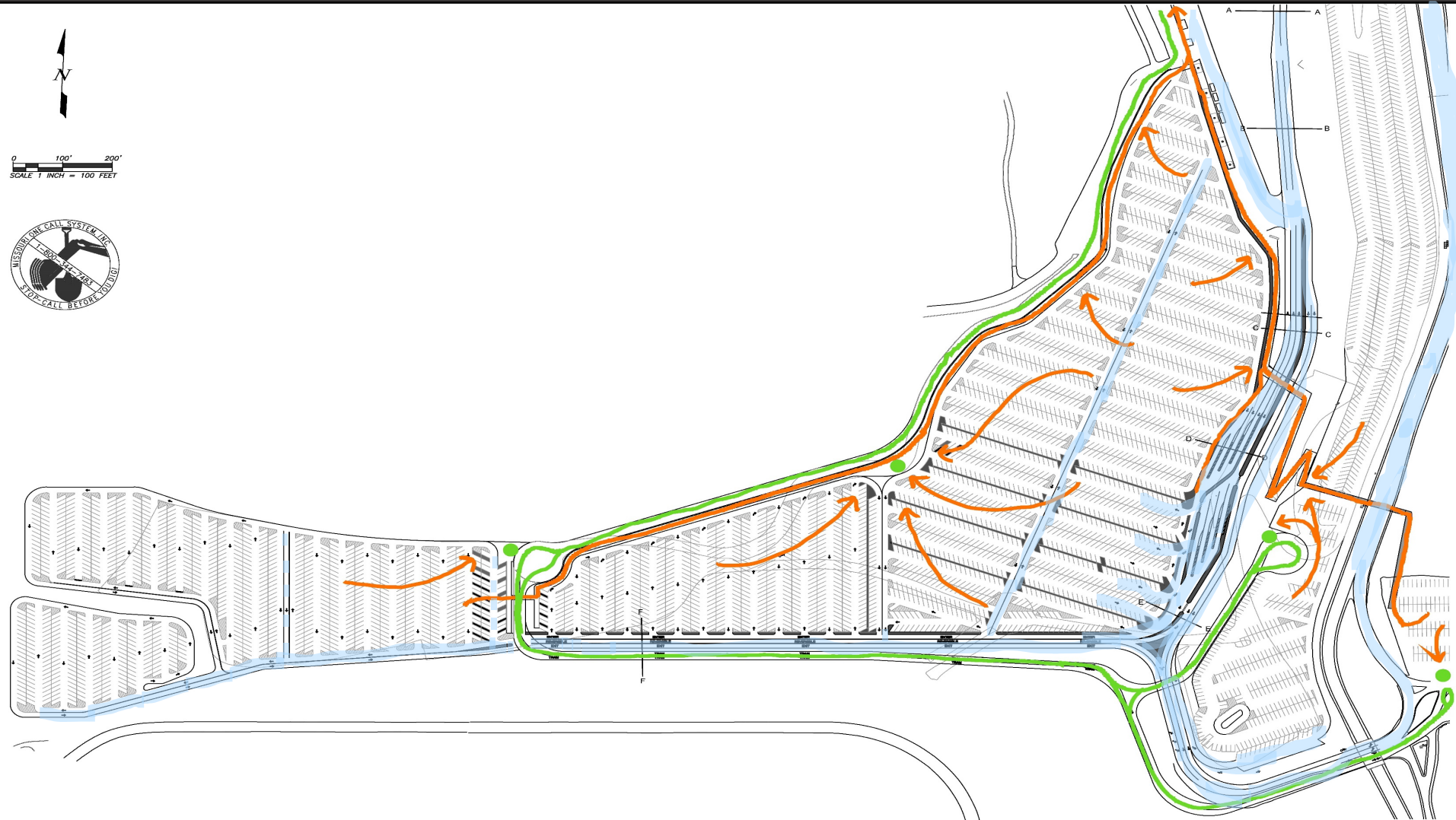
8 Booths & 2 Free = 3180
 X 3.38
 10,748 GUESTS/HOUR
 MAX TRAM & TICKET FLOW

PAID PARKING FUNNEL



Circulation Methodology

- Vehicles enter parking from south
- Pedestrians move north to Park entrance
- Pedestrians move to the edge
- Trams circulate independently at the edges



Grade Separated Crossings



Tram Crossing

Pedestrian Underpass





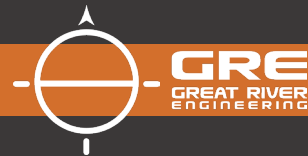
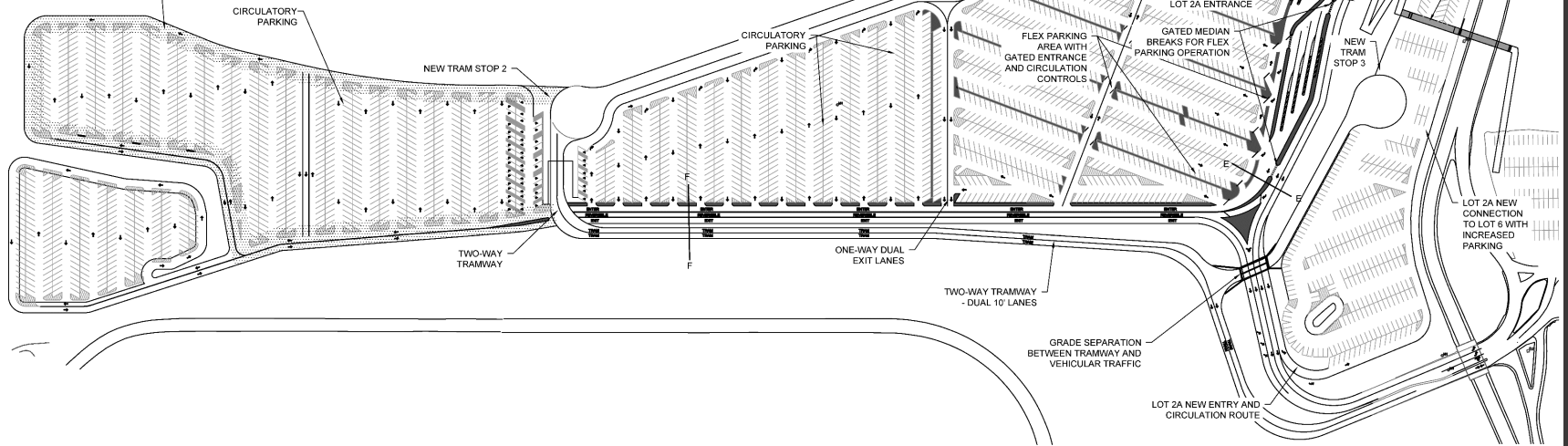
0 100' 200'
SCALE 1 INCH = 100 FEET



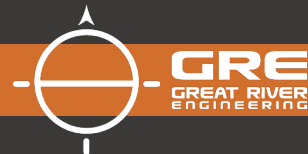
PARKING SUMMARY

LOT NO.	2020 COUNT	PROPOSED
LOT 0	101	101
LOT 1	1046	1784
LOT 2	680	626
LOT 2A	120	NA
LOT 3	769	1032
LOT 6 BIG	475	858
TOTAL	3191	4401
REQ'D INCREASE		1168
NET INCREASE		1210
TOTAL ADA INCLUDED		62

EXTENDING LOOPED TRAM ROAD WILL ELIMINATE APPROXIMATELY 163 PARKING SPACES



BARRIER PLANS



Barriers – Key to Pedestrian Control

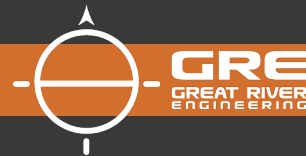
- Provide Safety
 - Separate Vehicles from Pedestrians
- Provide Guidance
 - Aid in the funneling process
 - Allows queues to form
- Types:
 - Medians
 - Fencing
 - Grade Separations
 - Raised surfaces



Softscape Look and Feel

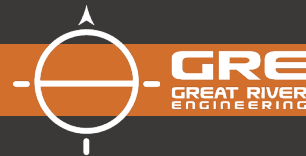


WAYFINDING SIGNAGE



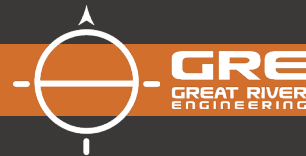
Methodology of Wayfinding Signage

- Signage in the right place at the right time
- Considers the viewer
- Not overly repetitive nor demanding
- Careful attention to:
 - Details of information
 - Color
 - Compatible materials
 - Typography

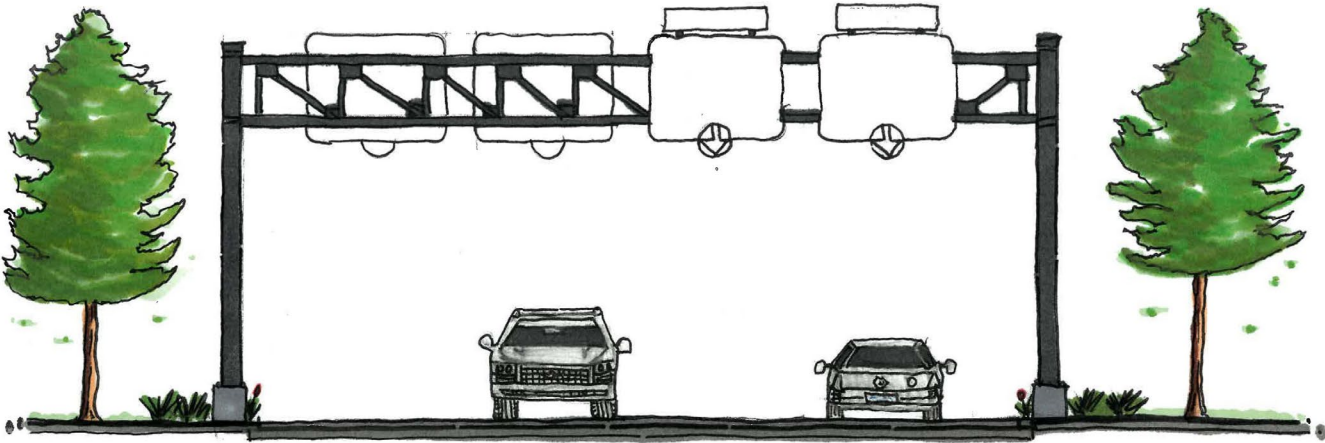


Methodology of Wayfinding Signage

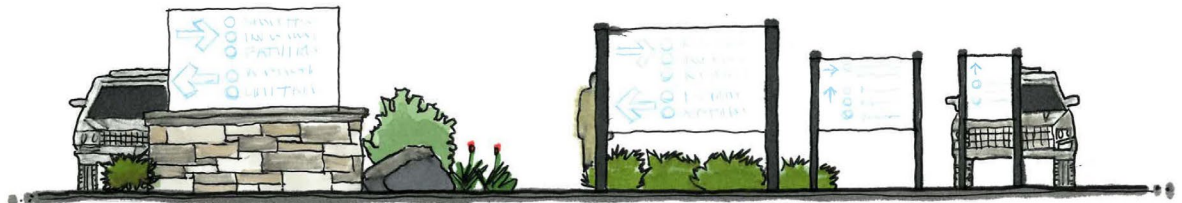
- Levels of Information delivery
 - Level 1 – Vehicular approach to Indian Point Road
 - Radio broadcast – 1 mile radius
 - Overhead Signs – ½ mile
 - Level 2 – Vehicular on Indian Point Road
 - Overhead Signs at 400 feet and 900 feet
 - Stationary
 - Electronic / Changeable
 - Level 3 – Vehicular Directional
 - Stationary
 - Electronic / Changeable
 - Level 4 – Pedestrian and Orientation
 - Stationary
 - Electronic / Changeable
 - Level 5 – Identification and Regulatory



Wayfinding Signage Types



Overhead Vehicular Directional Signage



Vehicular Directional Signage



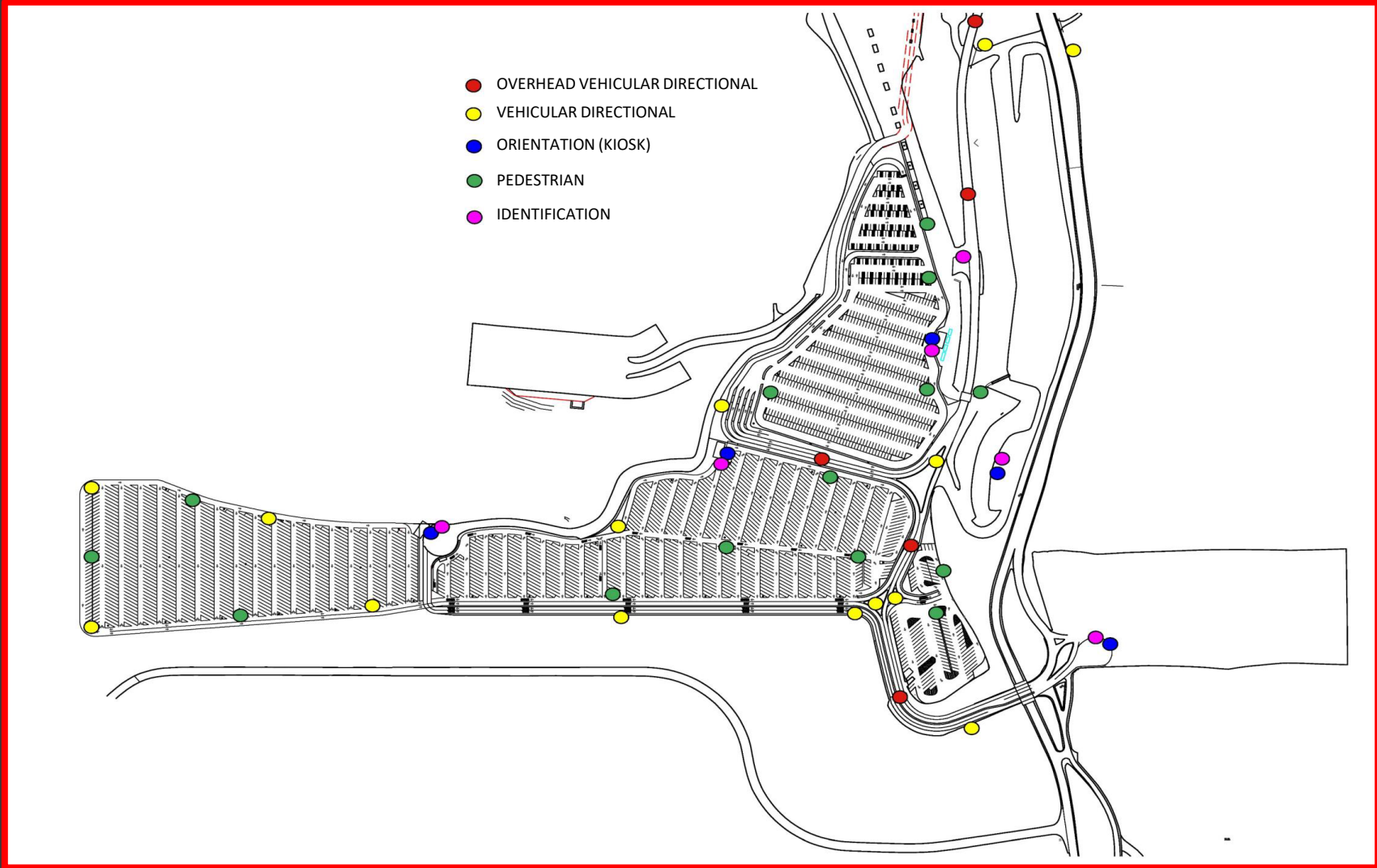
Pedestrian Signage

Orientation Signage

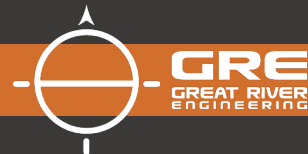
Identification Signage

Regulatory Signage

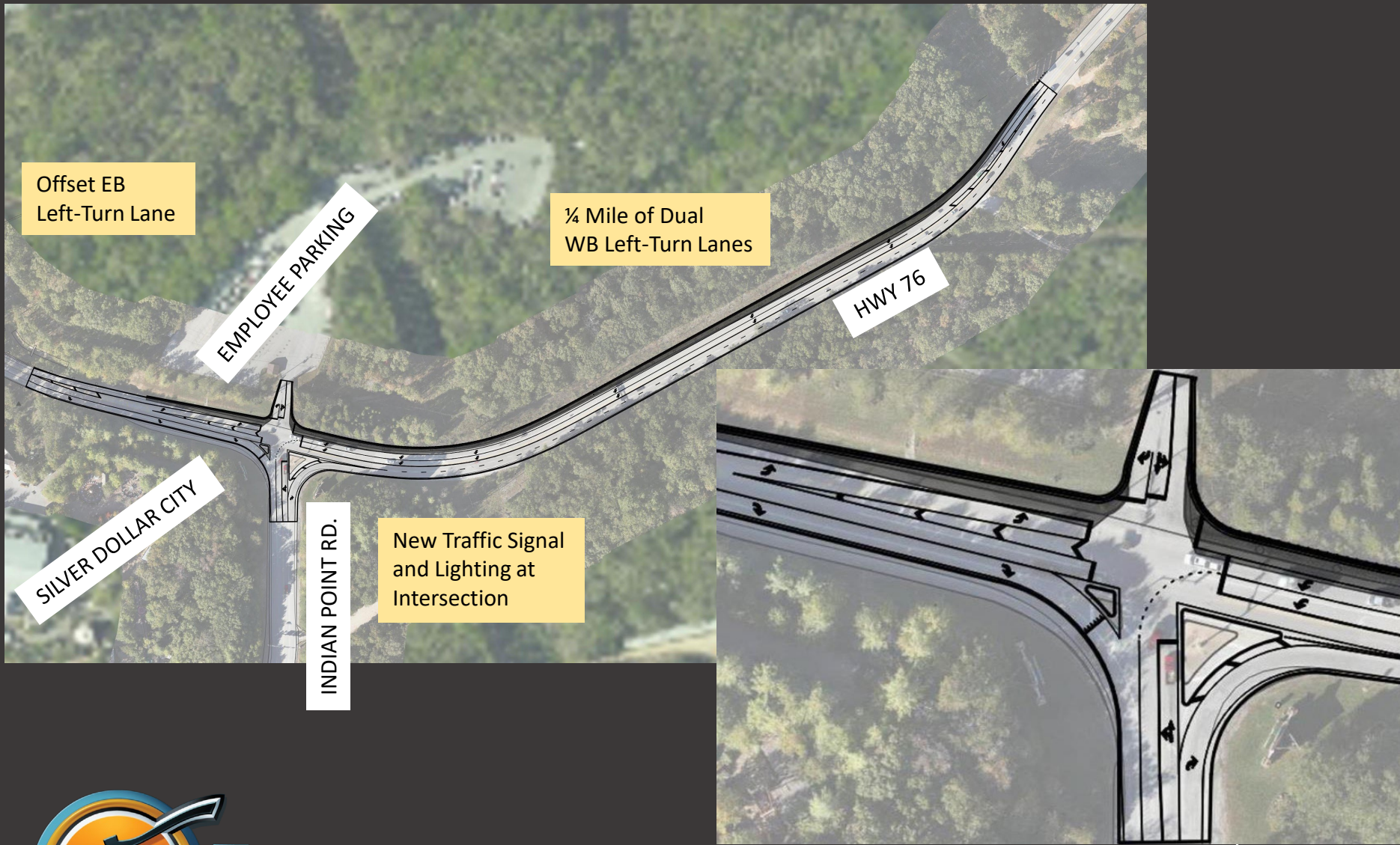
Wayfinding Signage Types



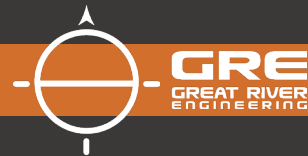
HIGHWAY 76 TURN LANE



Highway 76 Turn Lane Concept



FINISHED PROJECTS



Project Objectives

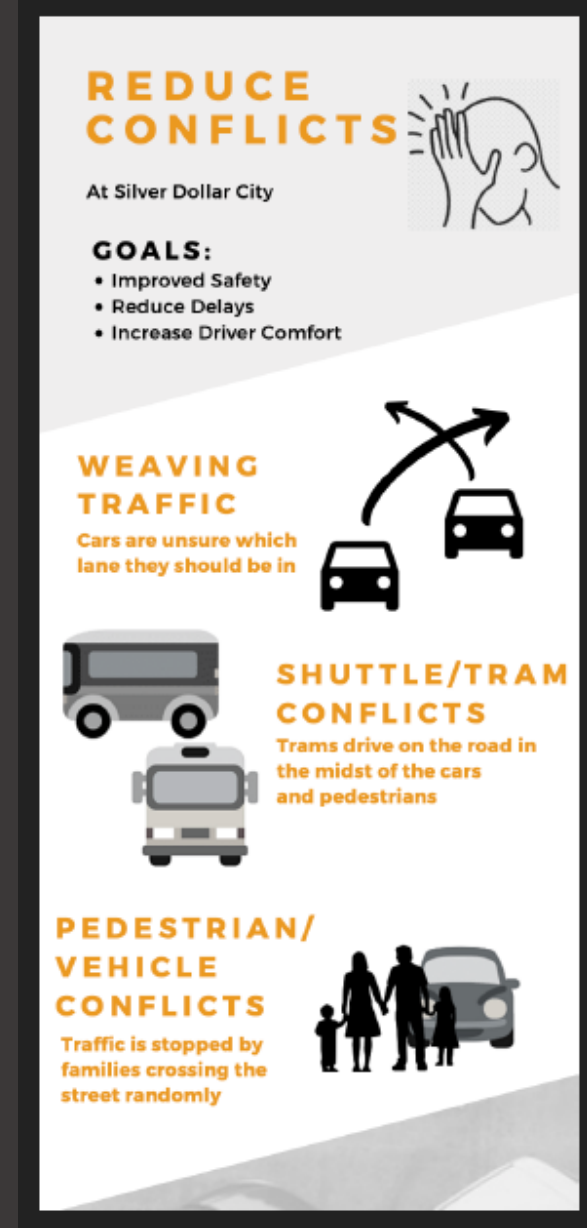
Highway 76 to Indian Point Road

- Increase capacities
- Increase efficiency
- Improve safety
- Clearly communicate to visitors
- Set visitors up for successful entry to the Park

Vehicular and Pedestrian Circulation

- Increase capacity
- Increase efficiency
- Reduce conflicts
- Improve safety
- Clearly communicate to visitors

“CREATE A POSITIVE GUEST EXPERIENCE”



Create a Positive Guest Experience

WAYFINDING

- Information distribution at multiple levels
- Regulatory signage

BARRIER PLANS

- Gates that offer flexibility for access and parking
- Tram circulation guardrail
- Barrier fencing to protect and guide pedestrians
- Softscape barriers on slopes

ARCHITECTURE

- Flexible ticket booths in two sizes
- Efficient Tram structure for passenger queuing

LANDSCAPE

- Function and beauty
- Working landscape for stormwater and slope protection
- Creating a good first impression with low maintenance natives



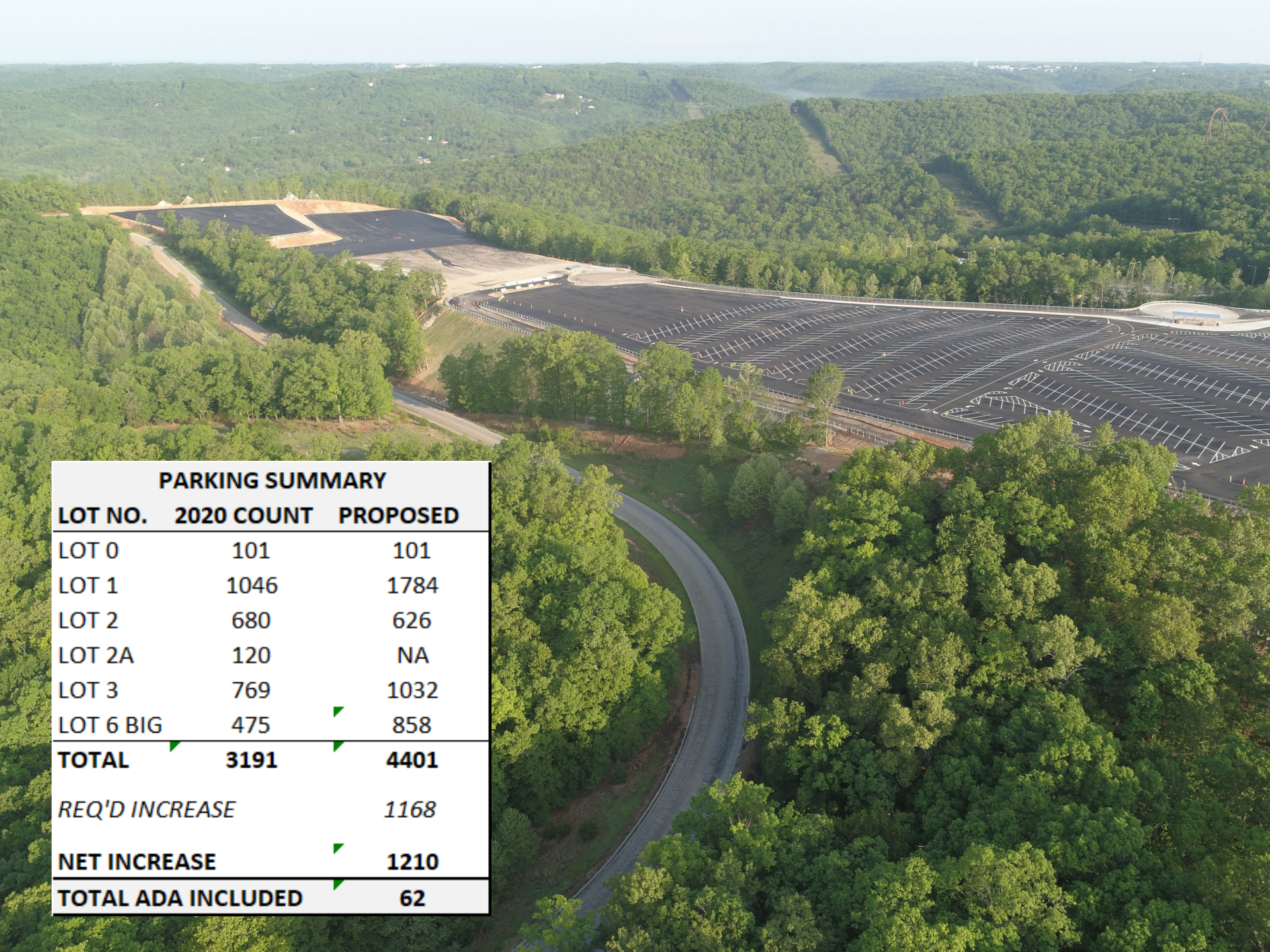
Summary of Parking Improvements

- 330,000 CY of Excavation and Embankment
- 33 + Acres of Pavement
- **1 Bridge & 1 Underpass**
- Retaining Walls
- Toll Booths
- **Tram Stations**
- **Lighting**
- Accelerated Timeline





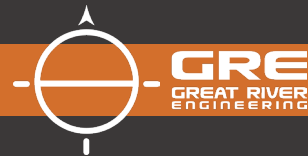




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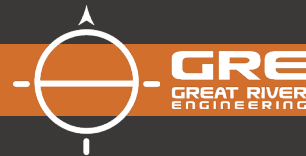
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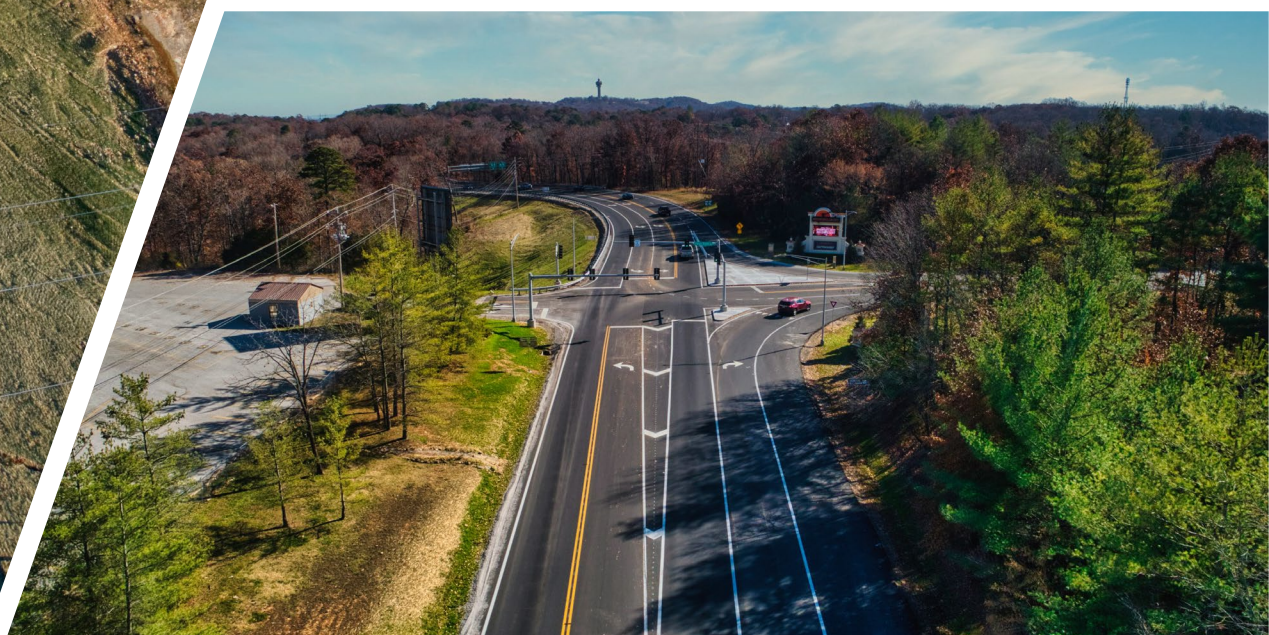
HIGHWAY 76 TURN LANE



Summary of Intersection Improvements

- 7,500 CY of Excavation and Embankment
- ¼ Mile Turn Lane Improvement
- **Lighting**
- **Signal Replacement**
- Accelerated Timeline
- Constructed while Silver Dollar City was Open







We Made It To The Wedding



Thank you! Questions?

2024 TEAM Conference

March 14, 2024

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