

An aerial photograph of a coastal region, likely in Maryland, showing the Chesapeake Bay. A long bridge, the JFK Memorial Bridge, spans the water. The surrounding land is densely populated with buildings and roads, particularly along the shoreline. The water is a deep blue, and the sky is not visible.

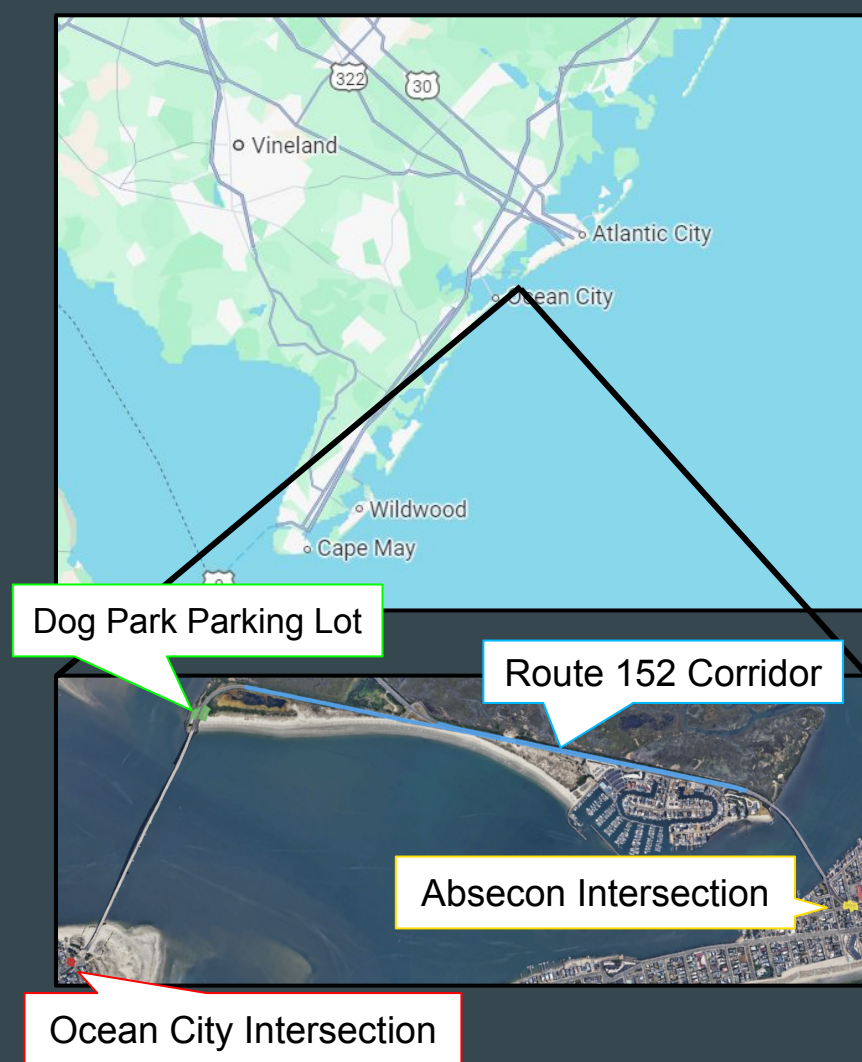
JFK Memorial Bridge, Route 152 and Ocean City-Longport Bridge Area Redesign

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Michael DiRienzo, Kaleb Felsenstein, Matt Hengey
Advisor: Dr. Thomas Brennan

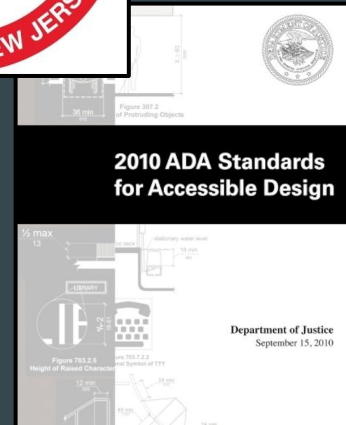
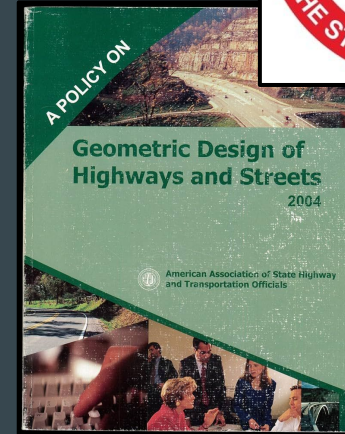
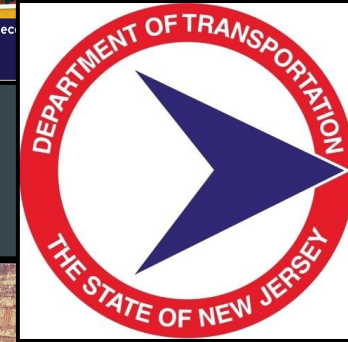
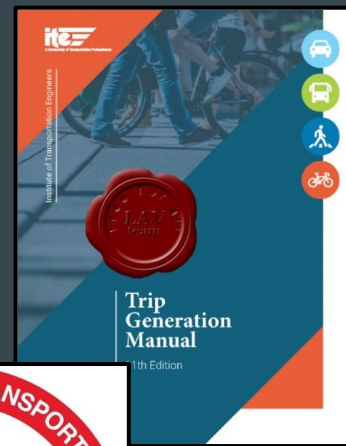
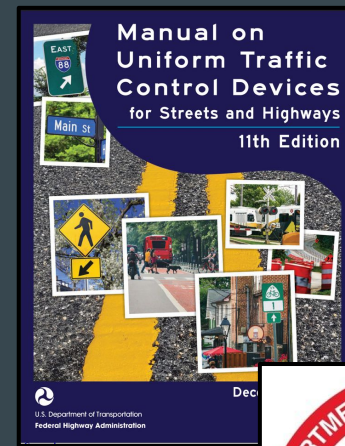
2 Problem Statement

- Path between Longport and Ocean City, NJ
- Intersection southeast of JFK Memorial Bridge
- Intersection southwest of Ocean City-Longport Bridge
- Longport Dog Beach and parking lot



3 Applicable Standards

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



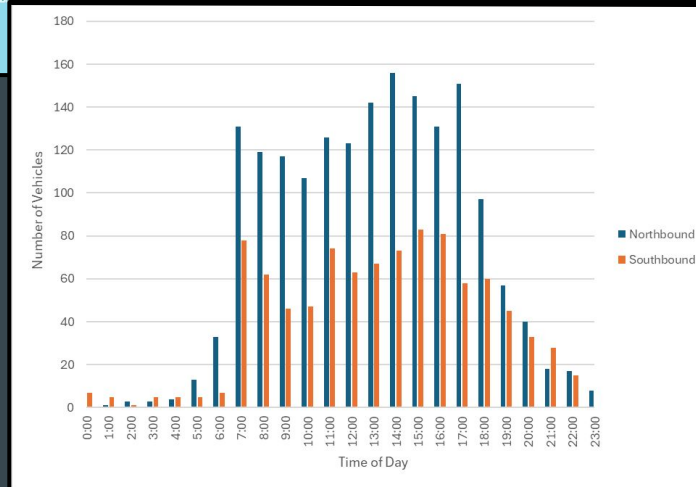
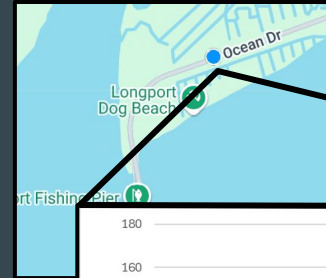
4 Site Plan Overview

- Restructure bridge-adjacent intersections
 - Vehicle and pedestrian safety
 - Coherent traffic flow
- Dog park parking lot expansion
 - Ease of access/capacity
- Route 152 and Ocean Dr. restriping
 - Pedestrian foot and bike traffic



5 Design Constraints

- Project area close to sea level
 - Prone to flooding
- Construction during non-summer months
 - Only 10% of the summer population
- Cannot fully close roadways
- Intersections contain minimal space for improvements

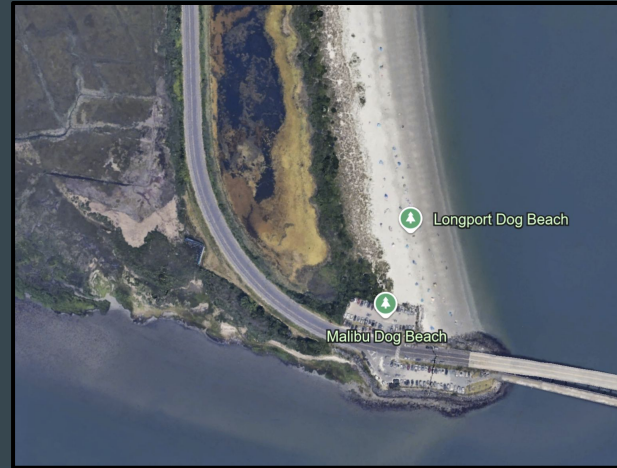


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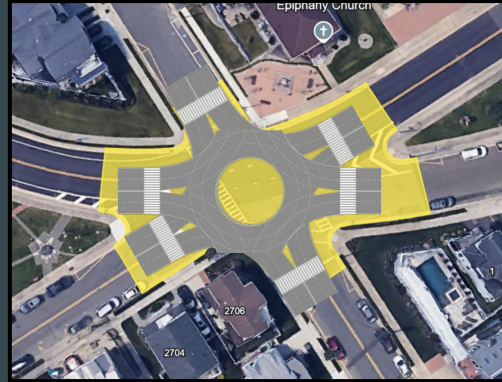
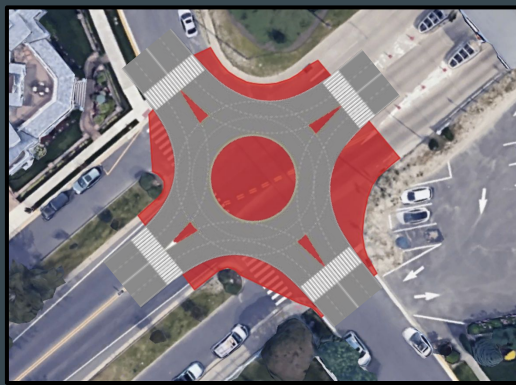


7 Realistic Constraints

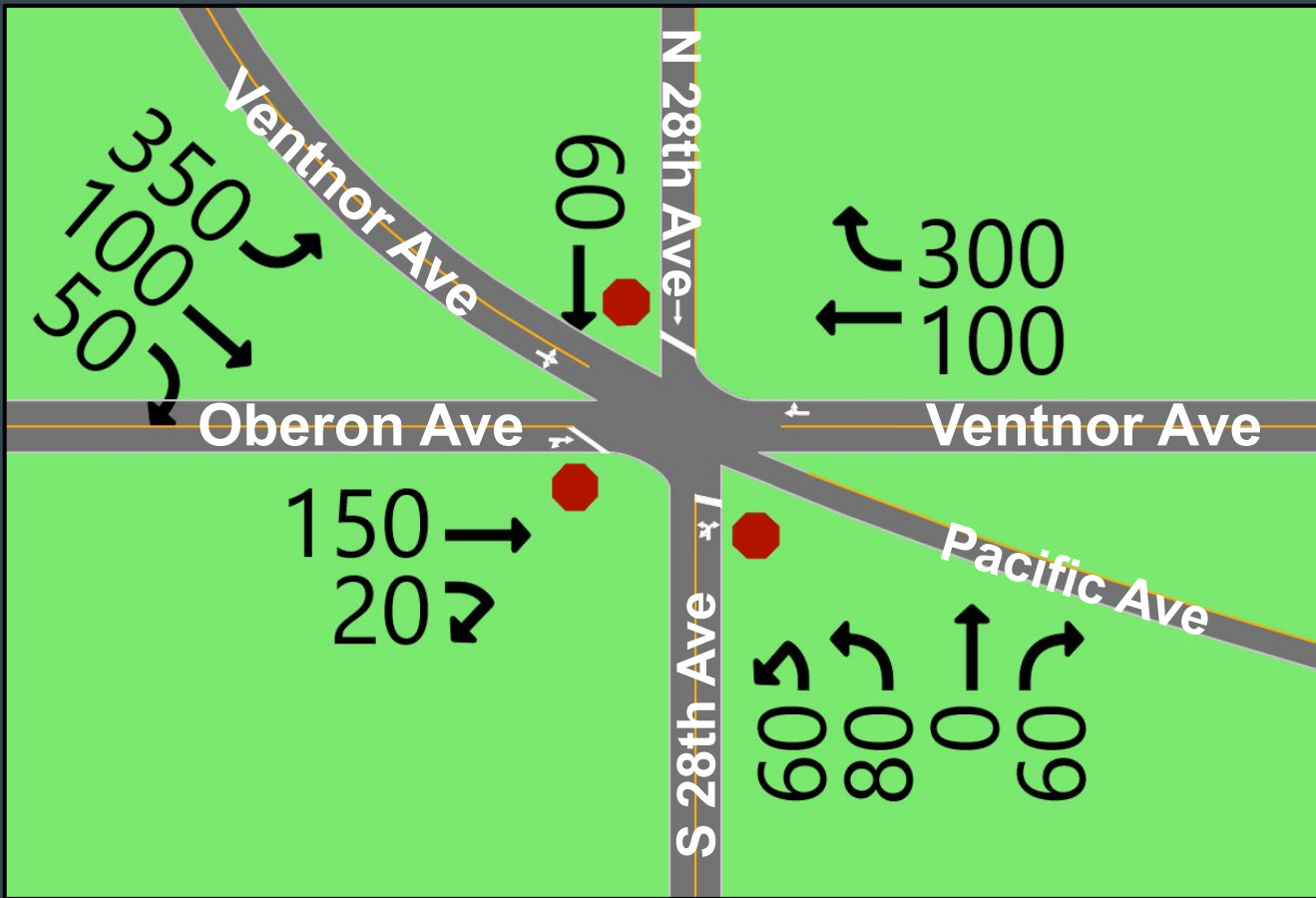
- **Political/Economic** - Bridge traffic impacted / access points
- **Environmental** - Wildlife management area
- **Social** - Reconstruction around homes, park
- **Ethical** - Worker safety, project scope
- **Health & Safety** - Construction protocol
- **Manufacturability** - Altering intersections/dog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



- # 8 Alternative Design 1
- Reduce congestion and confusion at both intersections
 - Streamlines traffic for the entire affected corridor
 - Combines all 4 safety improvements

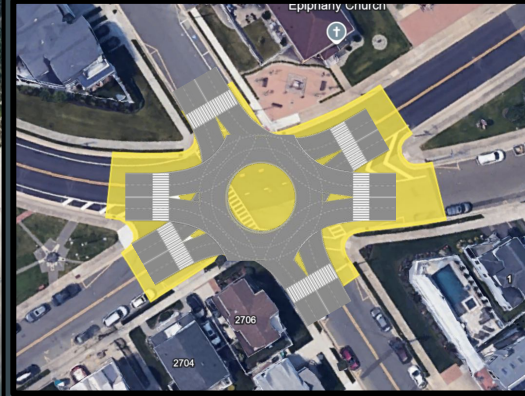


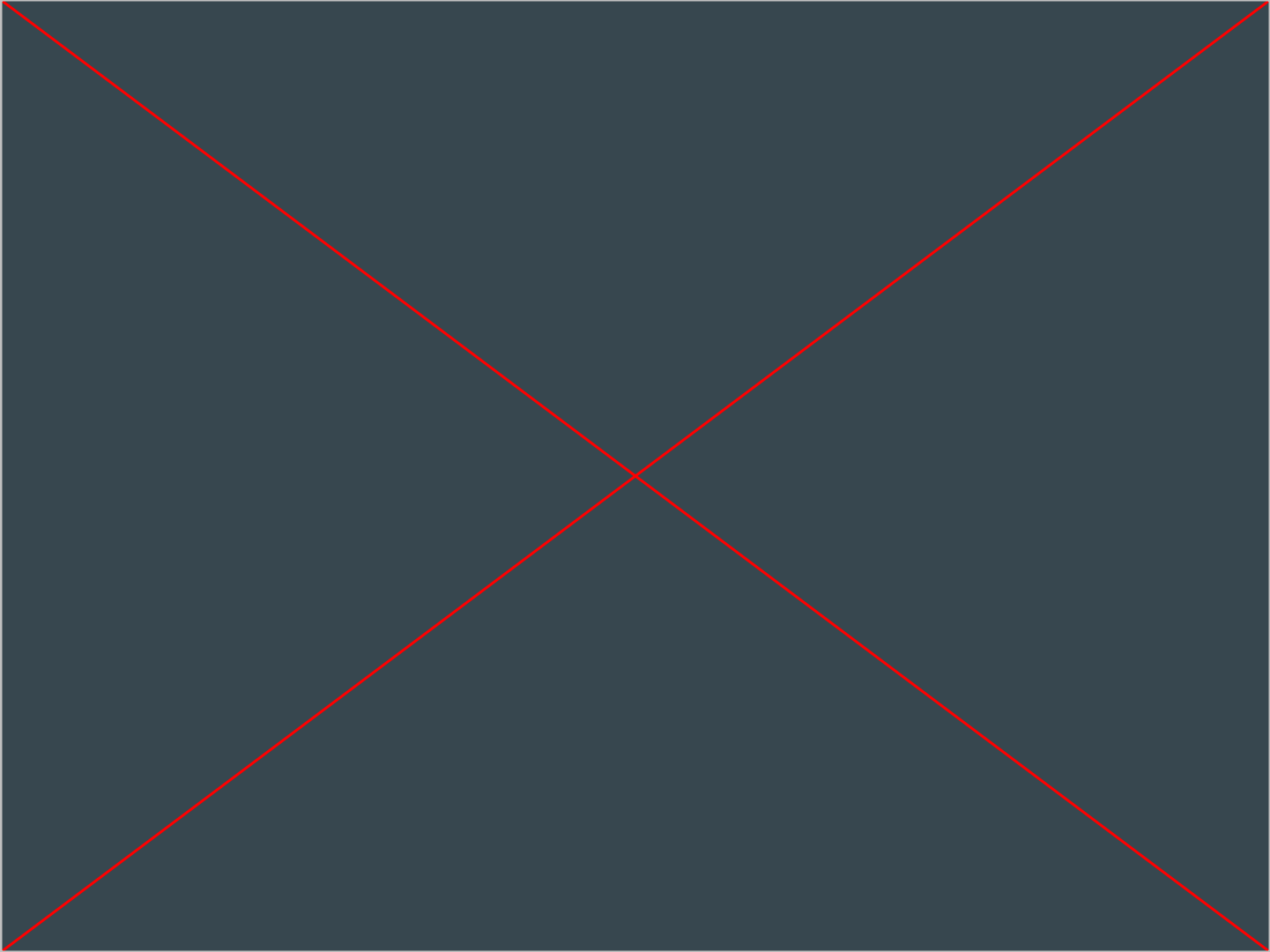
9 Existing Conditions (Synchro)



10 Alternative Design 2

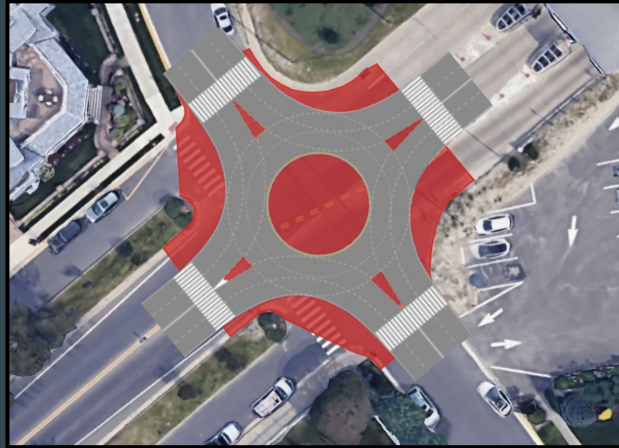
- Streamline traffic flow in and out of Longport
- Generally a busier intersection
- Better pedestrian/bicyclist safety along Route 152 corridor
- Safer/more efficient parking lot design





12 Alternative Design 3

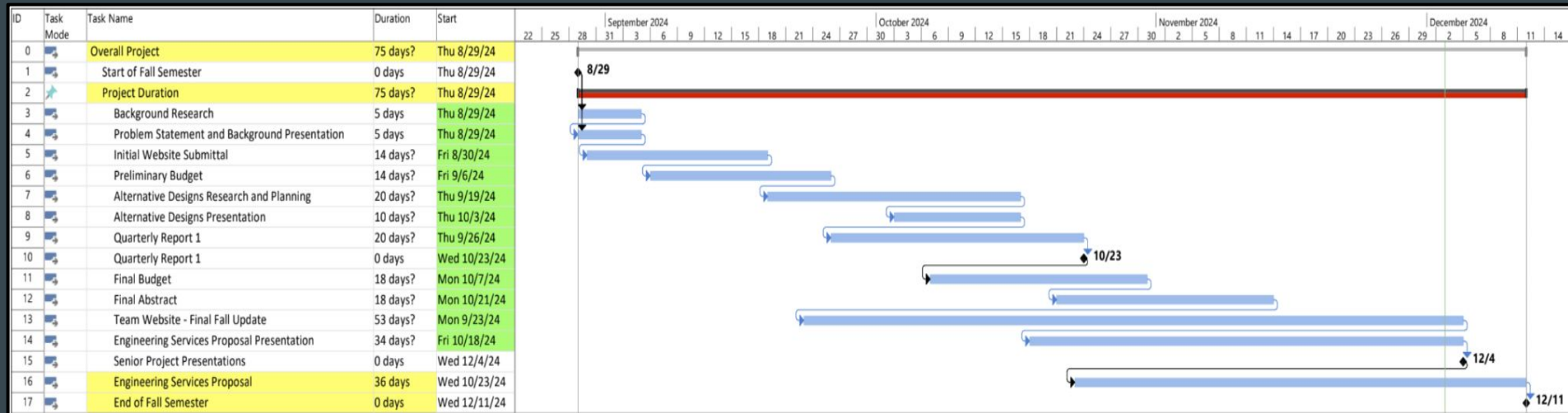
- Close proximity to bridge and toll booths
- Streamlines traffic in/out of Ocean City
- Dog park and corridor still maximized
- Absecon side intersection stays



13 Decision Matrix

	Weight	Alternative 1		Alternative 2		Alternative 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)							

14 Semester Gantt Chart



15 Engineering Costs Estimation

Task	Dr. Thomas Brennan	Kaleb Felsenstein	Michael DiRienzo	Matt Hengey
	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
Initial 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

An aerial photograph of a coastal region. A large, dark blue body of water occupies the center. To the left, a sandy beach curves along the shore, with a city built up behind it. To the right, another sandy beach is visible, also with a city built up. In the upper right, a small, curved peninsula or island is visible, featuring a large, circular structure that looks like a stadium or a large arena. The overall scene is a mix of natural coastal features and urban development.

Thank You

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Any Questions?