

COMPARISON OF ALTERNATIVES
Local Concept Development Study for Essex County/Hudson County Bridge Street Bridge over the Passaic River
City of Newark, Essex County, NJ and Town of Harrison, Hudson County, NJ

DRAFT

Comparison Category/Issue	No Build	Major Rehabilitation	Modified Rehabilitation	Concept 1, Existing Alignment, Fixed Bridge with 12' Vertical Clearance	Concept 2, Existing Alignment, Fixed Bridge with 16' Vertical Clearance	Concept 3, Existing Alignment, Fixed Bridge with 18' Vertical Clearance	Concept 4, Existing Alignment, Fixed Bridge with 35' Vertical Clearance	Concept 5, Existing Alignment, Fixed Bridge with 135' Vertical Clearance	Concept 6A, Existing Alignment, Movable Bridge with 80' Waterway Channel	Concept 6B, Existing Alignment, Movable Bridge with 100' Waterway Channel	Concept 6C, Existing Alignment, Movable Bridge with 2-80' Waterway Channels	Concept 6D, Existing Alignment, Movable Bridge with 1 80' Channel, 1-58' Maintenance Channel	Concept 7, New Location, Northern Alignment, Fixed Bridge with 12' Vertical Clearance	Concept 8, New Location, Southern Alignment, Fixed Bridge with 12' Vertical Clearance
Meets Project Purpose and Need	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Maintenance and Protection of Traffic														
Temporary Bridge Required	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No
Number of lanes provided during construction	N/A	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	1 - Detour	1 Lane in each direction	1 Lane in each direction
Detour Required/Length	None	1.0 mile	1.0 mile	1.0 mile	1.0 mile	1.0 mile	1.0 mile	1.0 mile	1.0 mile	1.0 mile	1.0 mile	1.0 mile	No	No
Controlling Substandard Design Elements Remaining														
Lane width for Bridge Street Left Turn Lane at Passaic Avenue intersection	Yes	Yes	Yes	No	No	No	N/A	N/A	No	No	No	No	Yes	Yes
Angle Point on Bridge Street	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes
Outside shoulder width on Bridge Street	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Vertical Profile														
Profile Raise at the Bridge Street/McCarter Avenue intersection	N/A	0 ft	0 ft	0 ft	2 feet	3 feet	N/A - intersection removed	N/A - intersection removed	0 ft	0 ft	0 ft	0 ft	0 ft	0 ft
Profile Raise at the Bridge Street/Passaic Avenue intersection	N/A	0 ft	0 ft	0 ft	2 feet	2 feet	N/A - intersection removed	N/A - intersection removed	0 ft	0 ft	0 ft	0 ft	0 ft	0 ft
Construction Duration														
Duration (Years)	N/A	2.5	2.0	2.0	2.0	2.0	3.0	4.0	2.5	2.5	3.0	3.0	2.0	2.0
Traffic Operations & Bicycle/Pedestrian														
Sidewalks provided with connectivity to approach roadways	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bicycle compatibility provided with connectivity to approach roadways	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Addresses peak hour congestion at the Bridge St/Passaic Ave intersection	No	No	No	Yes	Yes	Yes	N/A - intersection removed	N/A - intersection removed	Yes	Yes	Yes	Yes	Yes	Yes
Crash Reduction Impacts														
Anticipated crash reduction at Bridge St/Passaic Avenue intersection	No	No	No	Yes	Yes	Yes	N/A - intersection removed	N/A - intersection removed	Yes	Yes	Yes	Yes	Yes	Yes
Right of Way Impacts														
Required ROW (in fee - Acres)	0	0	0	0.1	1.6	1.6	2.8 +	10.6 +	0.1	0.1	0.1	0.1	3.4	0.4
Number of Temporary construction easements	0	4	4	1	0	0	1 +	1 +	1	1	1	1	1	1
Number of partial residential property acquisitions	0	0	0	0	1	1	1 +	1+	0	0	0	0	0	7
Number of entire residential property acquisitions	0	0	0	0	0	0	5 +	4+	0	0	0	0	0	0
Number of partial commercial property acquisitions	0	0	0	4	1	1	4+	3 +	4	4	4	4	4	3
Number of entire commercial property acquisitions	0	0	0	0	3	3	6+	8 +	0	0	0	0	2	0
Access														
Potential Access Impacts to commercial properties	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Structural Design														
Bridge Approach Safety Upgraded	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Seismic Design addressed	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mechanical and electrical components upgraded	No	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes	N/A	N/A
Accommodates Commercial & Recreational Users of River	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Environmental Impacts														
Floodplain (acres)	0.0	0.04 ac	0.04 ac	0.15 ac	0.18 ac	0.17 ac	0.25 ac	0.13 ac	0.23 ac	0.23 ac	0.20 ac	0.20 ac	0.15 ac	0.15 ac
Riparian Zone (acres)	0.0	0.0	0.0	0.07 ac	0.07 ac	0.05 ac	0.05 ac	0.05 ac	0.07 ac	0.07 ac	0.07 ac	0.07 ac	0.07 ac	0.07 ac
Total Wetland and State Open Water Permanent Impacts (acres)	0.0	0.04 ac	0.04 ac	0.08 ac	0.11ac	0.08 ac	0.08 ac	0.08 ac	0.16 ac	0.16 ac	0.13 ac	0.13 ac	0.08 ac	0.08 ac
Historic Resources (# of sites)	1	1	1	1	3	3	3	3+	1	1	1	1	3	3+
Hazardous Waste/Contaminated Sites	0	1	1	3	3	3	9	12 +	3	3	3	3	3	3
Threatened and Endangered Species Habitat	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Compatible with Newark Waterfront Development & Passaic River Walkway	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Total Construction Cost (\$ 2025)*	N/A	\$44,022,000	\$40,498,000	\$35,893,000	\$44,597,000	\$52,844,000	\$105,653,000	\$345,067,000	\$76,600,000	\$85,900,000	\$136,700,000	\$118,400,000	\$37,164,000	\$38,863,000
Utility Relocation Cost	N/A	\$0	\$0	\$5,100,000	\$6,300,000	\$6,600,000	\$15,800,000	\$69,000,000	\$10,800,000	\$10,800,000	\$10,800,000	\$10,800,000	\$3,400,000	\$3,600,000
Right of Way Cost	N/A	\$0	\$0	\$100 K	\$1.8 M	\$1.8 M	\$4.2 M +	\$14.2 M +	\$100 K	\$100 K	\$100 K	\$100 K	\$9.0 M	\$300 K
Total Cost (\$ 2025)	N/A	\$44,022,000	\$40,498,000	\$41,093,000	\$52,697,000	\$61,244,000	\$125,653,000 +	\$428,267,000 +	\$87,500,000	\$96,800,000	\$147,600,000	\$129,300,000	\$49,564,000	\$42,763,000
Annual Maintenance and Operations Cost	N/A	\$300,000	\$300,000	\$25,000	\$25,000	\$25,000	\$50,000	\$1,000,000	\$150,000	\$150,000	\$150,000	\$150,000	\$325,000	\$325,000
Bridge Life Cycle Cost (Present Value - 75 yr period)	N/A	\$111,850,000	\$109,350,000	\$29,000,000	\$34,600,000	\$40,200,000	\$89,000,000	\$263,600,000	\$79,650,000	\$87,950,000	\$145,650,000	\$129,350,000	\$29,000,000	\$29,000,000