

International Drive Pedestrian Overpass  
Analysis and Overpass Conceptual Design Study

Project Advisory Group Meeting #4

**HHCP&AVCON**  
A JOINT VENTURE

# Project Advisory Group Meeting Objectives

## Meeting Number Four

- Presentation of Two Preferred Bridge Concepts
- Discussion of Refined Aesthetics
- Final Comments from Group Members

### Meeting Number One

Introduction of Participants  
General Overview of Project  
Initial Comments from Group Members

### Meeting Number Two

Presentation on Findings of Existing Conditions  
Discussion of General Bridge Features; Ramps, Stairs  
Elevators, etc.  
Discussion of Right-of-Way and Access impacts  
Discussion of Utility Impacts  
Comments from Group Members

### Meeting Number Three

Presentation of Preliminary Bridge Concepts  
Comparison of Aesthetics for Each Concept  
Comments from Group Members

### Meeting Number Four

Presentation of Two Preferred Bridge Concepts  
Discussion of Refined Aesthetics  
Final Comments from Group Members

### Meeting Number Five

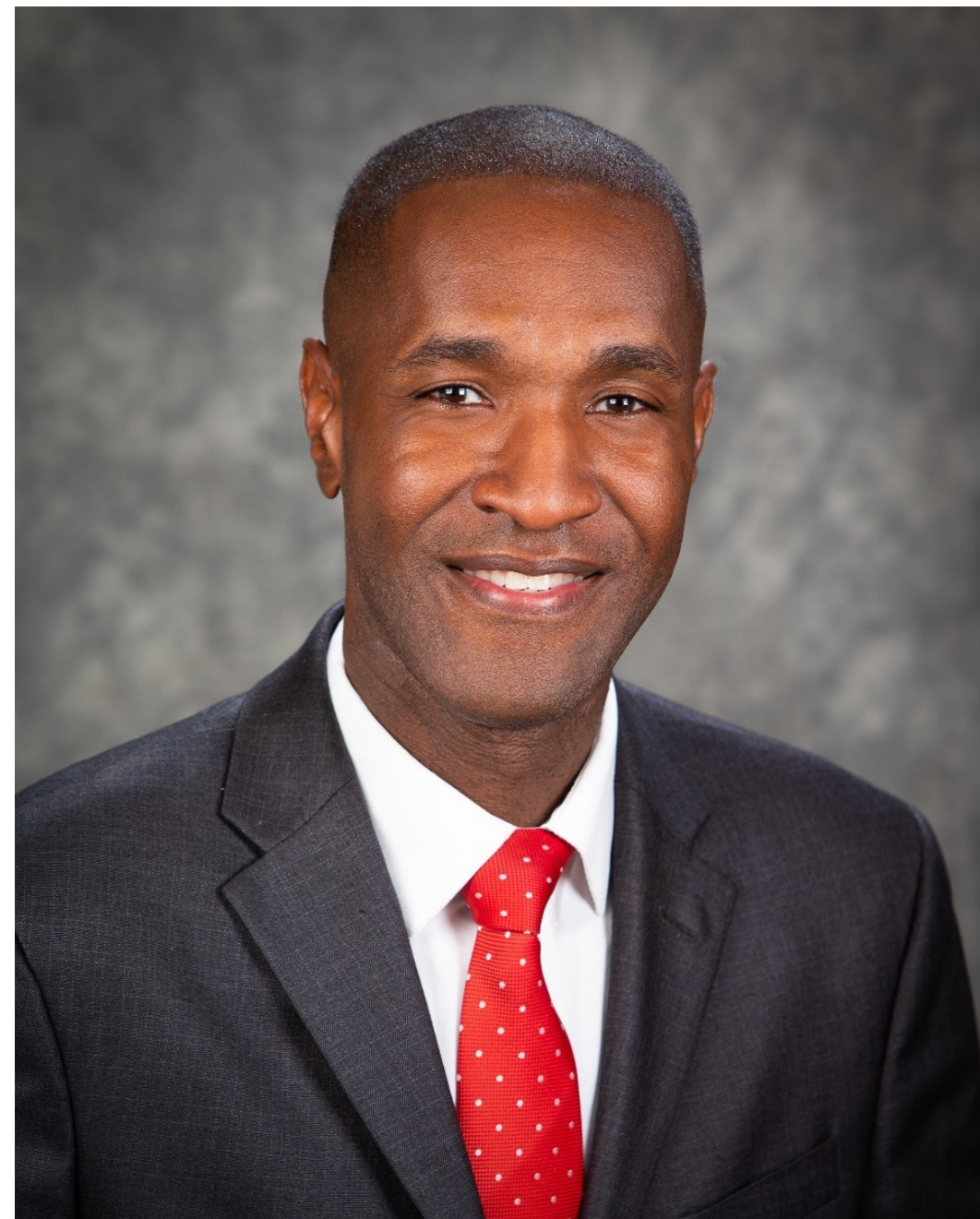
Presentation of Final Concept Plans  
Presentation on Evaluation Method and Rankings  
Discuss Rankings and Determination of Preferred  
Alternative







**Jerry L. Demings**  
Orange County Mayor



**Michael "Mike" Scott**  
District 6 Commissioner



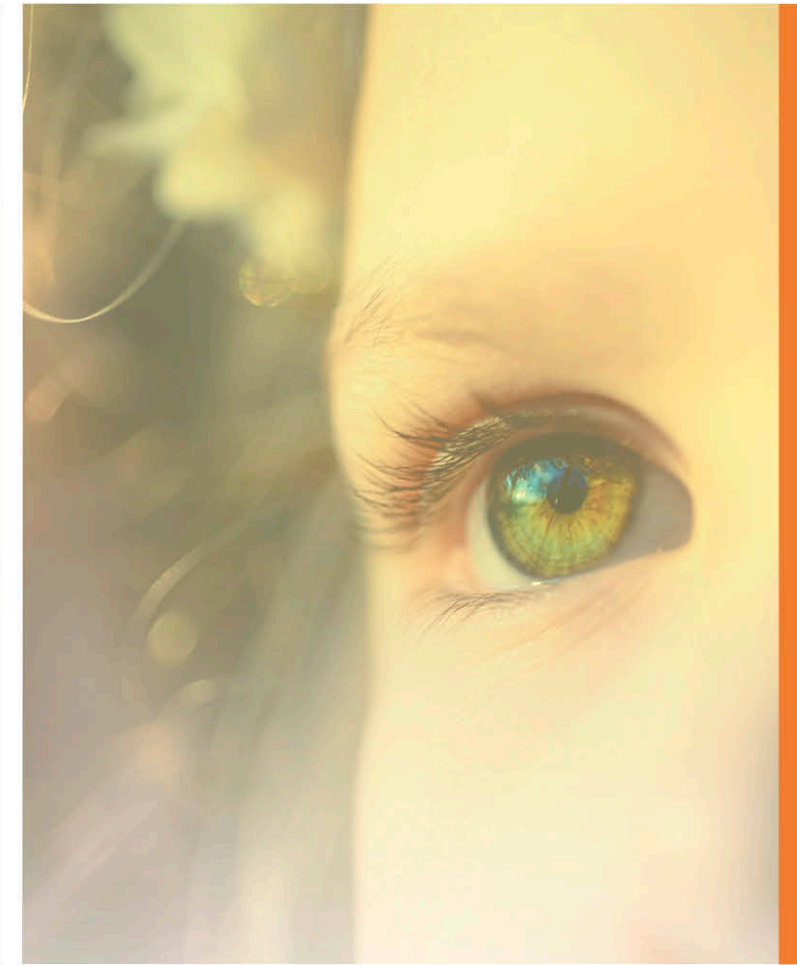


## Results of PAG meeting 1, 2 & 3

1. Include barrier at intersections to prevent on grade crossing.
2. Utilize Stair and Elevator at each intersection (best option for each corner)
3. Minimize impact on existing utilities and on adjacent property owners.
4. Create an Iconic Gateway to the Convention and Entertainment District
5. Consider potential bridge connections to adjacent properties (both elevated and on grade).
6. Consider experience of those traveling under the bridge as well as those experiencing the bridge by crossing it.
7. Bridge design should consider pedestrians, strollers, and bicycles.
8. ADA accessibility is critical at all intersections.
9. Consider the Intersecting “C” option and the “X” option as the highest ranking and preferred schemes







# Meeting Number Four

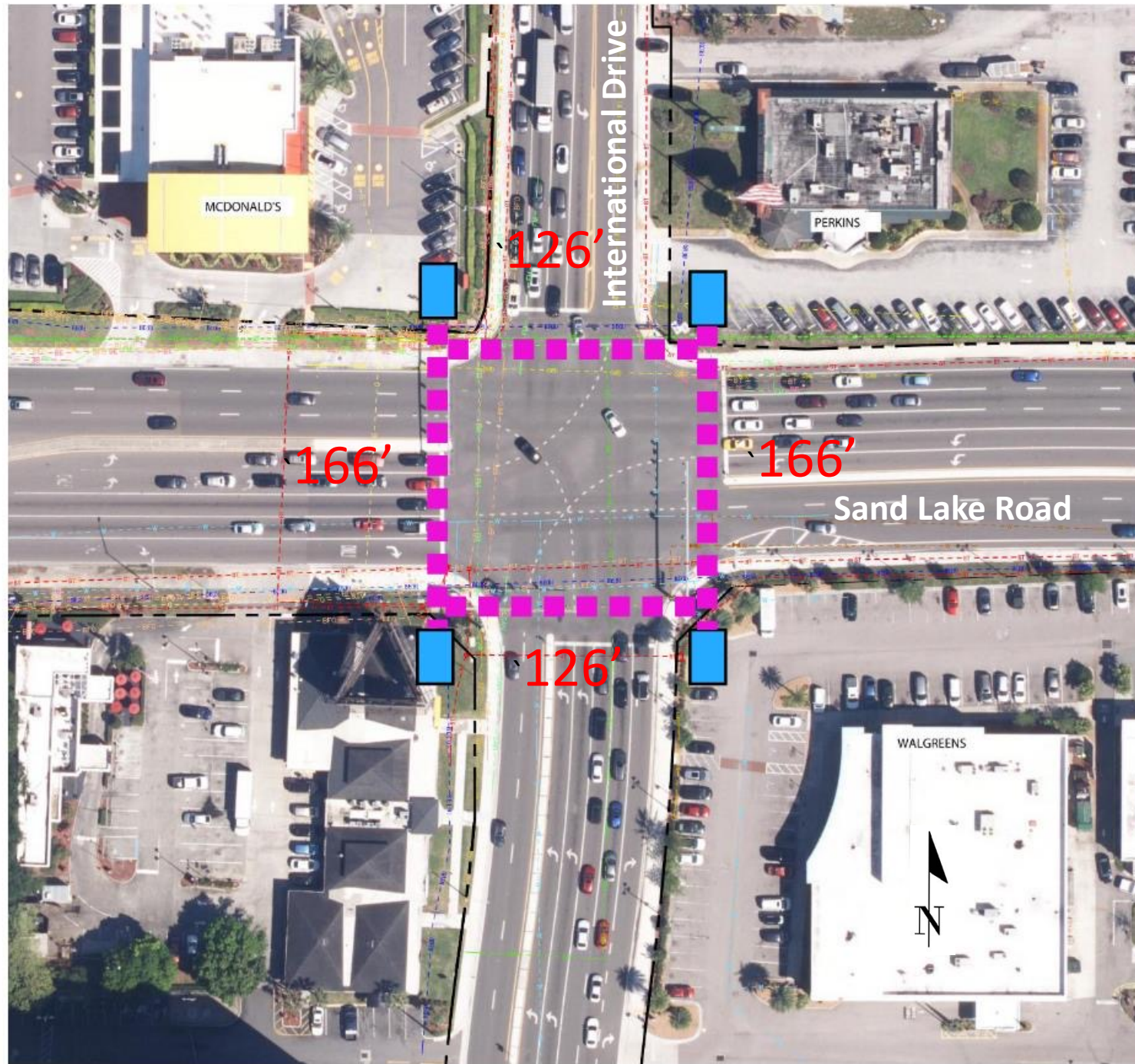
## Bridge Configurations Considered



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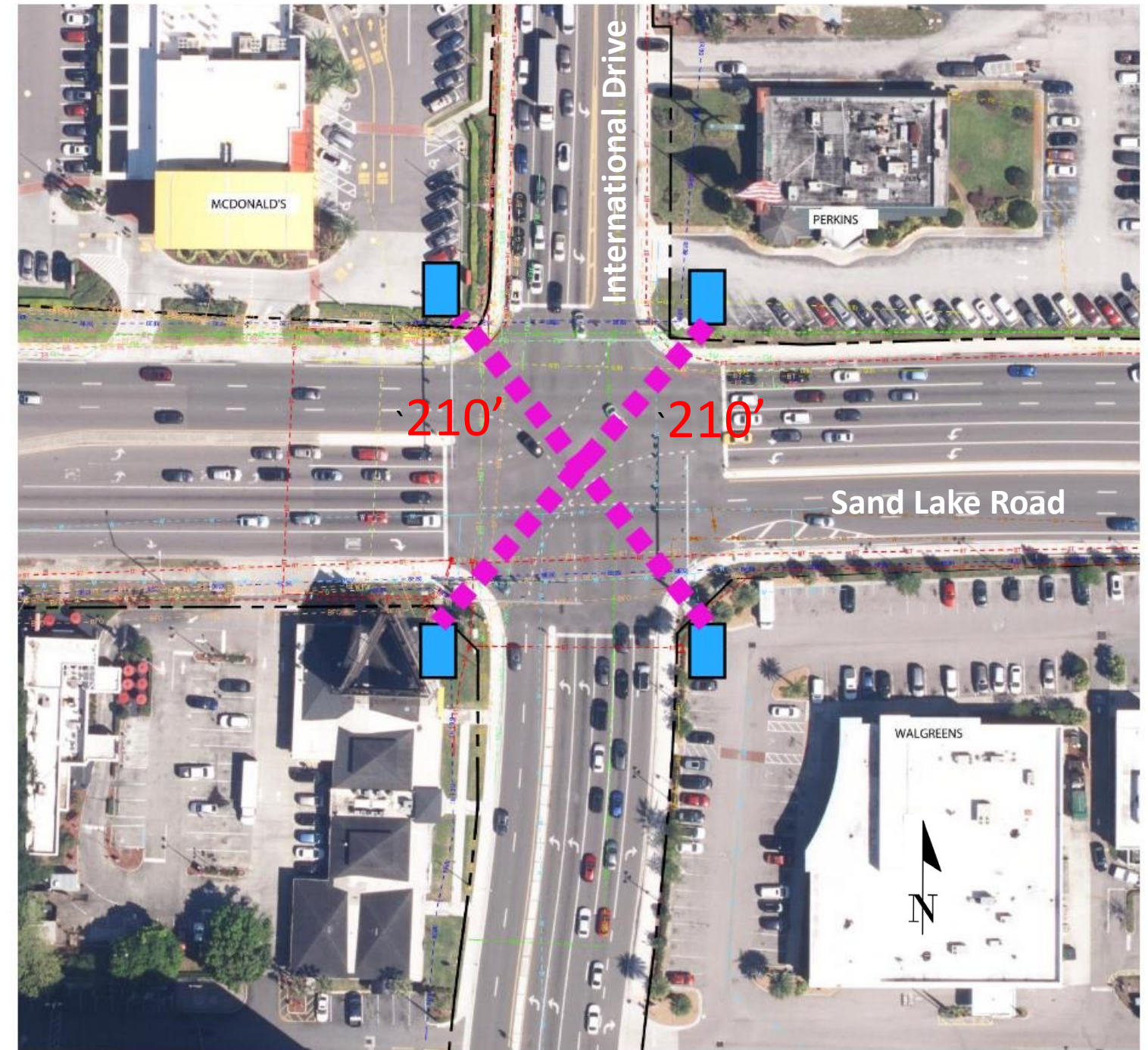


# Bridge Configurations



## Option 1 Square Configuration

Simple configuration utilizes straight prefabricated bridge sections. Users must travel either right or left to the final destination. If the destination is diagonal, you will have to travel two segments of the bridge.



## Option 2 "X" Configuration

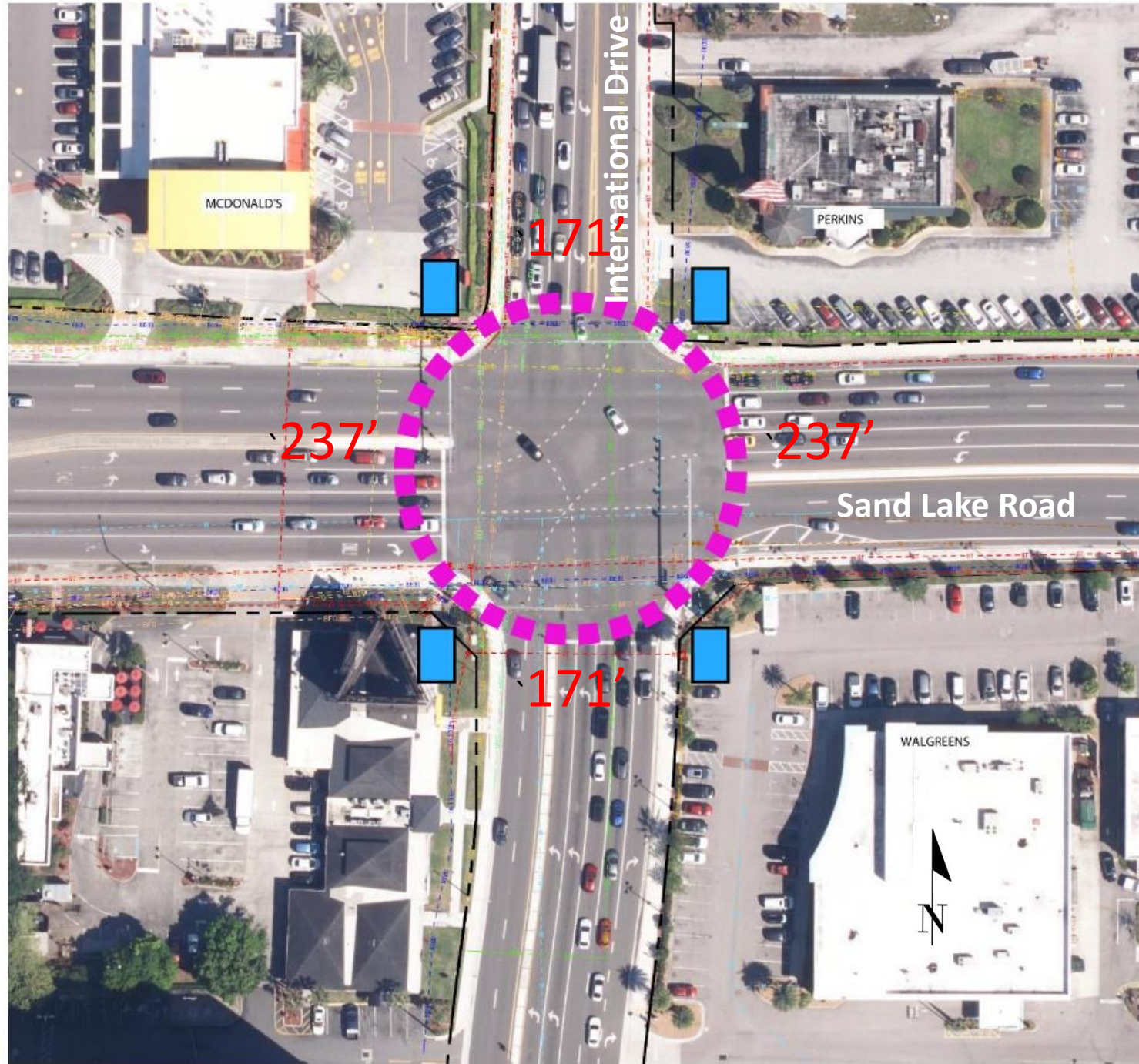
The "X" configuration utilizes prefabricated bridge sections and includes a shorter total bridge length than Option 1. Users travel approximately the same distance to any destination. That distance is slightly longer than a single span in Option 1.

- Vertical Circulation Tower
- Elevated Bridge



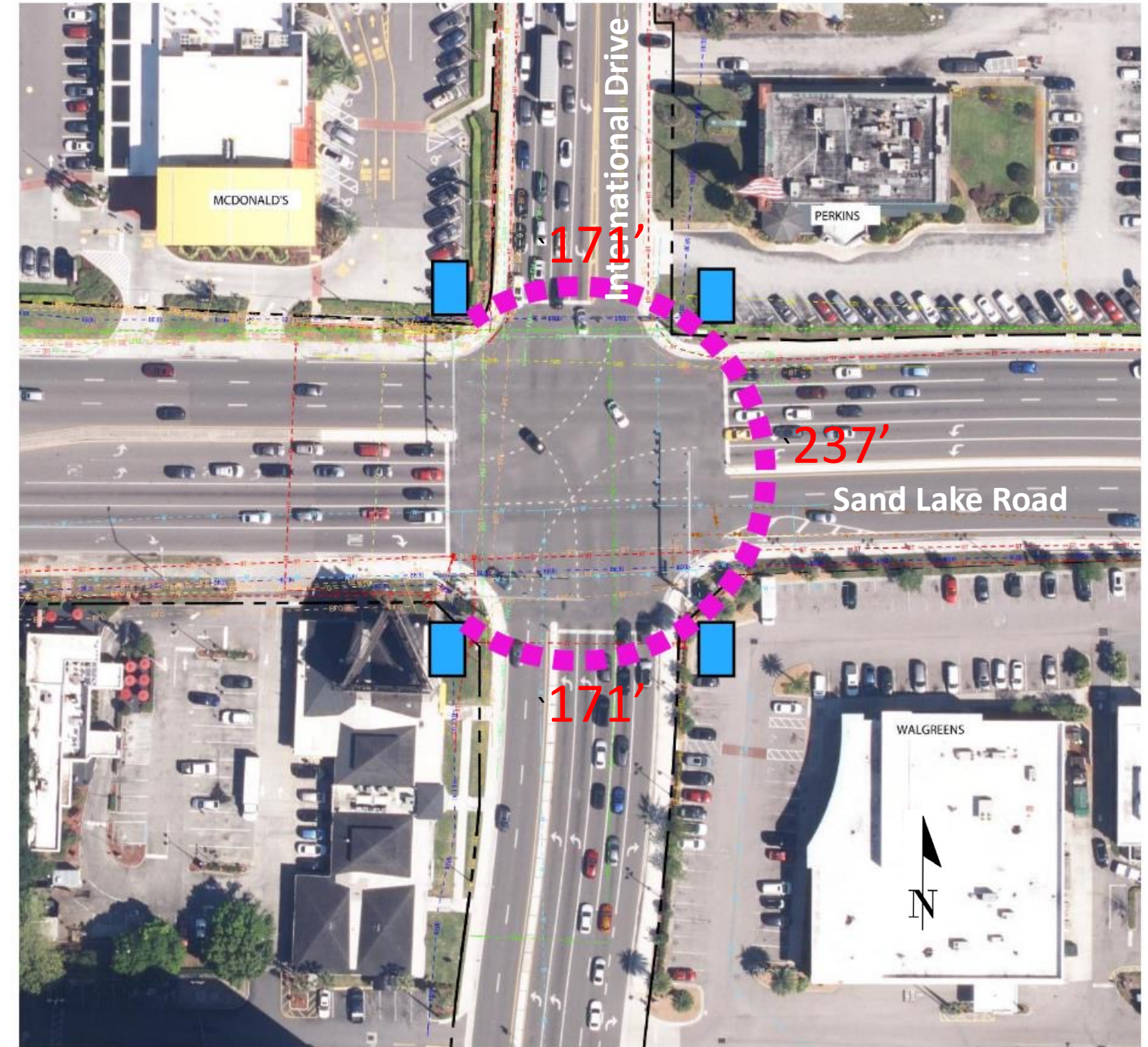


# Bridge Configurations



## Option 3 Circular Configuration

Operationally similar to the Square configuration, the Circular bridge eliminates 90 degree intersections and allows smooth flow around bridge in either direction. By walking in a continuous curve the appearance of the distance to the destination is reduced. This configuration can be assembled from Pre-fabricated bridge sections.



## Option 4 "C" Configuration

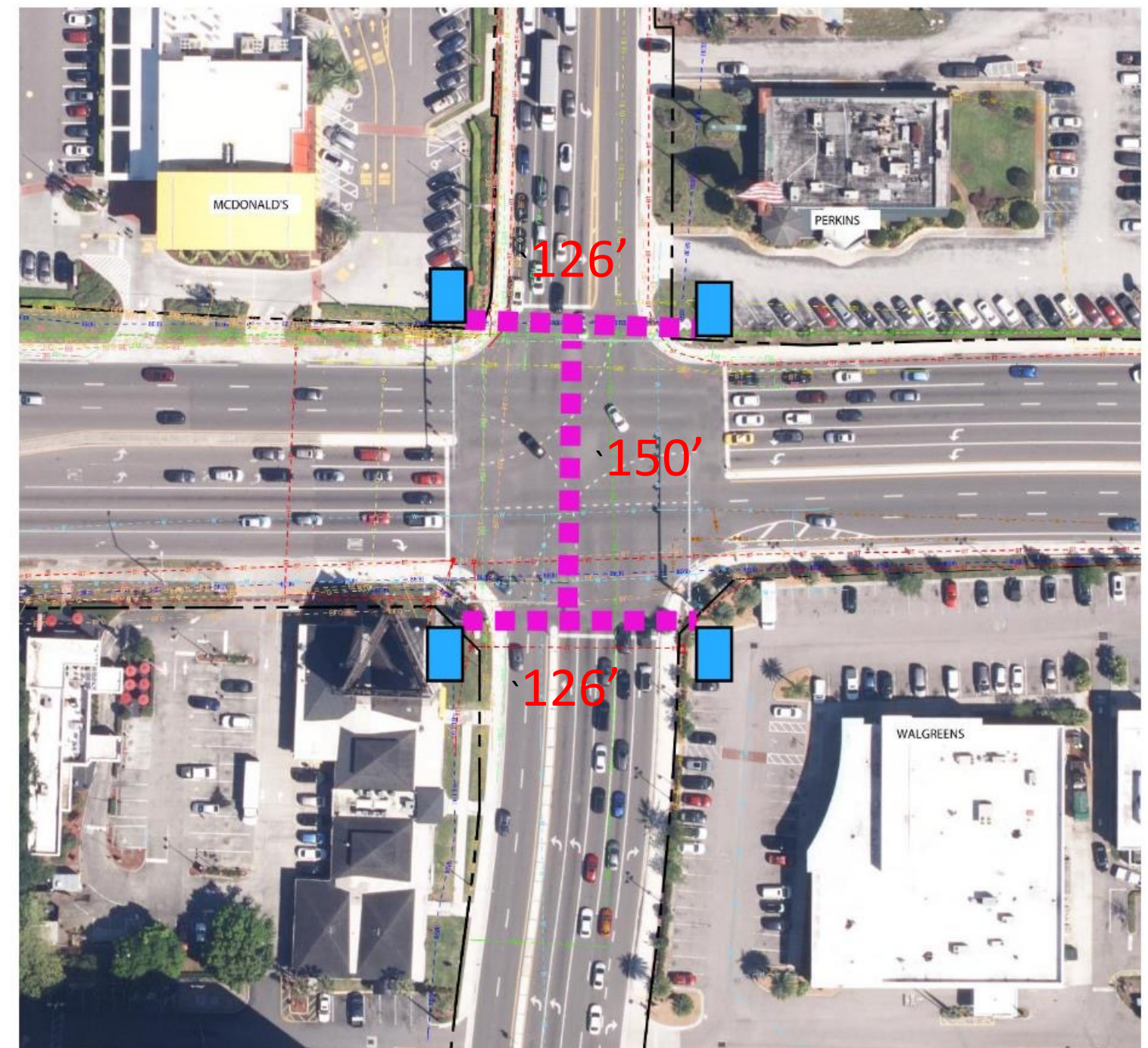
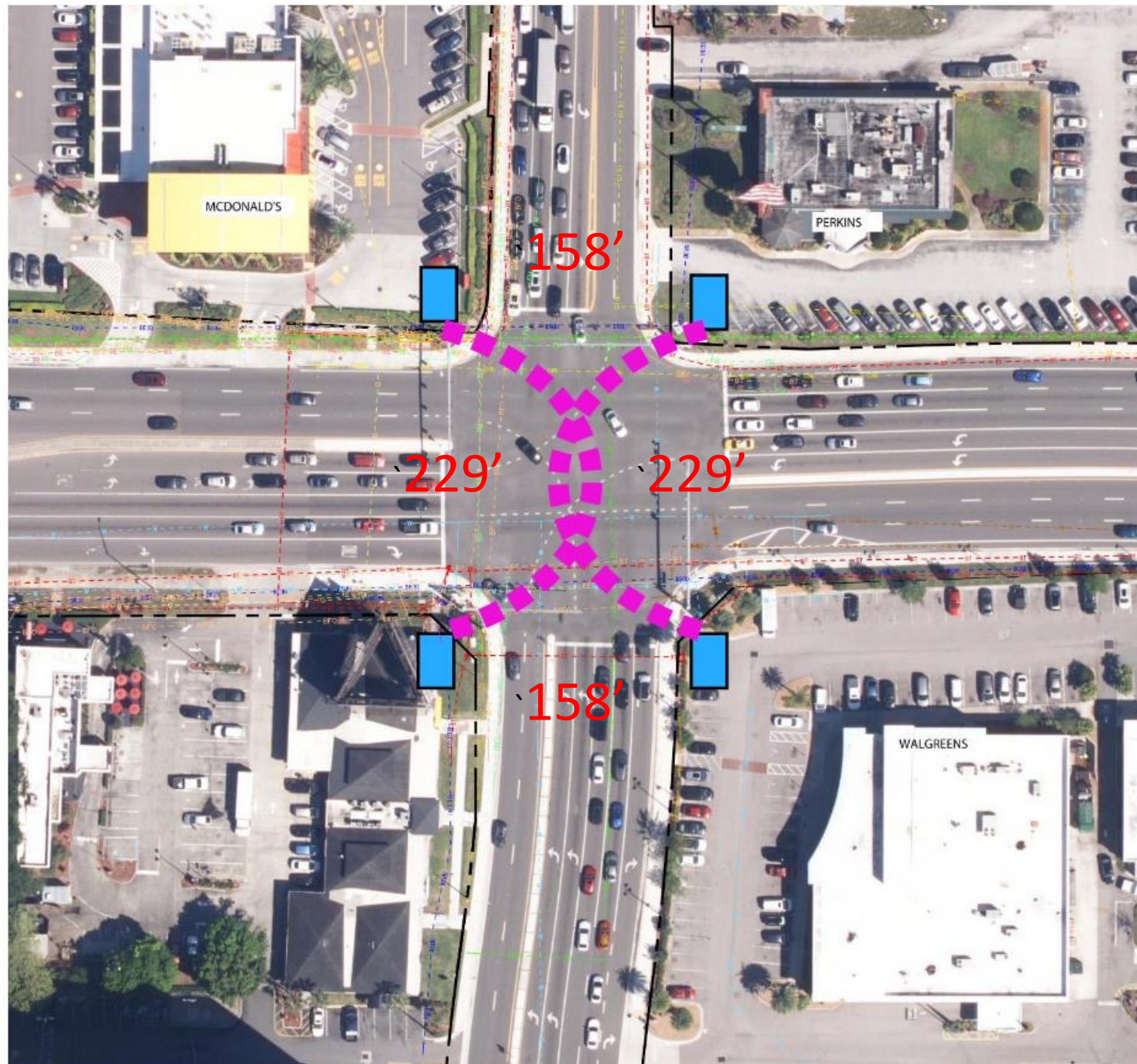
The "C" configuration utilizes prefabricated bridge sections and includes a shorter total bridge length than Option 3. This configuration only increases the travel distance between the NW and SW corners. This configuration creates a unique gateway for automobiles coming from the I-4 interchange.

 Vertical Circulation Tower

 Elevated Bridge







**Option 5**  
Chanel Logo Configuration




Operationally similar to the "X" configuration, this bridge consists of two curved bridge sections that touch and connect in the middle. More dynamic than the "X" configuration, this configuration eliminates long straight views and can accommodate a transition area in the center of the intersection. This configuration can be assembled from Pre-fabricated bridge sections.

**Option 6**  
"I" Configuration

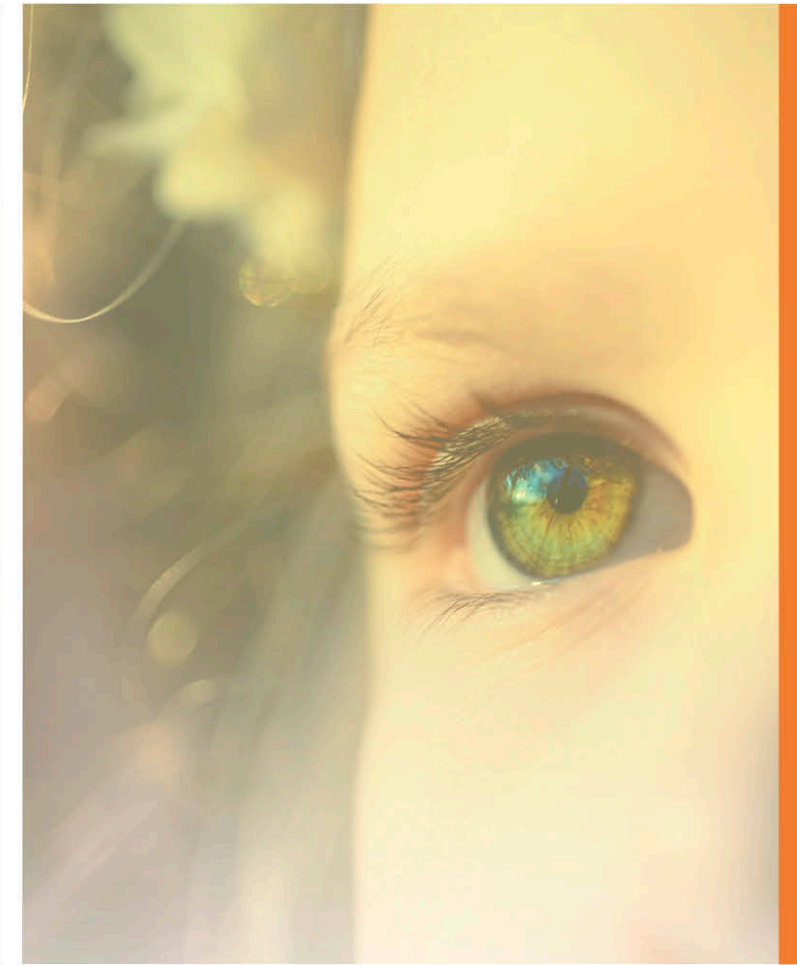
The "I" configuration utilizes prefabricated bridge sections and includes a shorter total bridge length than Option 3. This configuration is made up of simple straight bridge sections and creates a unique gateway for automobiles coming from the I-4 interchange. Similar to Option 5, this configuration provides shorter travel distances crossing east and west.

 Vertical Circulation Tower

 Elevated Bridge







# Meeting Number Four

## Selected Bridge Tower Configurations



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# Bridge Tower Option 2

## Description

A very inviting stair traversing 24'-0" in height. Each stair run is 6' rise. The treads are 12" and the risers are 6" for easy climbing.

The Elevator is 3500# capacity and is stretcher compliant

The overall site area required for this configuration is 35' x 40'

Crosswalks have been removed.

## Summary

Ground Floor Platform	221sf
Stair Width	6' Wide
Elevator Shaft	10' x 8'-4"
Elevator Cab Size	6'-8" x 5'-5"
Total Ground Level Footprint	531sf
Bridge Width	10'-0"



# Bridge Tower Option 1

## Description

A very inviting stair traversing 24'-0" in height. Each stair run is 4' rise. The treads are 12" and the risers are 6" for easy climbing.

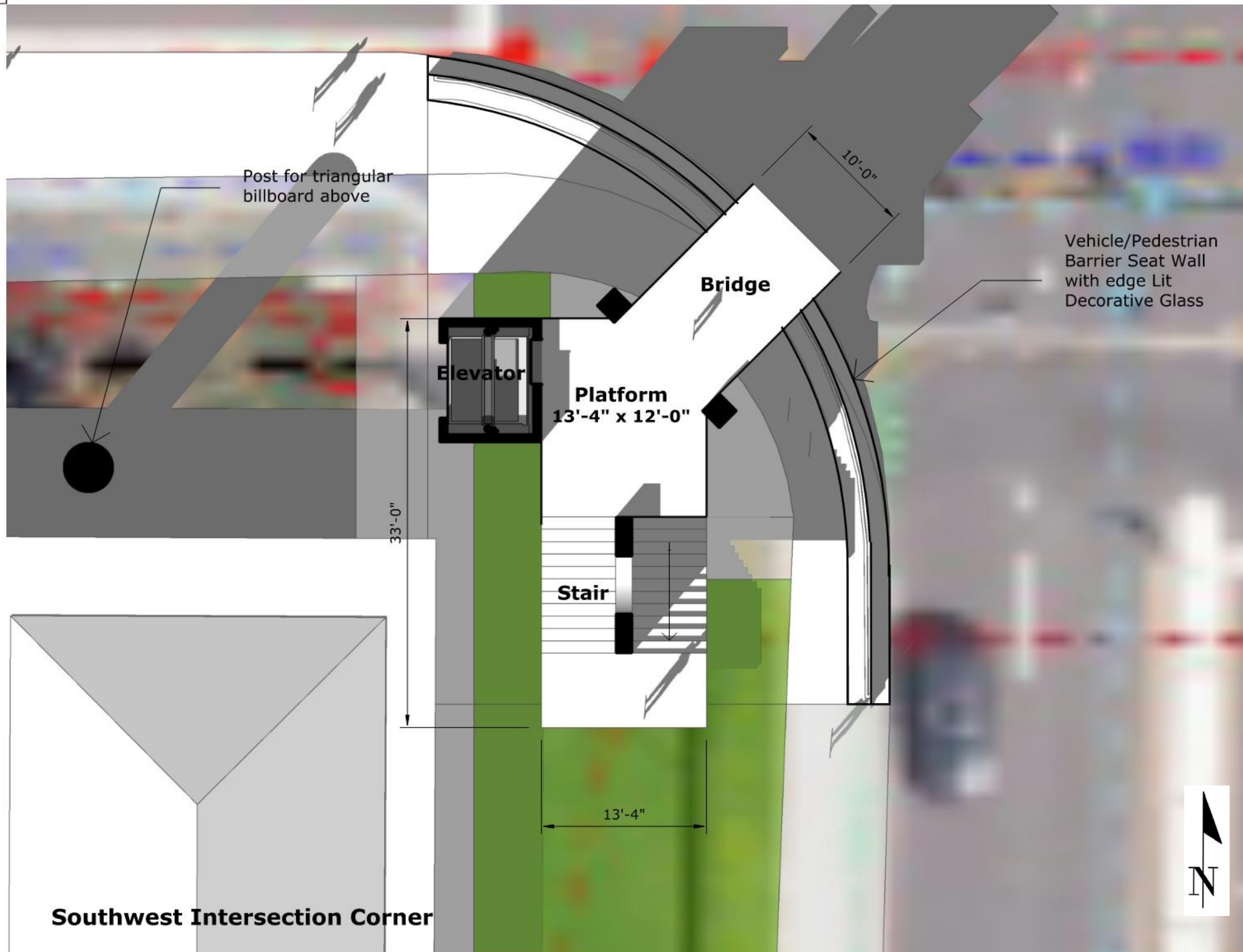
The Elevator is 3500# capacity and is stretcher compliant

The overall site area required for this configuration is 22' x 24'

Glass Back Elevator provides additional Safety and creates a visual feature

Seat bench barrier and protective screen wall protects pedestrians and prevents on grade crossing.

Crosswalks have been removed.



## Summary

Ground Floor Platform	192sf
Stair Width	6' Wide
Elevator Shaft	10' x 8'-4"
Elevator Cab Size	6'-8" x 5'-5"
Total Ground Level Footprint	506sf
Bridge Width	10'-0"

Southwest Intersection Corner





## Bridge Tower Option 3

### Description

A very inviting stair traversing 24'-0" in height. Each stair run is 4' rise. The treads are 12" and the risers are 6" for easy climbing.

The Elevator is 3500# capacity and is stretcher compliant

The overall site area required for this configuration is 22' x 24'

Glass Back Elevator provides additional Safety and creates a visual feature

Seat bench barrier and protective screen wall protects pedestrians and prevents on grade crossing.

Crosswalks have been removed.

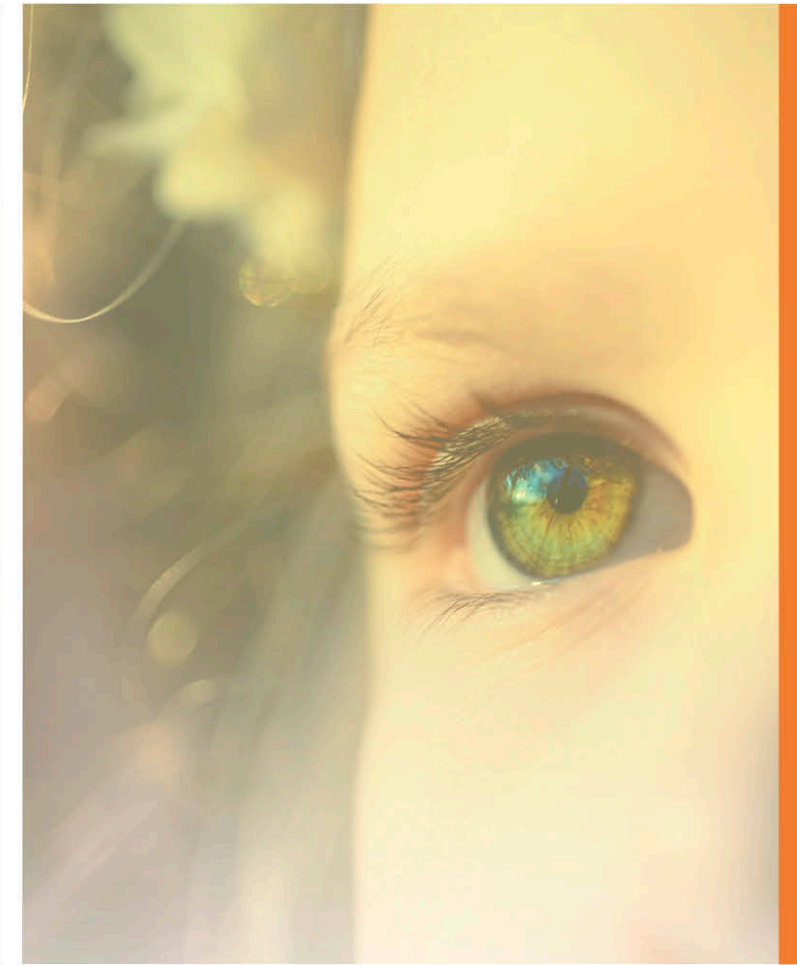


### Summary

Ground Floor Platform	192sf
Stair Width	6' Wide
Elevator Shaft	10' x 8'-4"
Elevator Cab Size	6'-8" x 5'-5"
Total Ground Level Footprint	506sf
Bridge Width	10'-0"







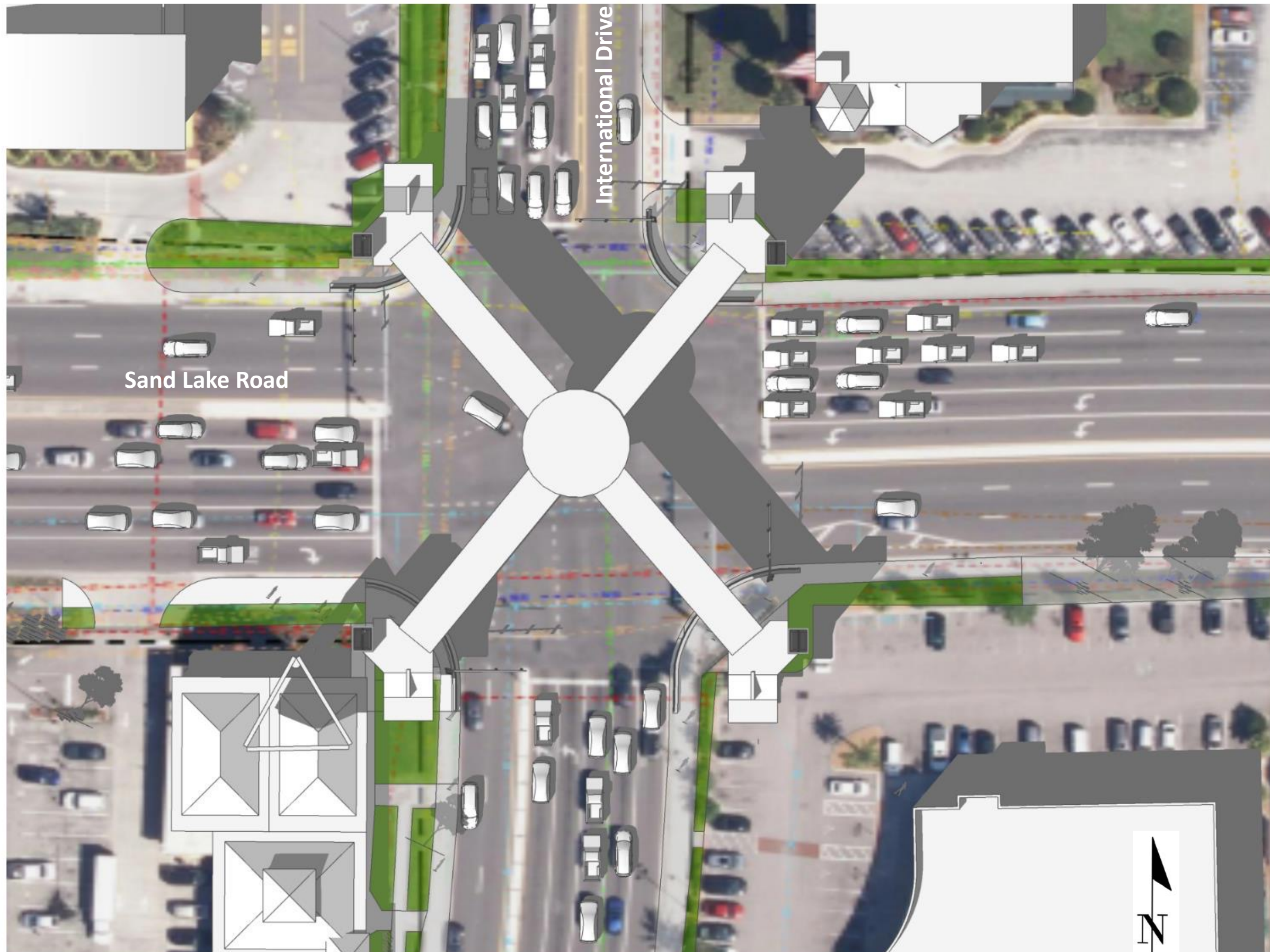
## Meeting Number Three

# Preliminary Bridge Configuration Concepts



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## Bridge Configuration "X" Option

### Description

The "X" configuration consists of two straight bridge runs intersecting in the middle of the intersection.

The overall length of the bridge in the "X" configuration is the third shortest of all options at 420' of length and has the third shortest average travel distances of the options considered.

One benefit of this configuration is that the travel distance to every other intersection is exactly the same. The negative of this configuration is that the shorter distances across International drive are actually longer in this design.

There is an opportunity for a unique feature at the crossing point of the bridge which all users will experience.

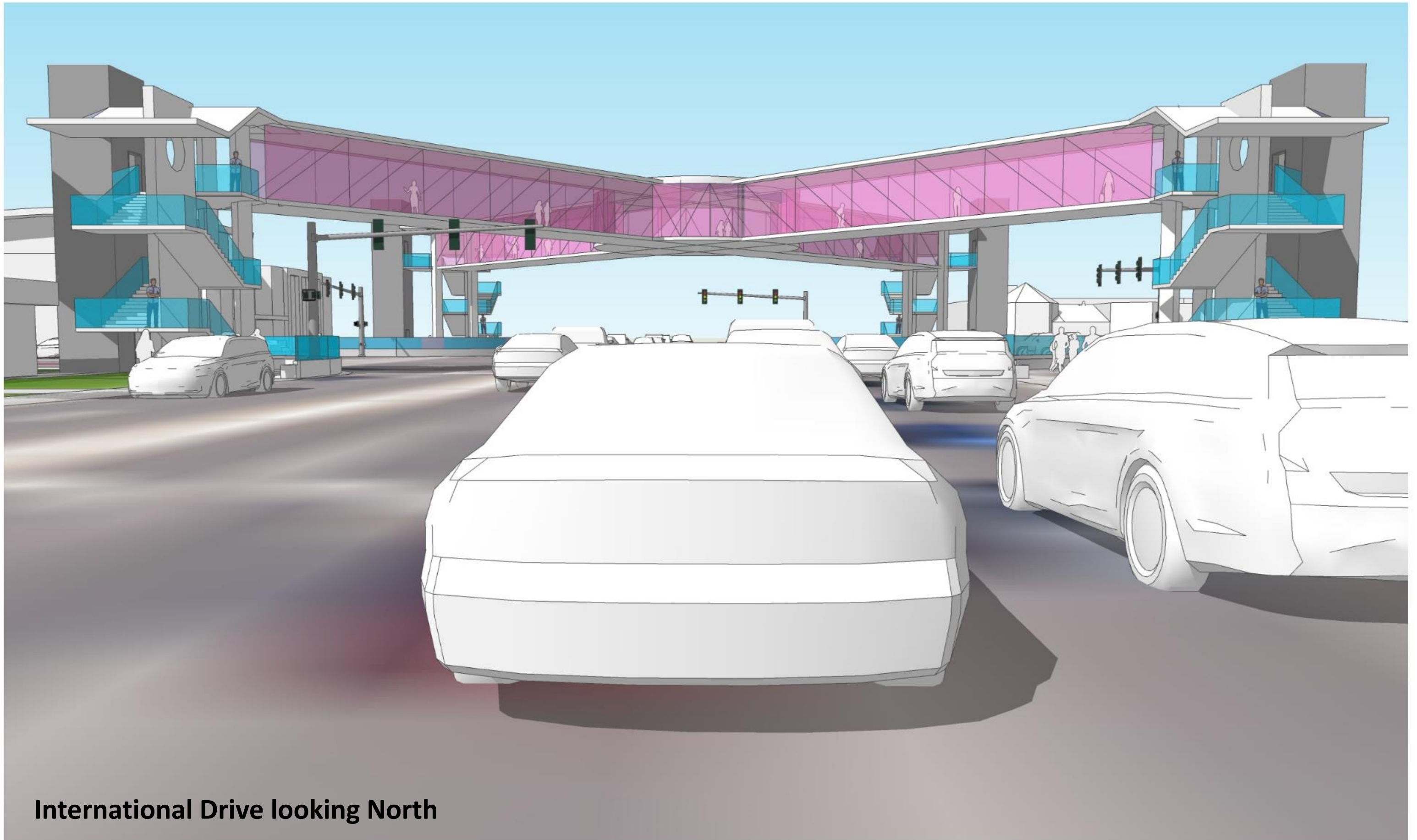
The straight bridge sections create a less desirable experience and users have to make a turn at the center section unless they are traveling diagonally across the intersection.

### Summary

Average Travel Distance	210'
Bridge Length	420'
Bridge Width	12'-0"



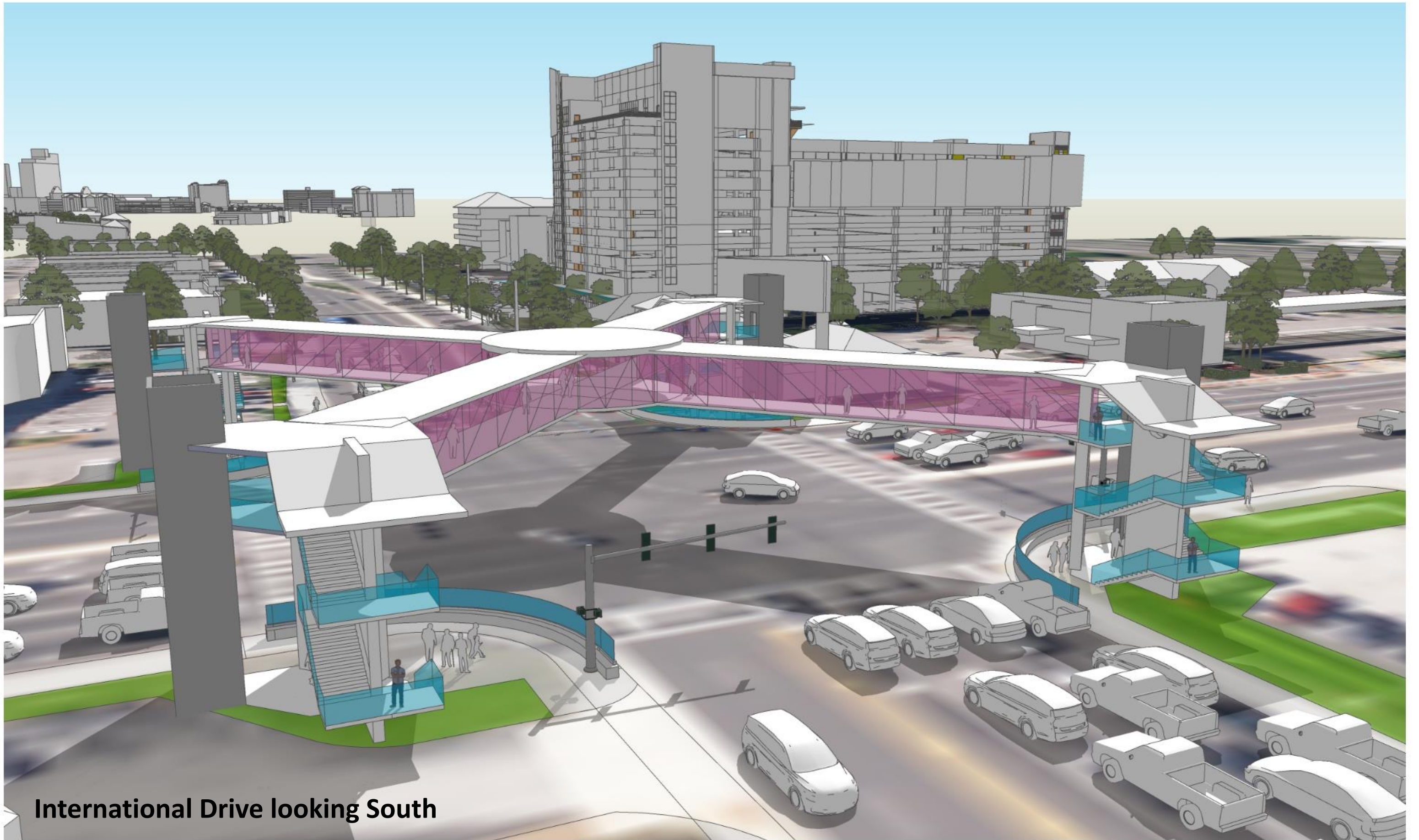




**International Drive looking North**



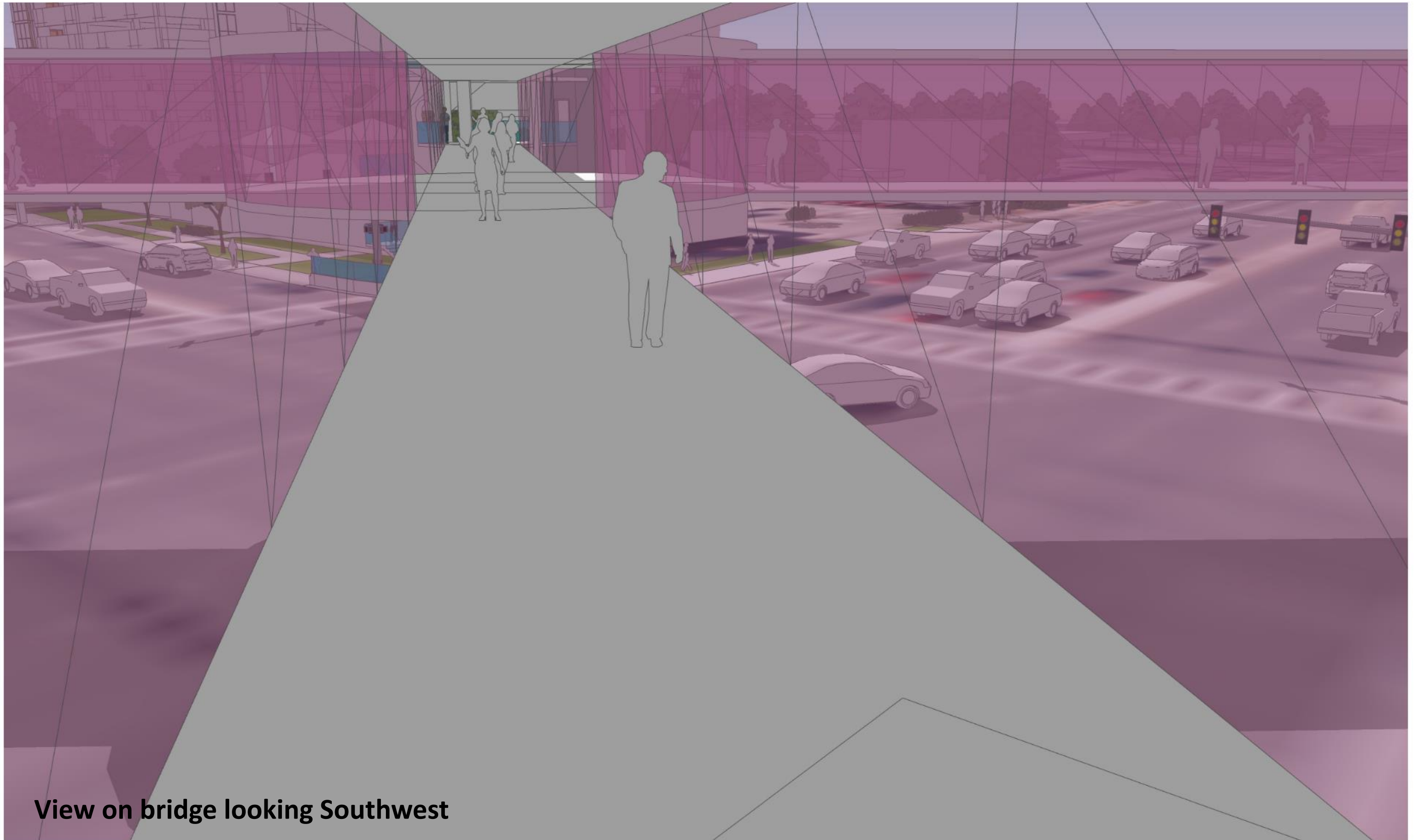




**International Drive looking South**



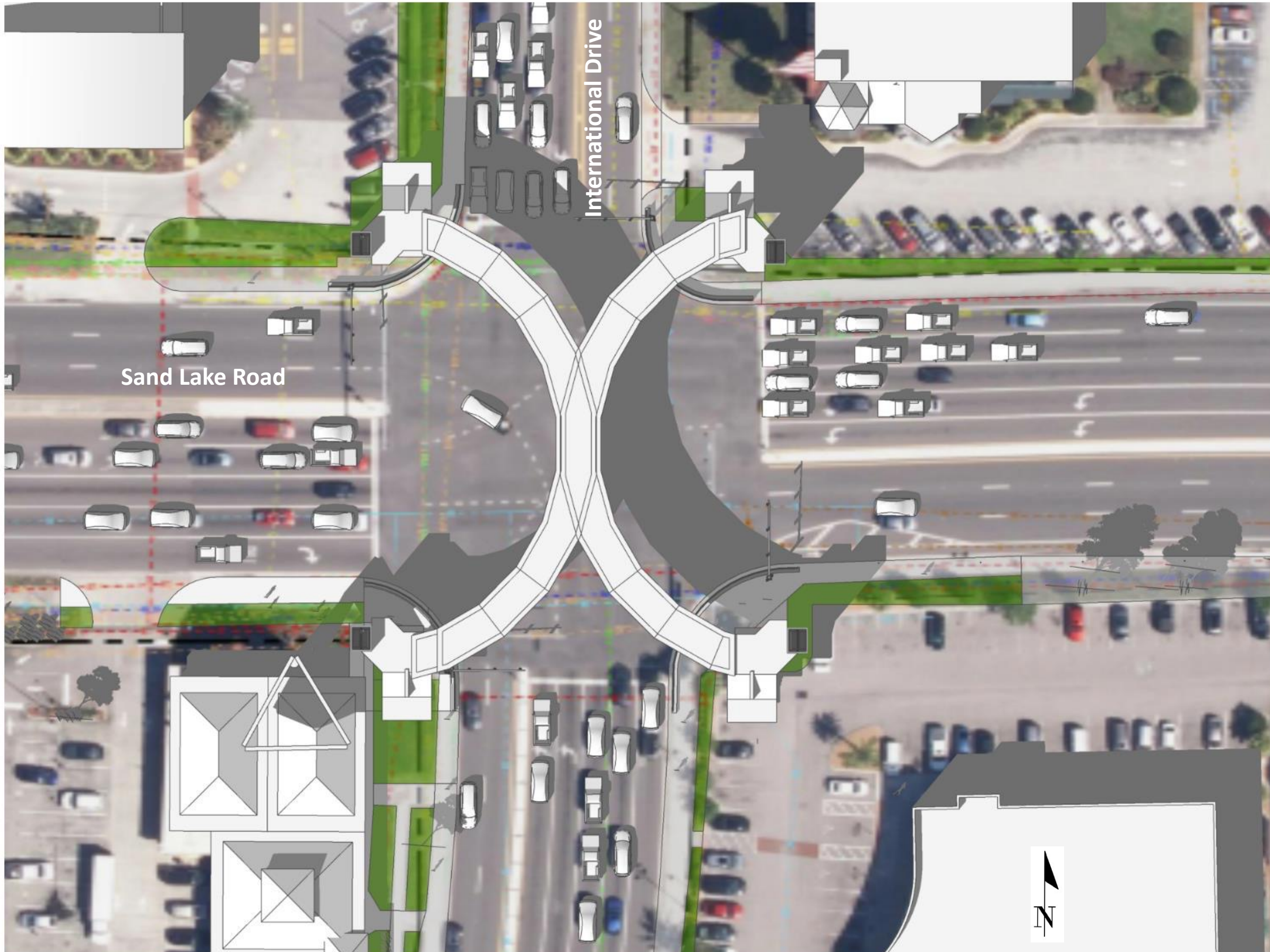




**View on bridge looking Southwest**







## Bridge Configuration Intersecting "C" Option

### Description

The interlocking "C" Shaped bridge configuration evolved from the "I" configuration. This bridge configuration provides a similar travel distance to all intersections served.

The overall length of the bridge in the Interlocking "C" configuration is the shortest of all options at 395' of length and has one of the shortest average travel distances of the options considered.

In addition the curved sections add to the crossing experience by limiting the long view across the bridge and maximizing the views to surrounding businesses while the users traverse the bridge.

There is an opportunity for a unique feature at the crossing point of the bridge which all users will experience.

This configuration creates a unique gateway for automobiles from all directions. The effect is different for vehicles on International Drive and Sand Lake Rd.

### Summary

Average Travel Distance	205'
Bridge Length	395'
Bridge Width	12'-0"







**Sand Lake Road looking East**







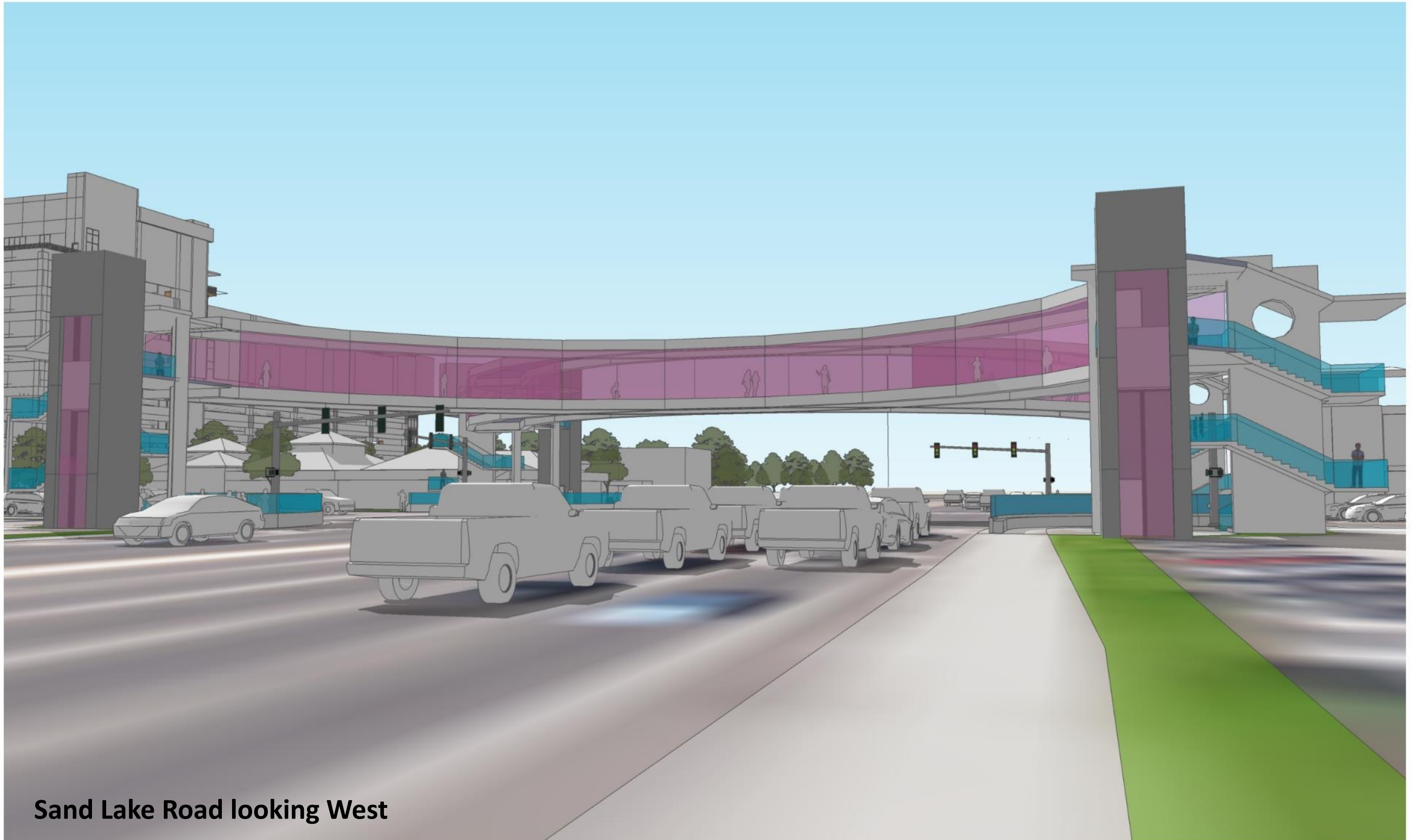




**International Drive looking North**



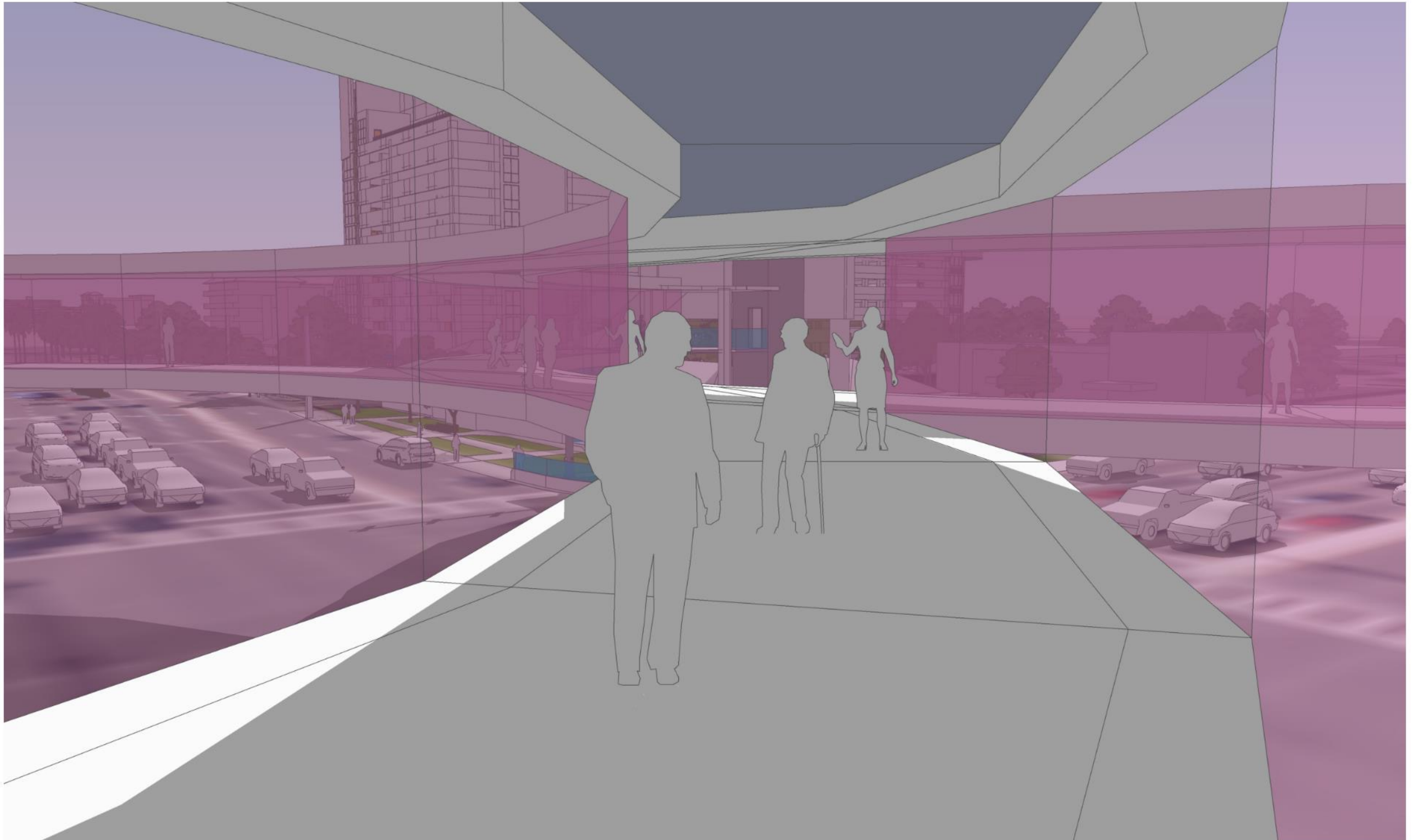




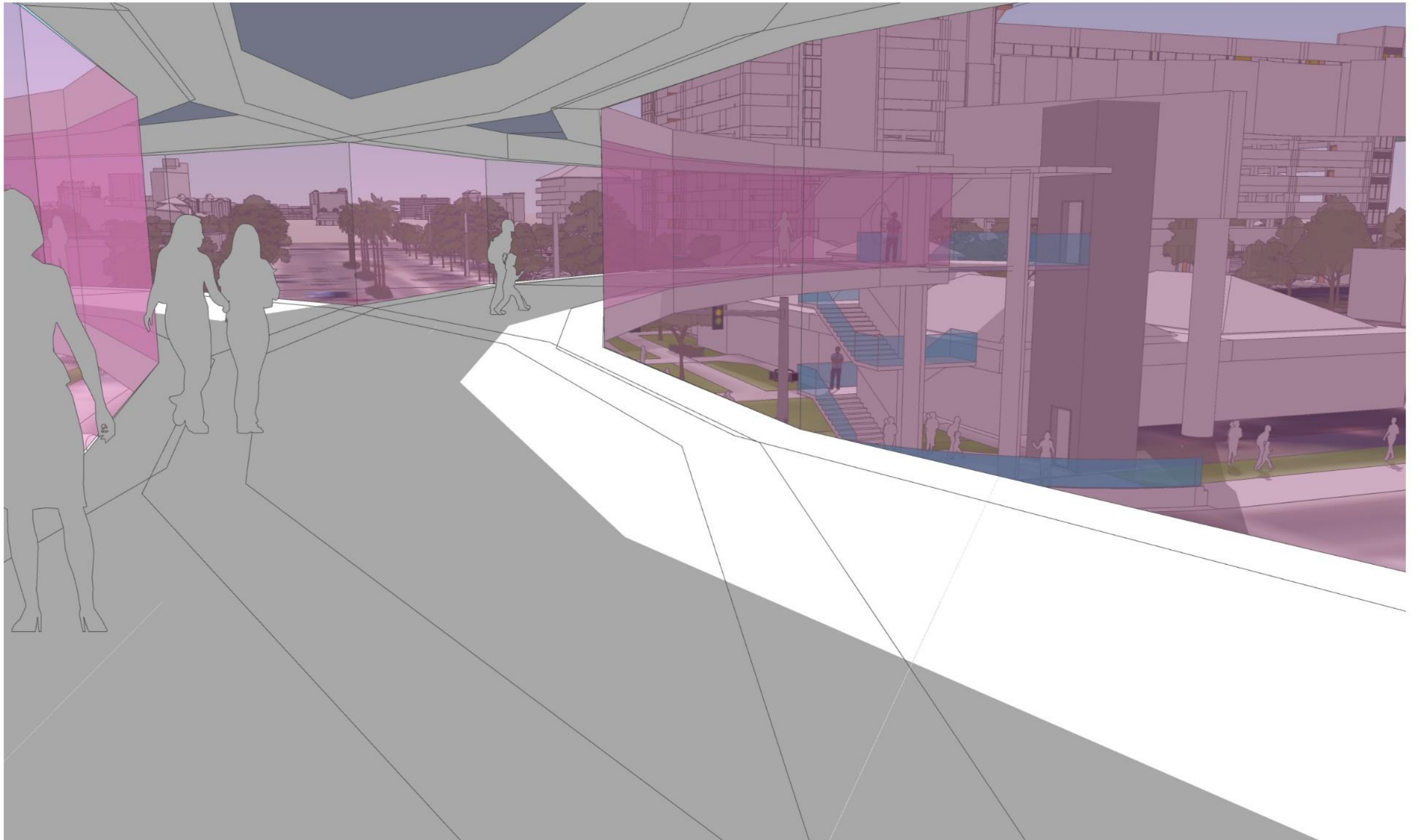
**Sand Lake Road looking West**



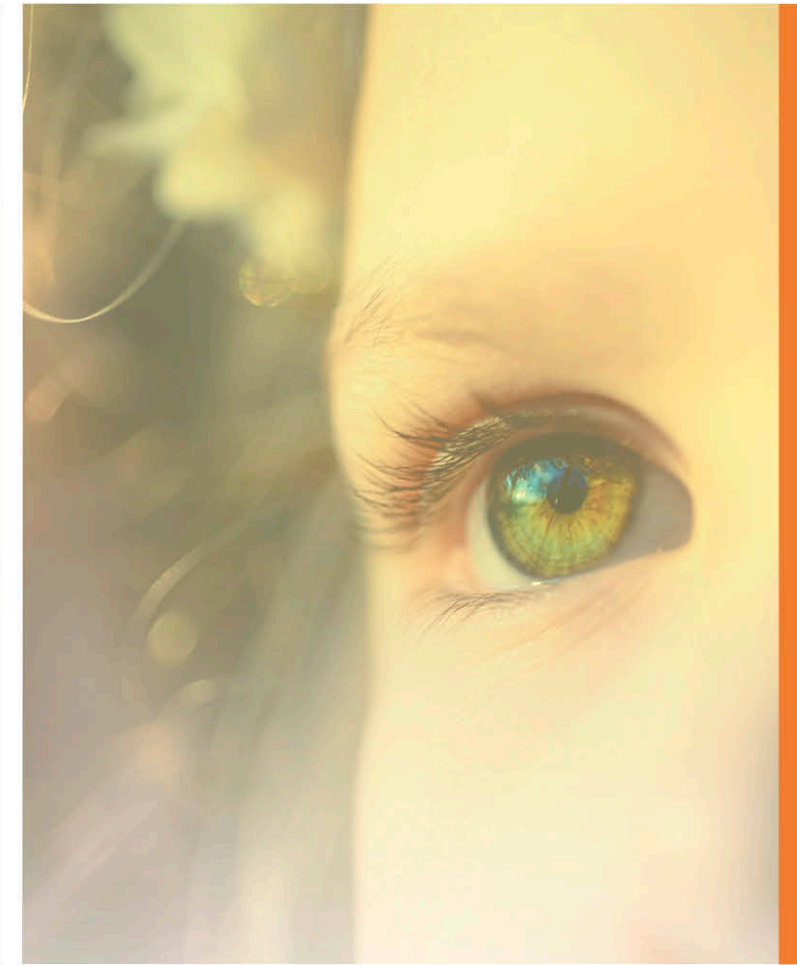












# Meeting Number Three

## Summary of Findings



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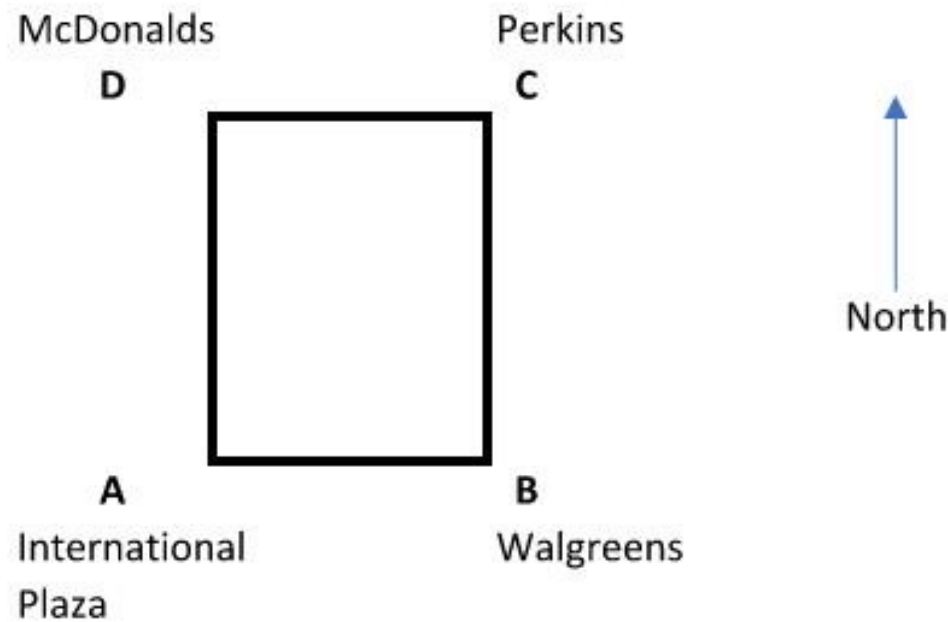


### Bridge Configuration Evaluation Matrix

(lower score is higher ranking)

	Travel Dist. Int. A-B		Travel Dist. Int. A-C		Travel Dist. Int. A-D		Avg. Walk Dist.	Rank	Bridge Length	Rank	Total Score	Rank
<b>Square Configuration</b>	126	292	166			195	1	584	5	6	2	
<b>"X" Configuration</b>	210	210	210			210	3	420	3	6	2	
<b>Circular Configuration</b>	171	408	272			284	5	816	7	12	5	
<b>"C" Configuration</b>	171	408	579			386	6	579	4	10	4	
<b>"I" Configuration</b>	126	276	276			226	4	402	2	6	2	
<b>Modified "I" Configuration</b>	126	229	229			195	1	686	6	7	3	
<b>Intersecting "C" Configuration</b>	158	229	229			205	2	395	1	3	1	

Exist. Crosswalk Distance	
A-B	96'
A-C	259'
A-D	132'
<b>Avg.</b>	<b>162'</b>



Note:  
Distance from A-C is the same as B-D

The lowest scoring option is the Intersecting "C" configuration.





# Summary

- Curved bridge configurations create a more dynamic visual and a better experience for bridge users.
- Elimination of the crosswalks will increase pedestrian safety and reduce traffic congestion.
- Corner wrapping seat wall/barriers will be required to prevent people from attempting to cross the intersection on grade.
- Bridge configuration has little impact on space required at intersection corners.
- Bridge Configuration Evaluation Matrix shows the “Intersecting C” configuration to be the highest rated option (lowest score).
- We are seeking input from the PAG on the preferred configuration to meet the operational, aesthetic, budget, and iconic gateway criteria.





**Bridge Configuration Evaluation Matrix**  
(lower score is higher ranking)

	Bridge Length	Rank		Structural Complexity		Relative Cost		Design Icon Value		Total Score		Rank
Square Configuration	584	5		1		3		7		11		4
"X" Configuration	420	3		4		2.5		6		12.5		5
Circular Configuration	816	7		2		4.5		3		9.5		3
"C" Configuration	579	4		3		3.5		2		8.5		1
"I" Configuration	402	2		5		3.5		4		12.5		5
Modified "I" Configuration	686	6		6		6		5		17		6
Intersecting "C" Configuration	395	1		5		3		1		9		2

Bridge length not included in aggregate score, but is used to calculate relative cost.

$$\text{Relative Cost} = \frac{\text{Bridge Length Rating} + \text{Structural Complexity Rating}}{2}$$

The lowest scoring option is the "C" configuration.





# The Drone Concept











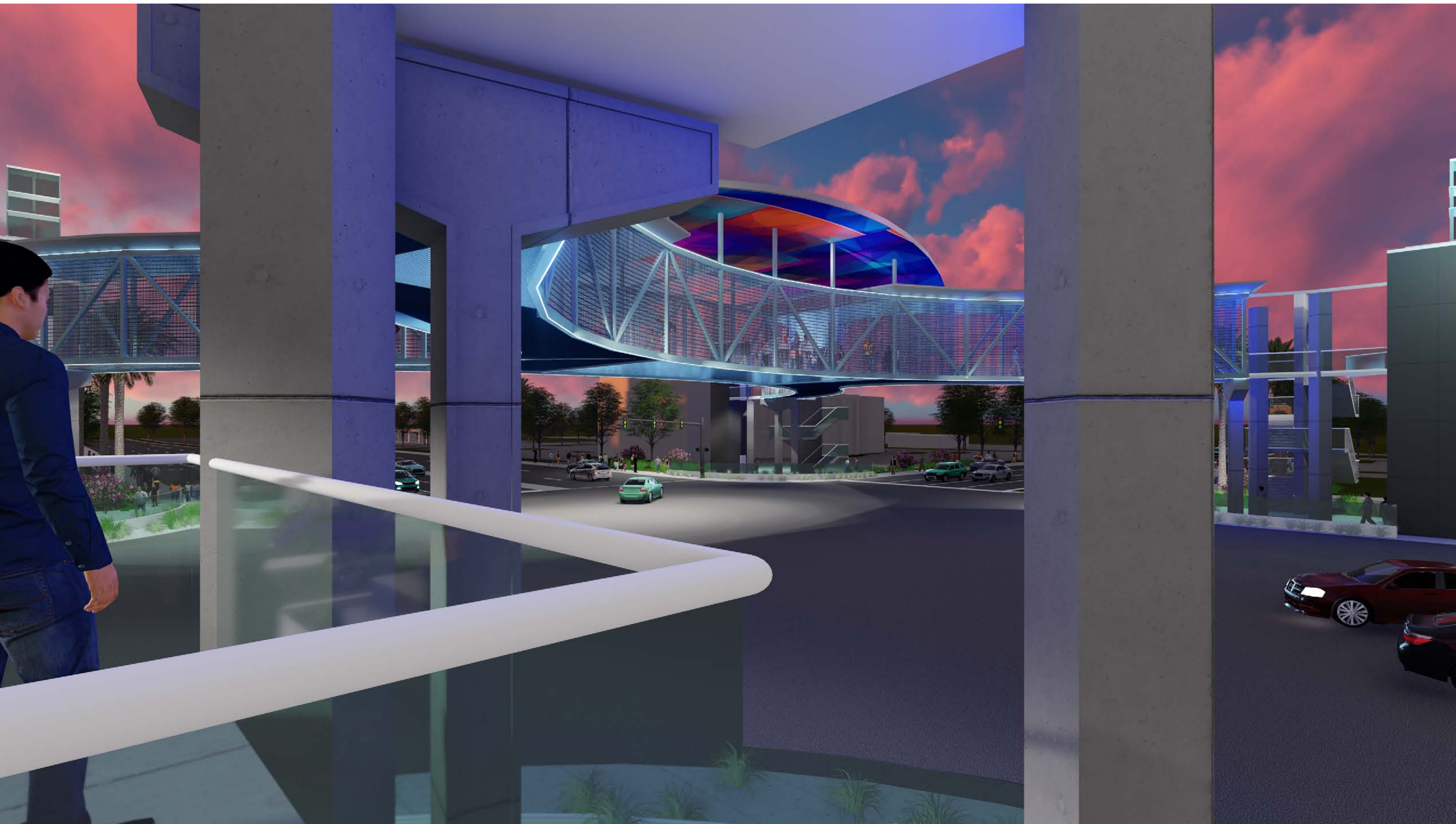












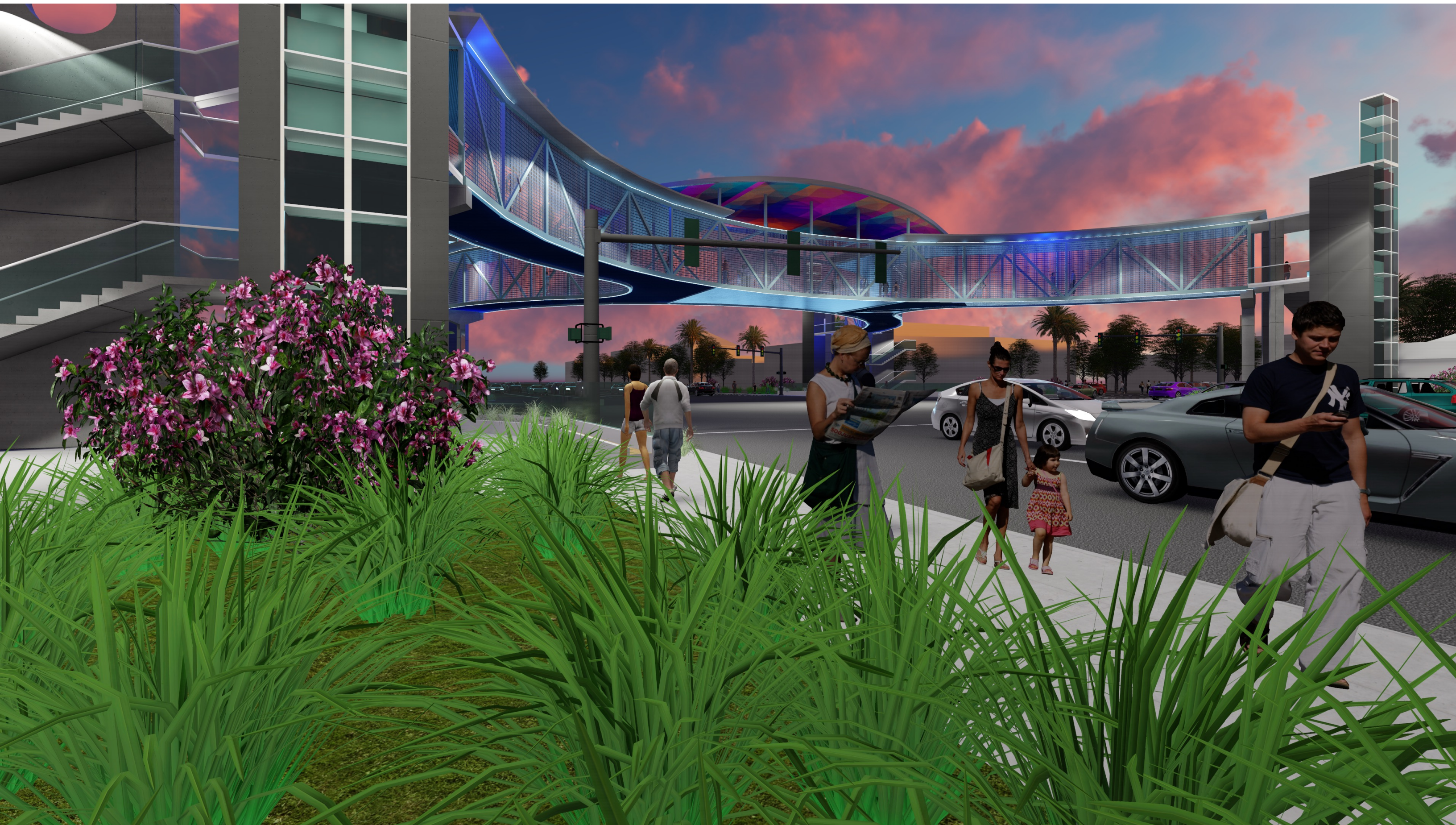




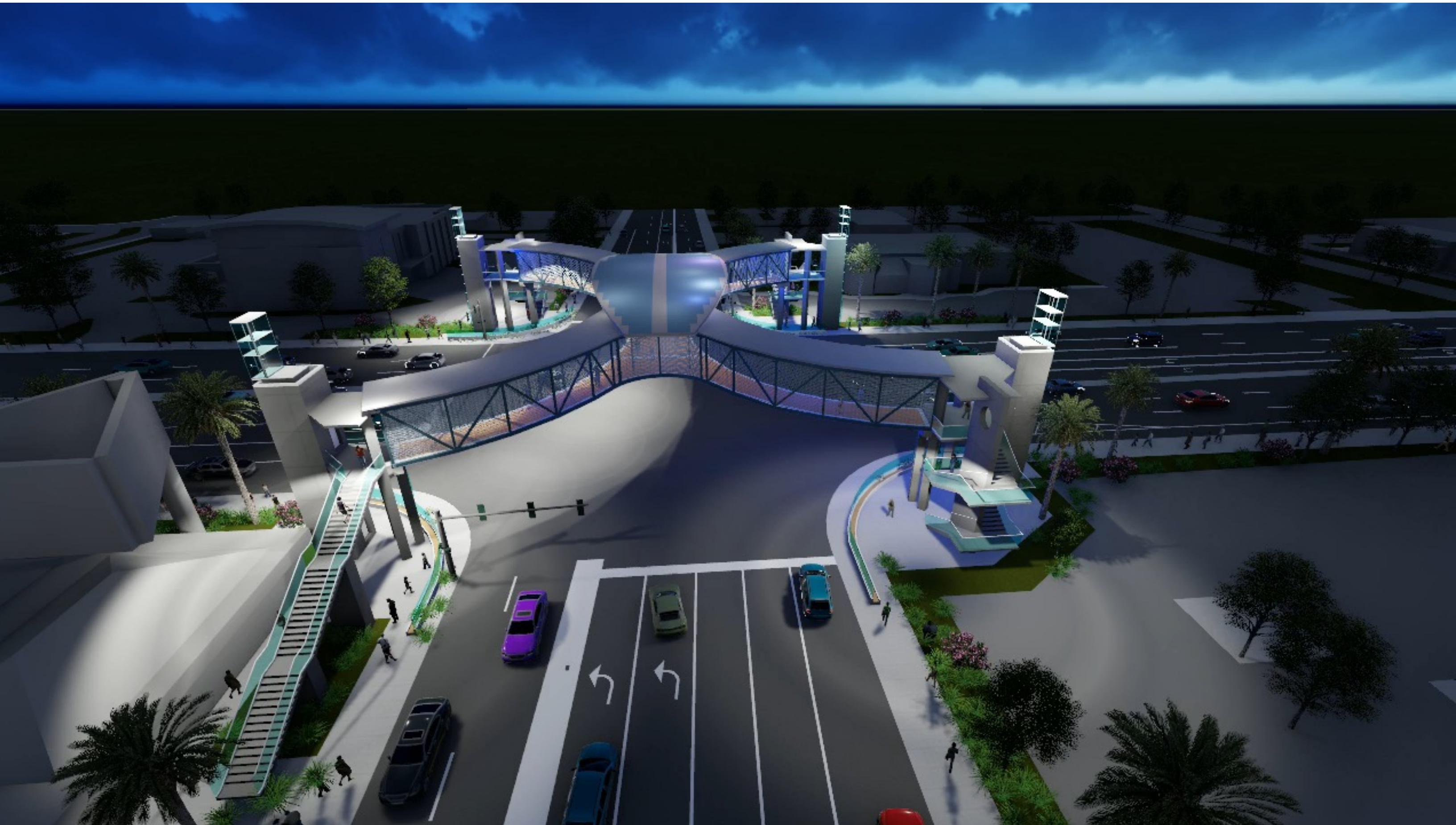














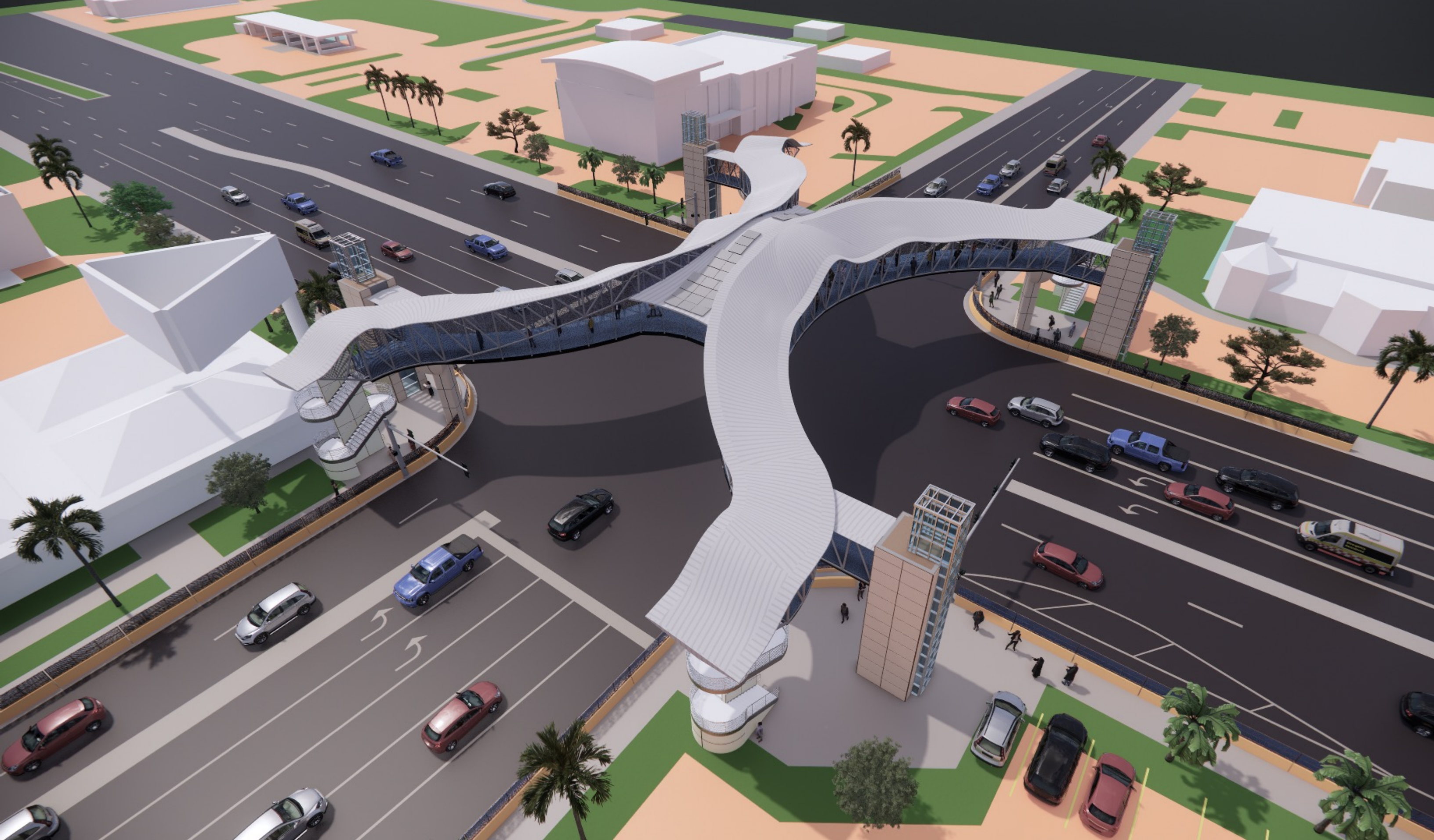
# The Wave Concept



















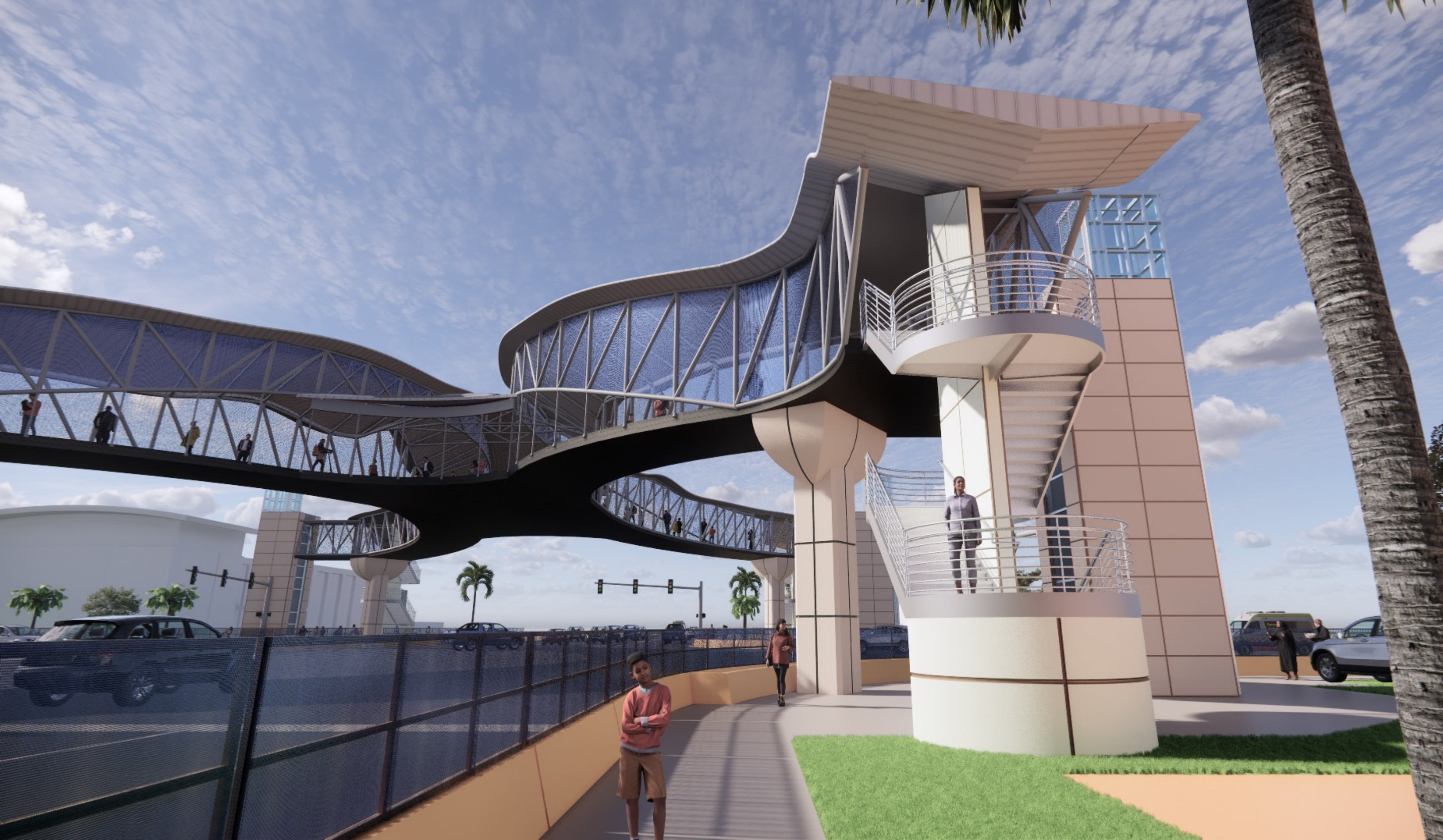




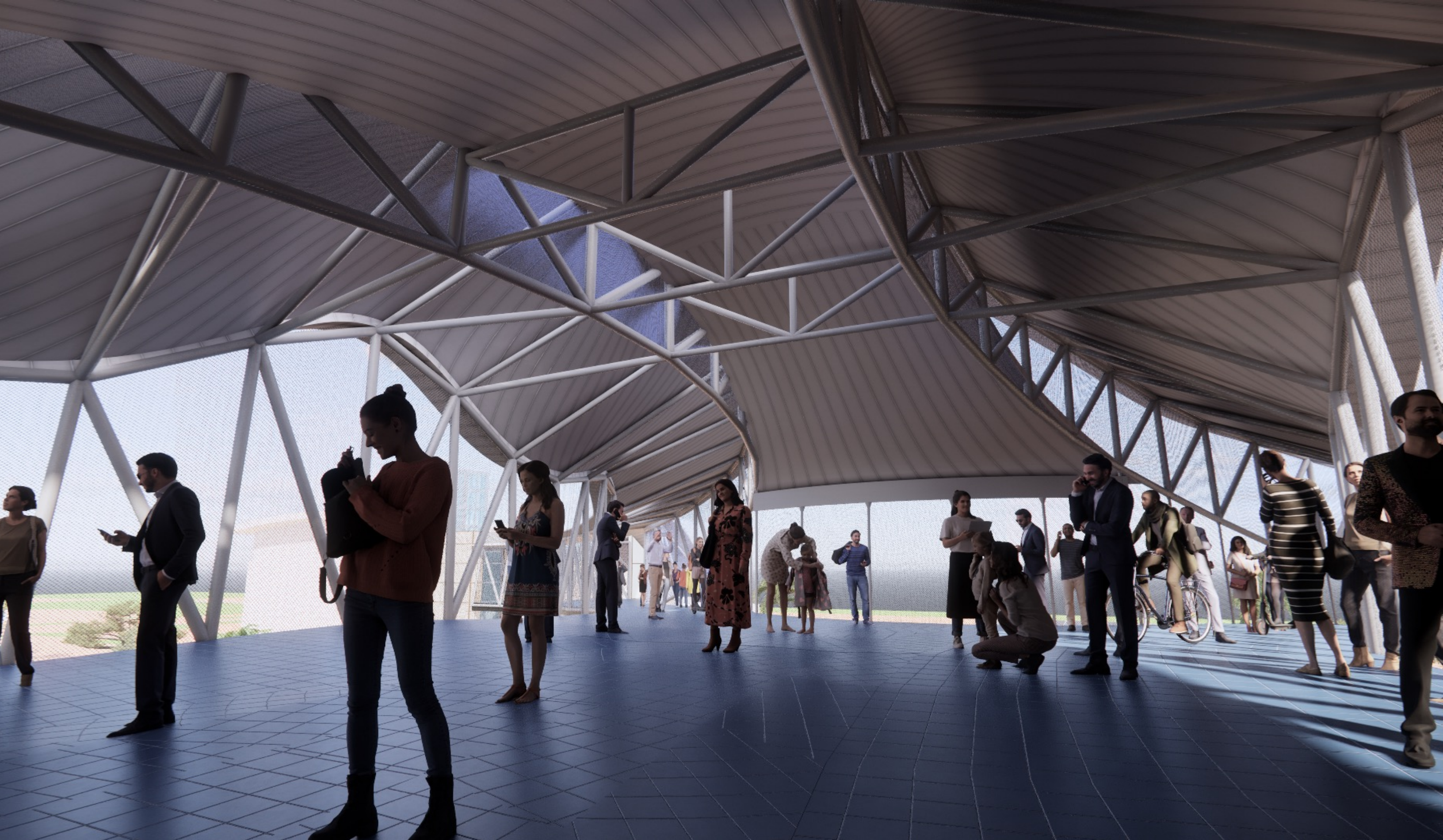








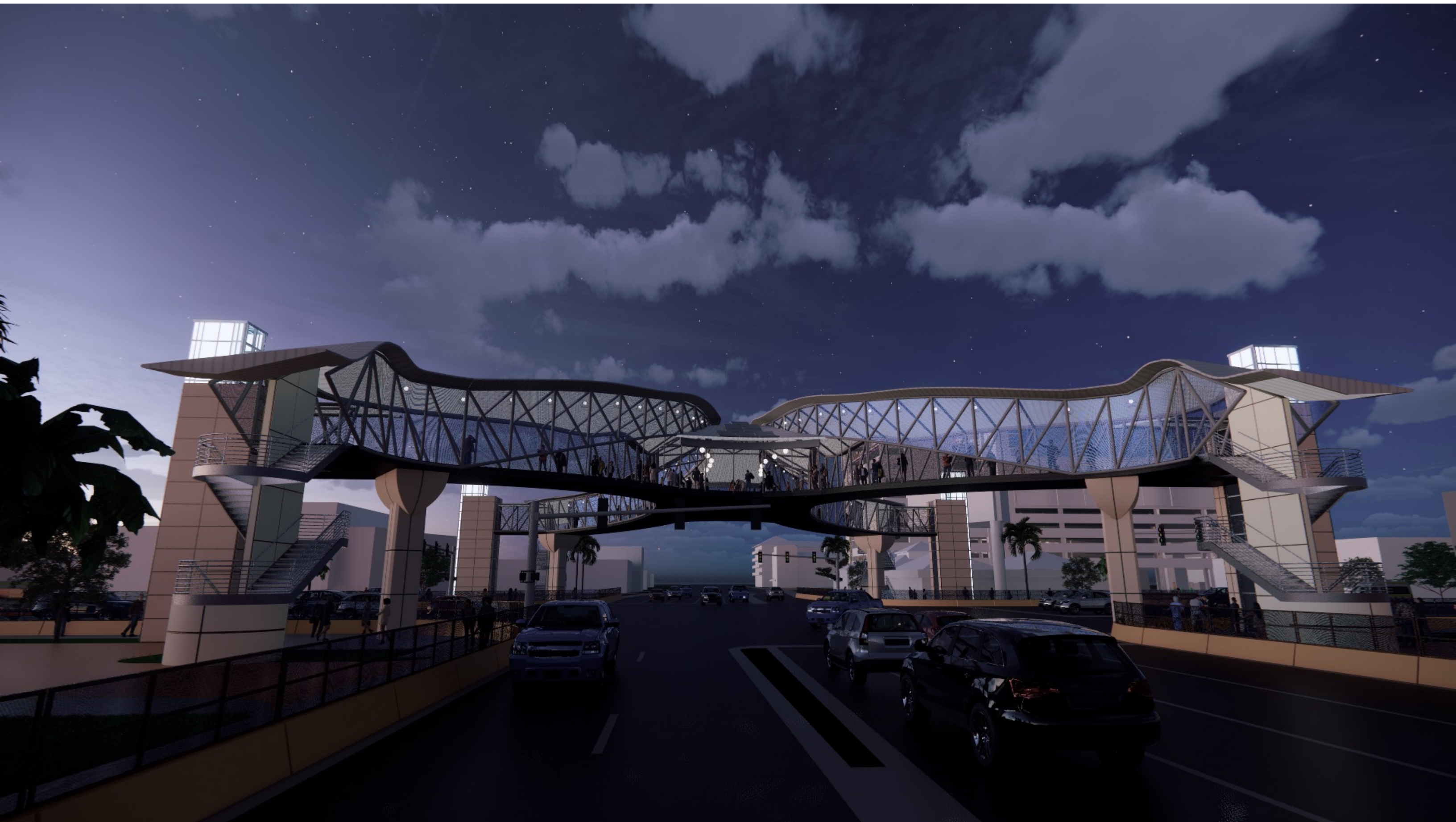


















## Results of PAG meeting 3

1. Highest Ranked (preferred) Concepts included the Intersecting “C” Concept and The “X” Concept.
2. Utilize Stair and Elevator or Ramp at each intersection (best option for each corner)
3. Minimize impact on existing utilities and on adjacent property owners.
4. Create an Iconic Gateway to the Convention and Entertainment District
5. Consider potential bridge connections to adjacent properties (both elevated and on grade).
6. Consider experience of those traveling under the bridge as well as those experiencing the bridge by crossing it.
7. Bridge design should consider pedestrians, strollers, and bicycles.
8. ADA accessibility is critical at all intersections.
9. Further develop preferred alternatives. (“X” and Intersecting “C” Options)





# Bridge Scheme Evaluation Matrix

Option	Structural Simplicity	Cost	Aesthetics	Iconic Value
Drone Scheme	●	●	?	?
Wave Scheme			?	?





## Summary

- Based on Project Advisory Group input we have focused on schemes related to the “X” and “Intersecting C” configurations. Both concepts share similar advantages.
- Both schemes share the same vertical circulation elements as determined by analysis of the PAG.
- The resulting designs are both Iconic as they have a unique configuration in plan and unique expressions of form and structure.
- We are seeking input on the preferred configuration to meet the operational, aesthetic, budget, and iconic gateway criteria.

