JFK Memorial Bridge, Route 152 and Ocean City-Longport Bridge Area Redesign

Michael DiRienzo, Kaleb Felsenstein, Matt Hengey

Advisor: Dr. Thomas Brennan

Problem Statement

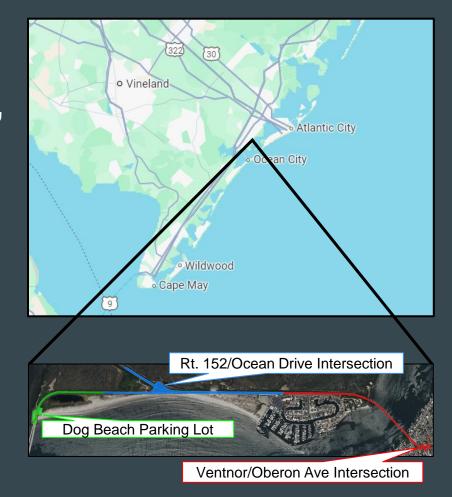
- Lack of cyclist and pedestrian safety throughout corridor
- Inefficient and confusing intersections

Inadequate parking capacity

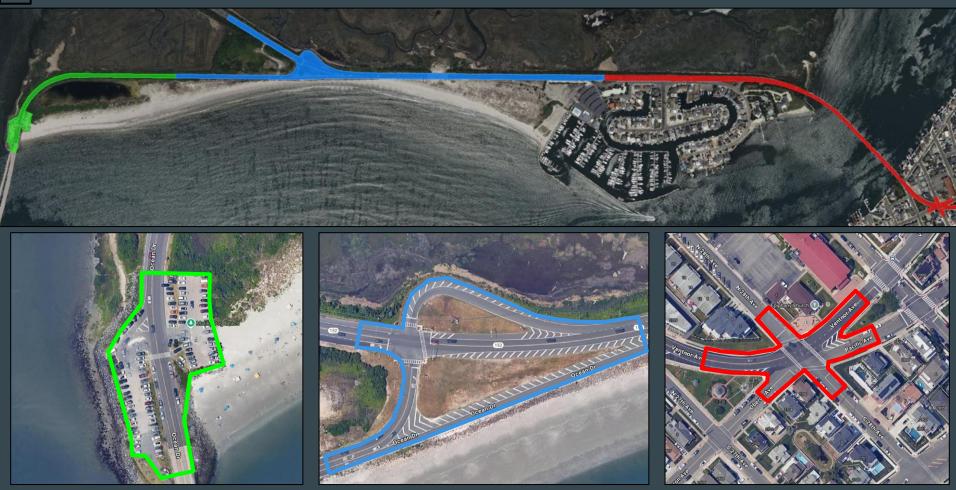


Project Scope

- Corridor between
 Longport and Ocean City,
 NJ
- Intersection of Route 152 and Ocean Drive
- Intersection of Ventnor and Oberon Avenue
- Longport Dog Beach parking lot



4 Site Plan Overview



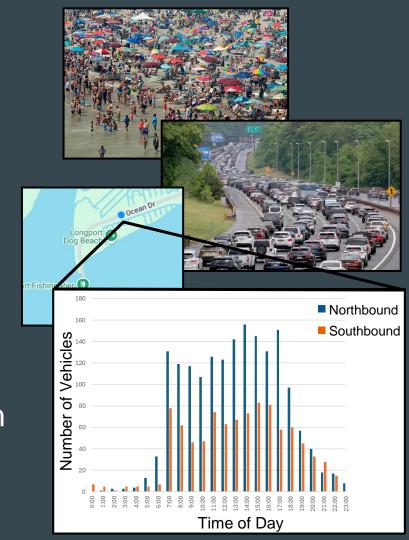
5 Applicable Standards

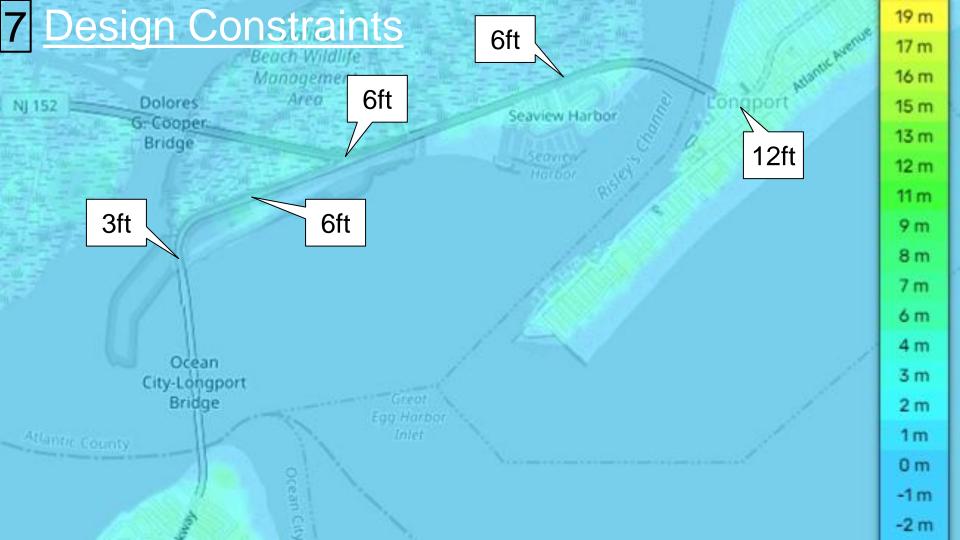
- AASHTO Reference Manual (Green Book)
- NJDOT Roadway Design Manual
- ITE Trip Generation Manual
- Manual on Uniform Traffic Control Devices (MUTCD)
- ADA Standards for Accessible Design



6 Design Constraints

- Project area prone to flooding
- Construction cannot take place during peak months
 - Fall/Winter ONLY
- Cannot fully close roadways
- Minimal space for improvements
 - Parking lot and Ventnor/Oberon
 Ave intersection

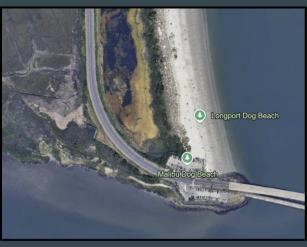




8 Realistic Constraints

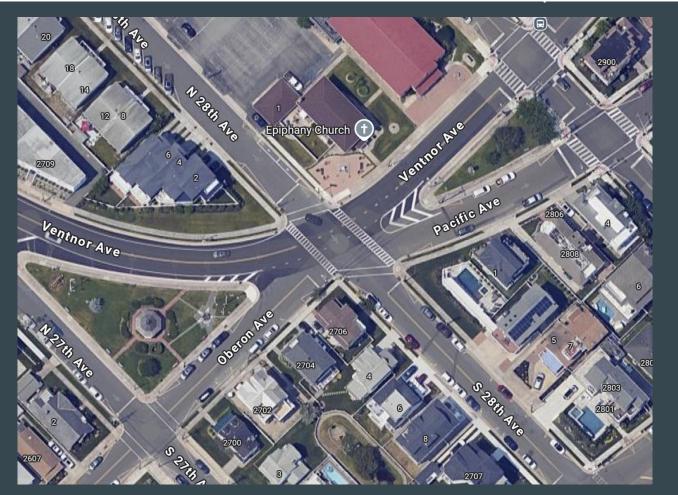
- Political/Economic Bridge traffic impacted / access points
- Environmental Wildlife management area
- Social Reconstruction around homes, park
- Ethical Worker safety, project scope
- Health & Safety Construction protocol
- Manufacturability Altering intersections/dog park





	Weight	Alterr	native 1	Alterr	native 2	Altern	ative 3
Safety	5	3	(15)	2	(10)	1	(5)
Cost	4	1	(4)	2	(8)	3	(12)
Constructability	3	1	(3)	2	(6)	3	(9)
Necessity	2	2	(4)	3	(6)	1	(2)
Construction Time	1	1	(1)	2	(2)	3	(3)
TOTAL SCORE		8	(27)	11	(32)	11	(31)
MAXIMUM SCORE: 15 (45)							

10 Ventnor/Oberon Avenue Intersection (Previous State)



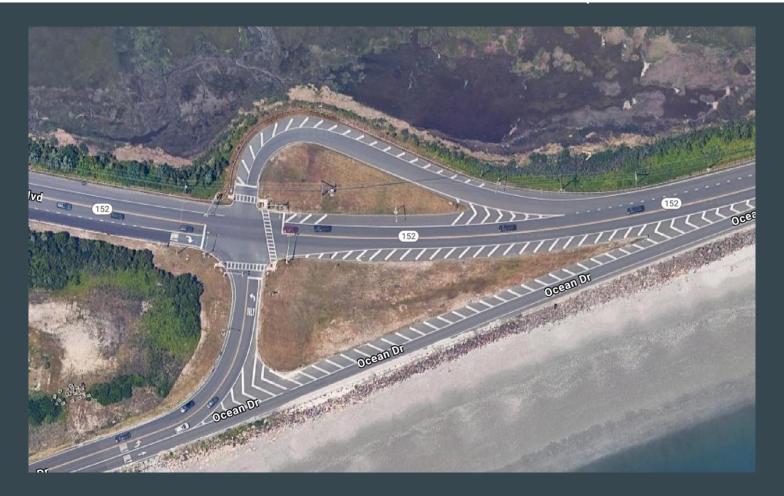
11 Ventnor/Oberon Avenue Intersection Redesign



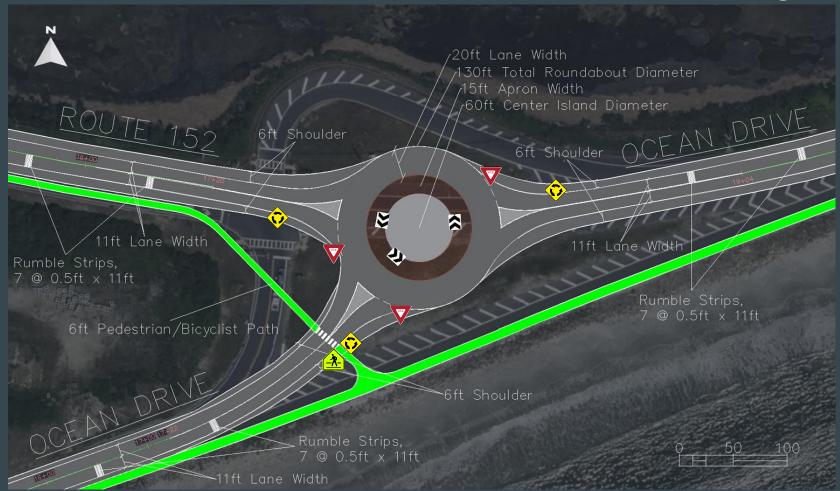
12 Ventnor/Oberon Avenue Intersection Visualization

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13 Route 152/Ocean Drive Intersection (Previous State)



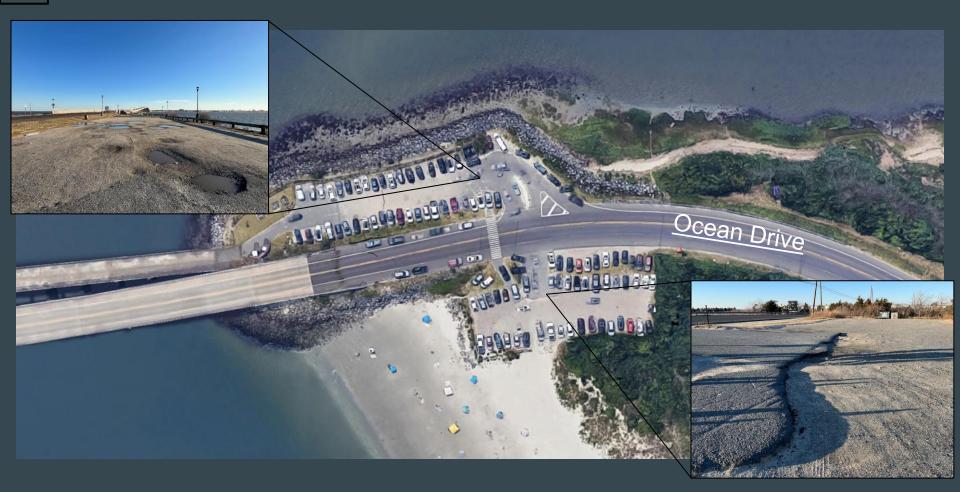
14 Route 152/Ocean Drive Intersection Redesign



15 Route 152/Ocean Drive Roundabout Visualization

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16 Longport Dog Beach Parking Lot (Previous State)



17 Longport Dog Beach Parking Lot Redesign



18 Longport Dog Beach Parking Lot Redesign



19 Route 152/Ocean Drive Cross Section

6ft Shoulder	11ft Lane	11ft Lane	6ft Shoulder	6ft Bike Lane
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Engineering Costs Estimation (Fall Semester)

	Dr. Thomas Brennan	Kaleb Felsenstein	Michael DiRienzo	Matt Hengey
Task	Transportation Director	Project Manager	Engineer 1	Engineer 2
	Fall Semester			
Background Research	2	6	6	6
Problem Statement and Background Presentation	2	3	3	3
Intial Website Submittal	2	4	4	4
Preliminary Budget	0	1	1	1
Alternative Designs Research and Planning	2	4	4	4
Alternative Designs Presentation	1	5	5	5
Quarterly Report 1	2	10	10	10
Final Budget	1	2	2	2
Final Abstract	2	2	2	2
Team Website - Final Fall Update	1	1	1	1
Engineering Services Proposal Presentation	2	5	5	5
Engineering Services Proposal	2	8	8	8
	Overall			
Total Hours	19	51	51	51
Hourly Rate	\$80.00	\$50.00	\$44.00	\$44.00
Salaries	\$1,520.00	\$2,550.00	\$2,244.00	\$2,244.00
		Wage Cost		\$8,560
		Overhead	150%	\$12,840
		Fixed Fee	10%	\$2,140
		Direct Cost		\$0.00
		Total		\$24,000.00

21 Engineering Costs Estimation (Spring Semester)

	Dr. Thomas Brennan	Kaleb Felsenstein	Michael DiRienzo	Matt Hengey	
Task	Transportation Director	Project Manager	Engineer 1	Engineer 2	
	Spring Semester				
Redesign Process	6	25	25	25	
Second Quarterly Report	4	8	8	8	
Final Abstract	1	1	1	1	
COSA Poster Preparation	5	12	12	12	
COSA Poster Presentation	0	1	1	1	
Final Web Review	2	2	1	1	
Presentation Preparation	5	10	10	10	
Project Presentation	5	5	5	5	
Final Report	5	8	8	8	
Overall					
Total Hours	33	72	71	71	
Hourly Rate	\$80.00	\$50.00	\$44.00	\$44.00	
Salaries	\$2,640.00	\$3,600.00	\$3,124.00	\$3,124.00	
		Wage Cost		\$12,490	
		Overhead	150%	\$18,740	
		Fixed Fee	10%	\$3,120	
		Direct Cost		\$0.00	
		Total		\$34,000.00	

22 Spring Semester Gantt Chart

