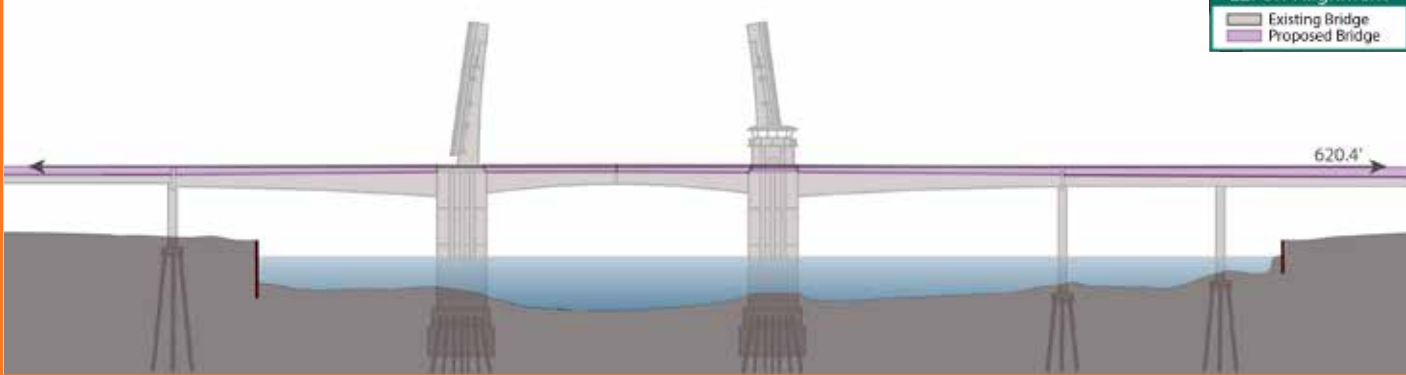
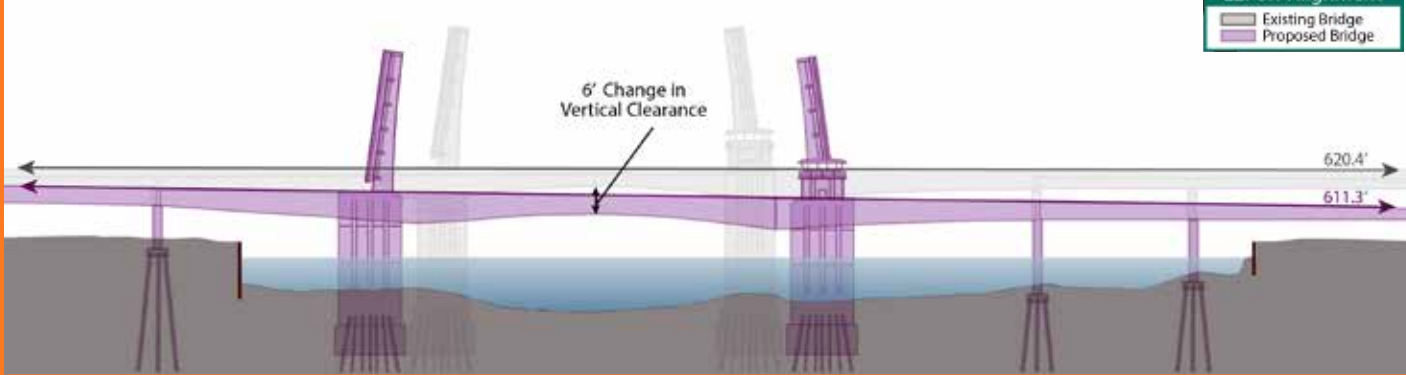
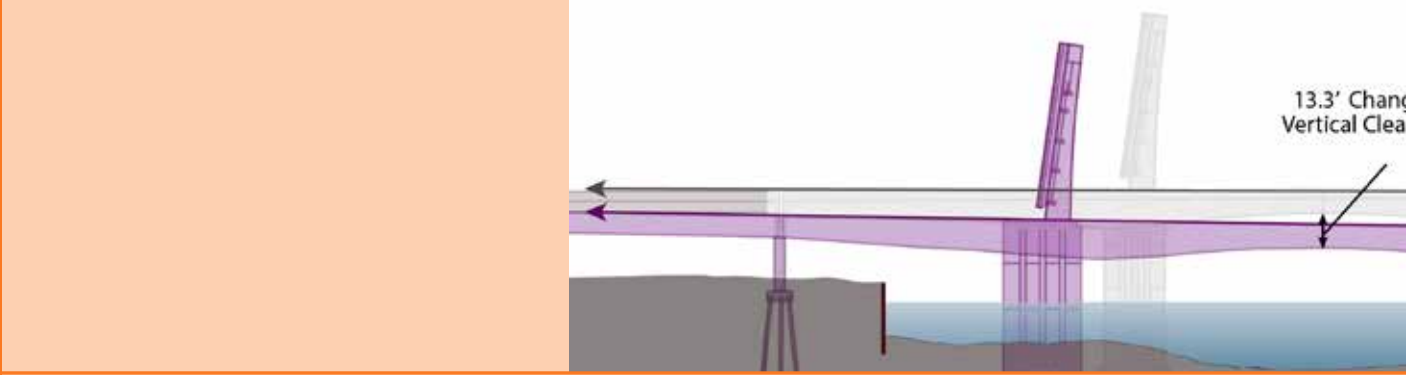
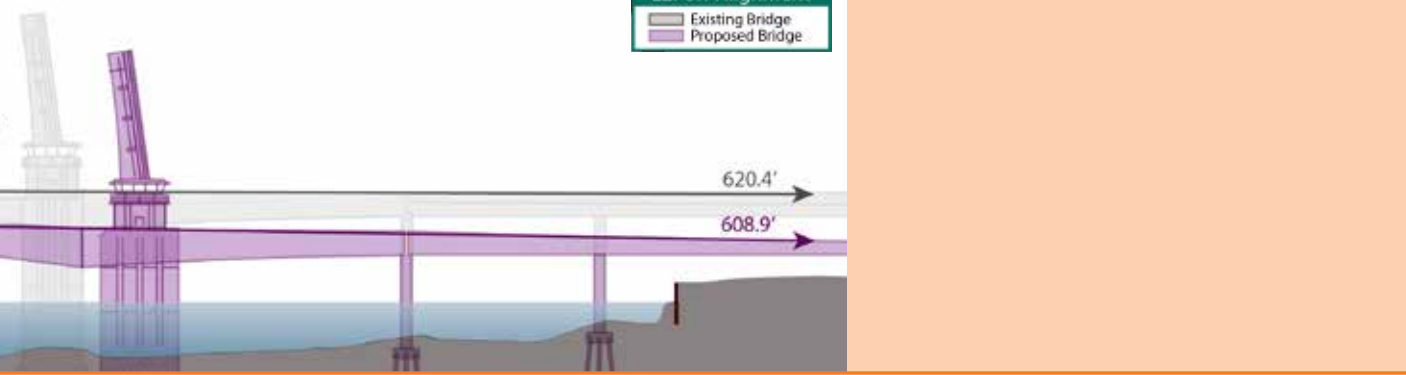
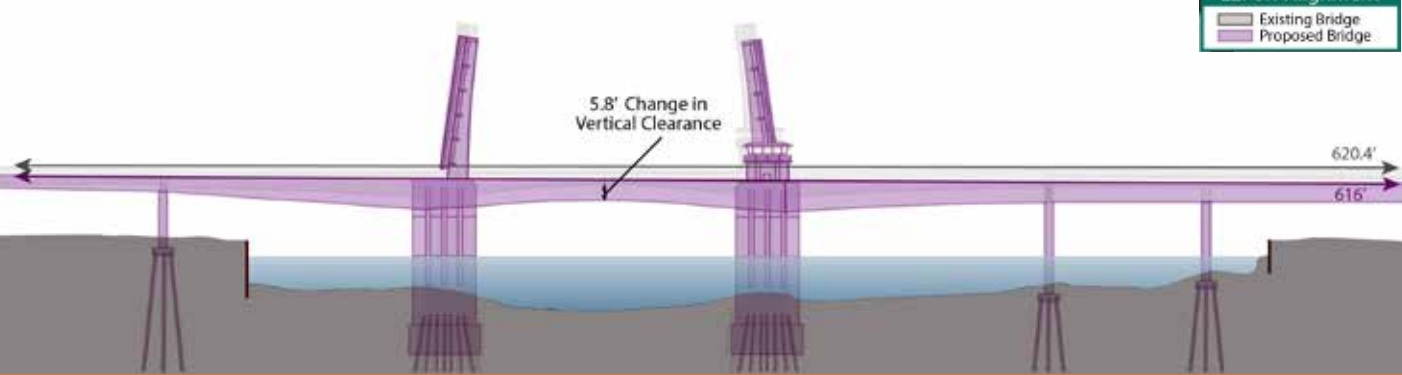
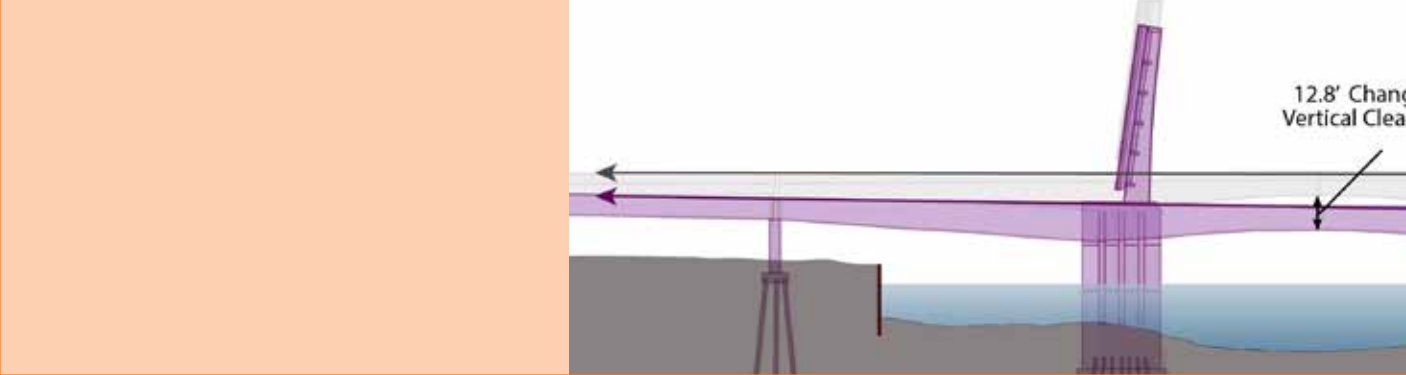
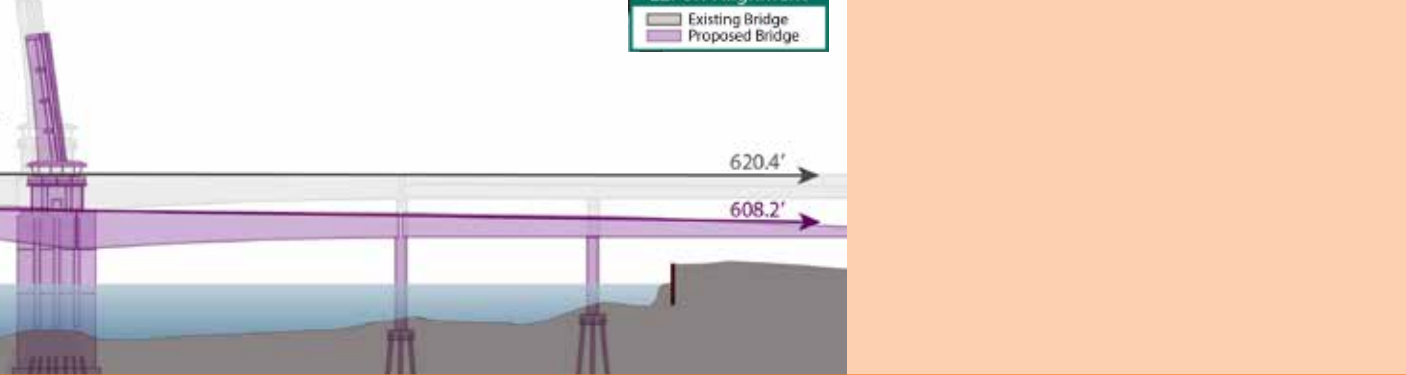
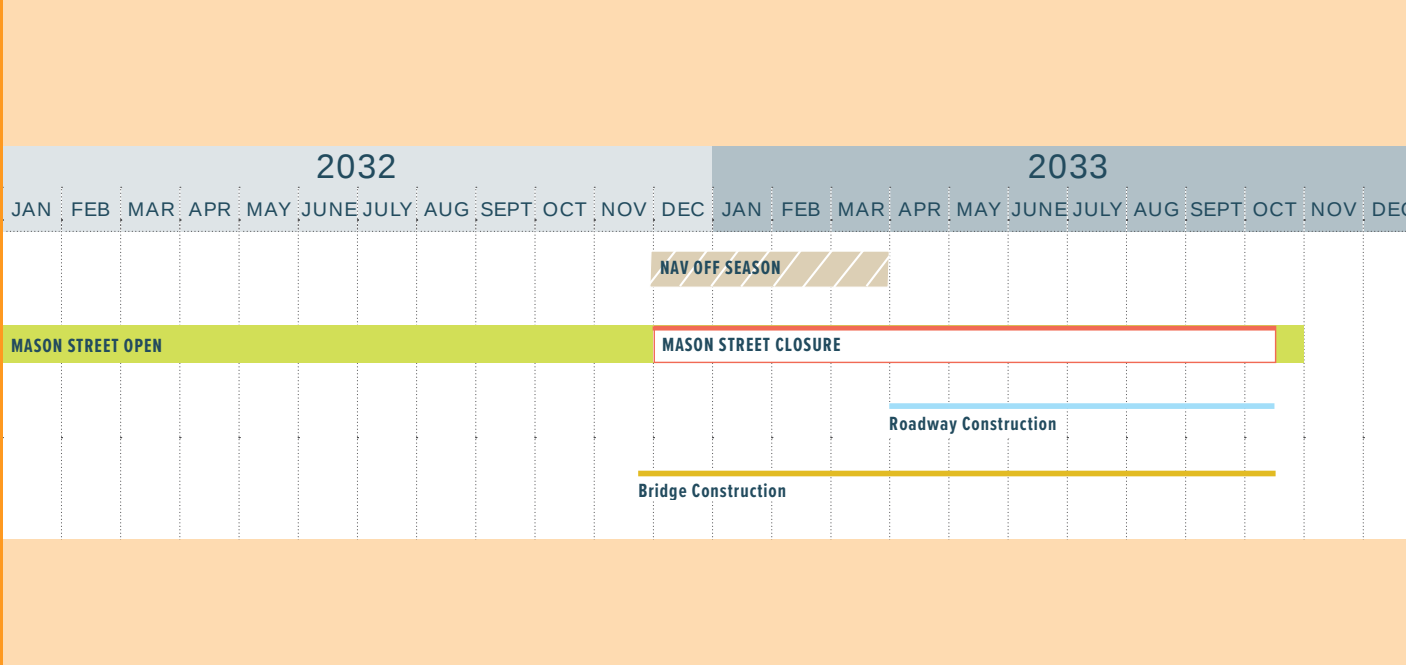
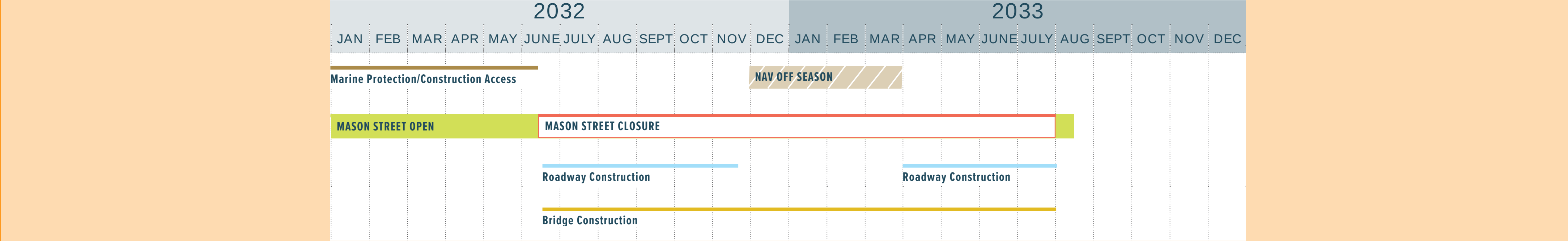
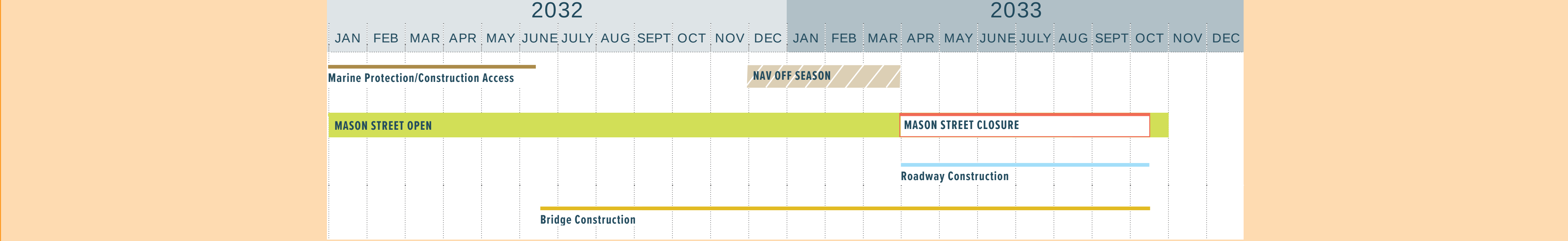
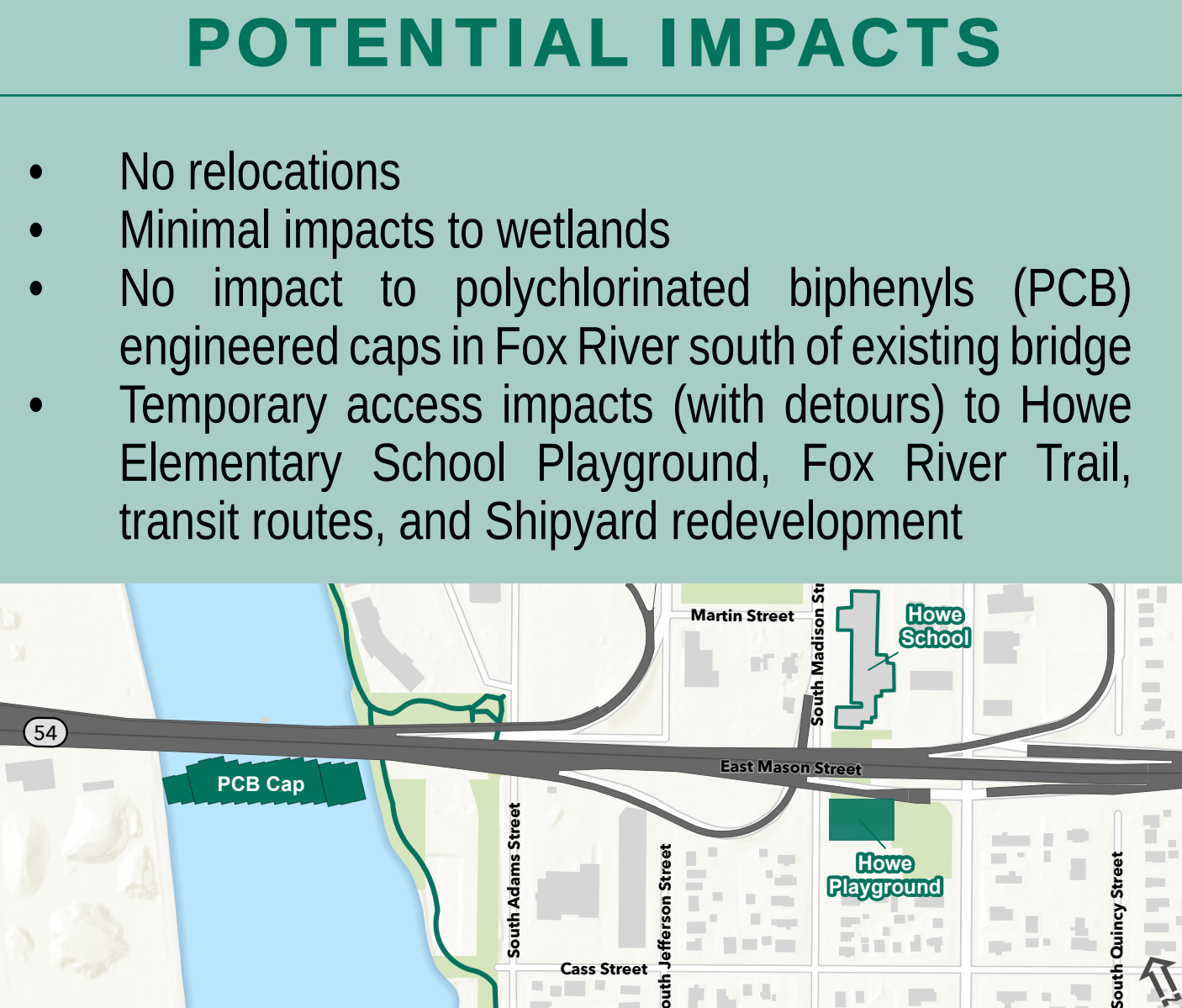
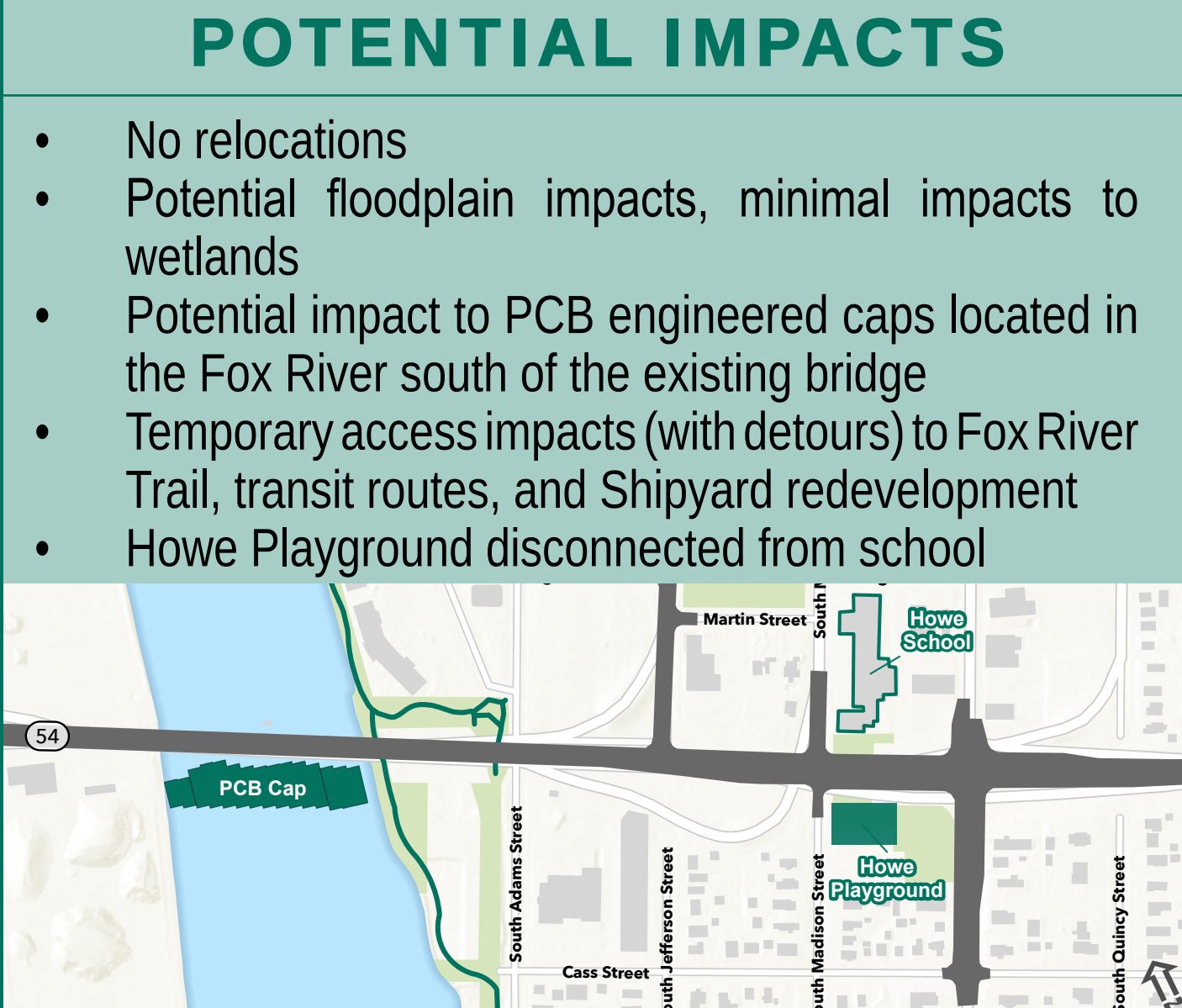
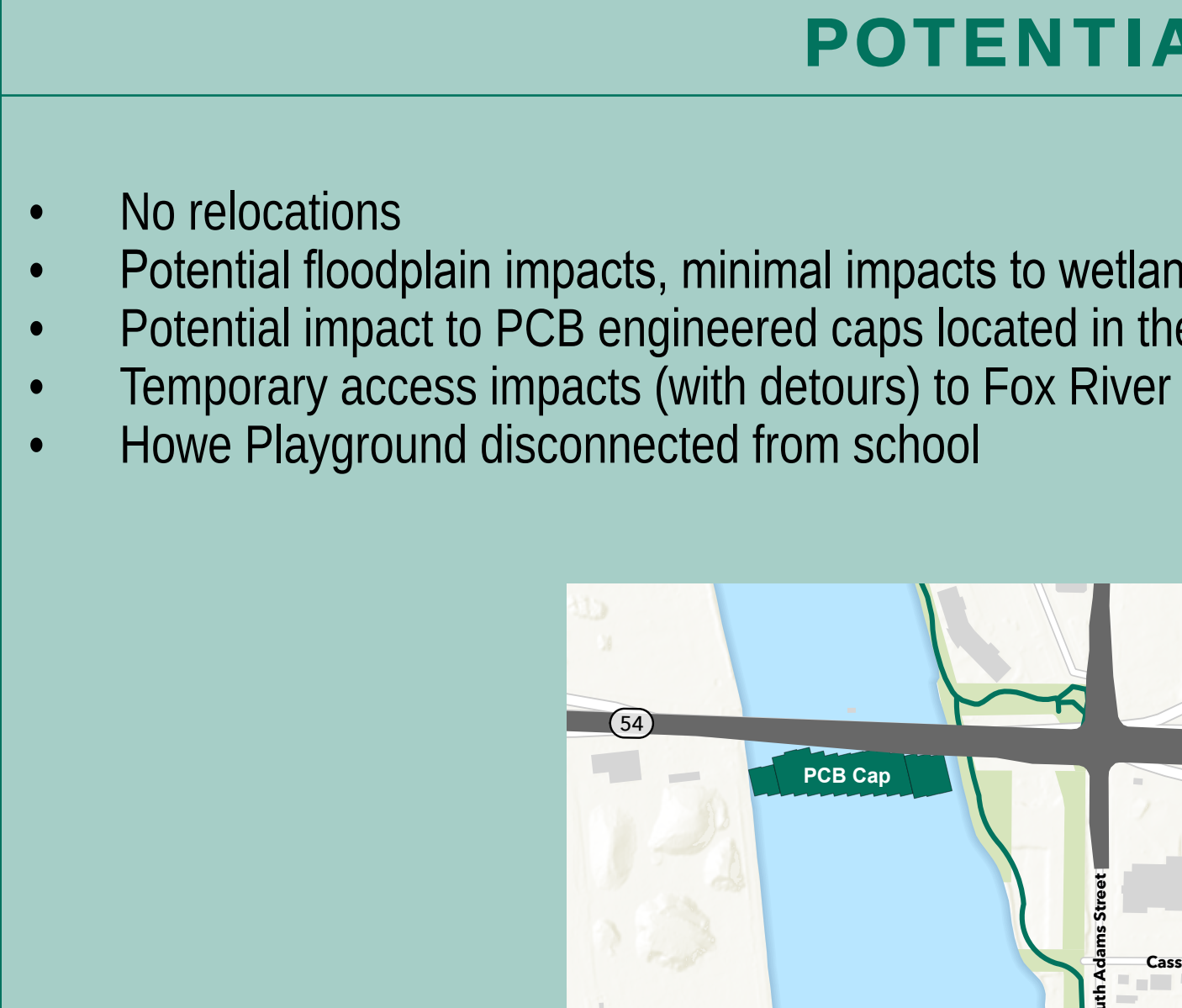
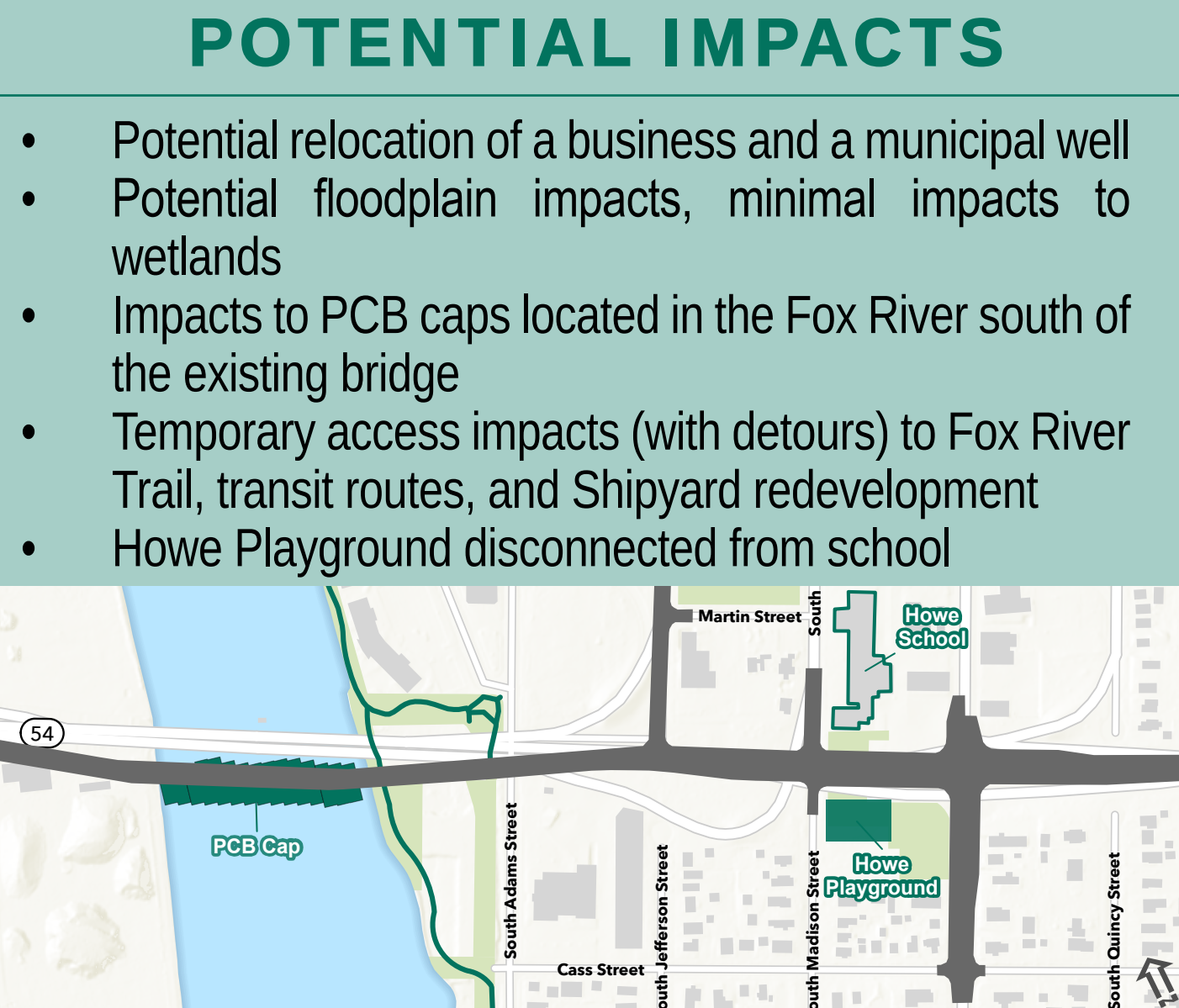
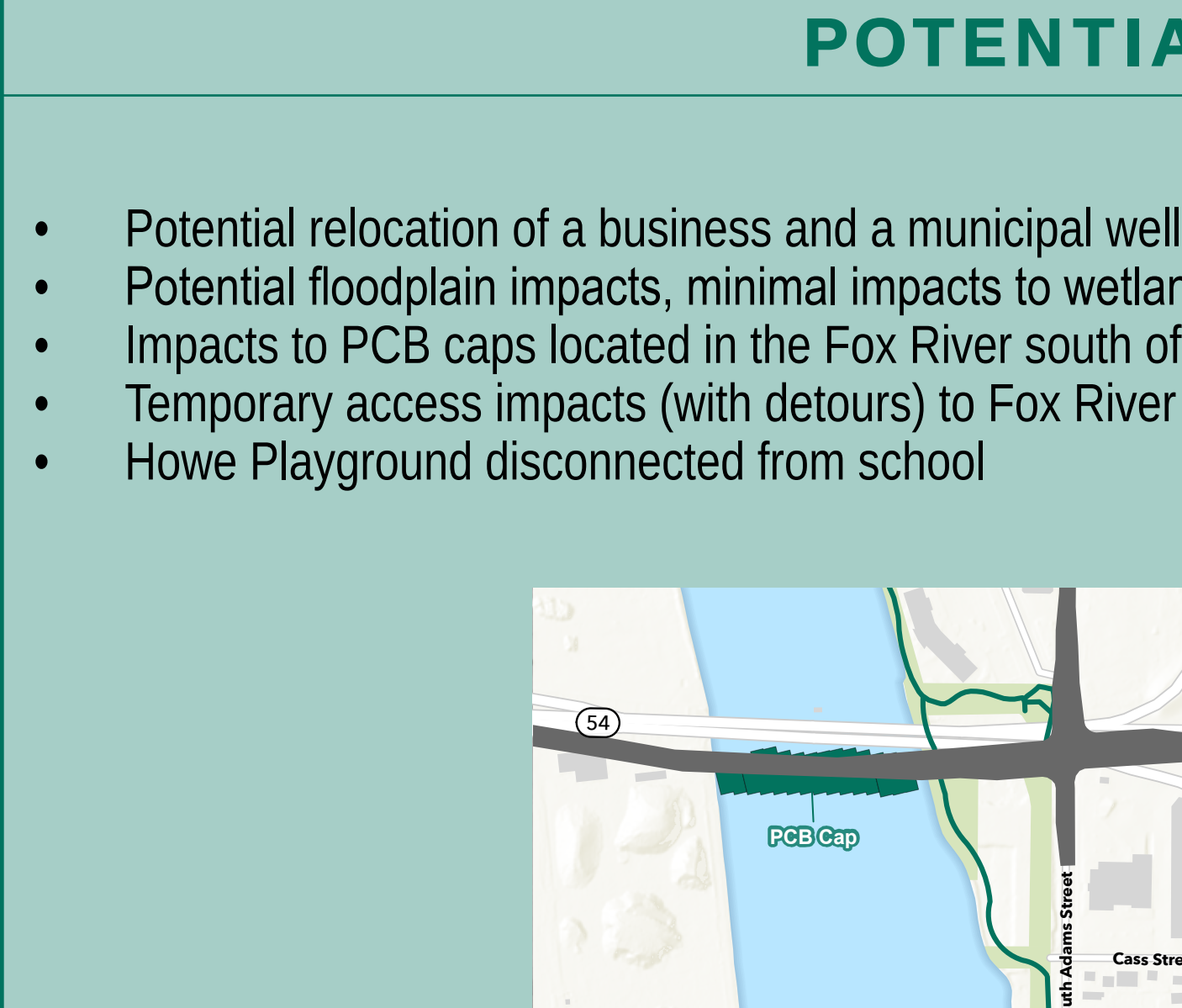
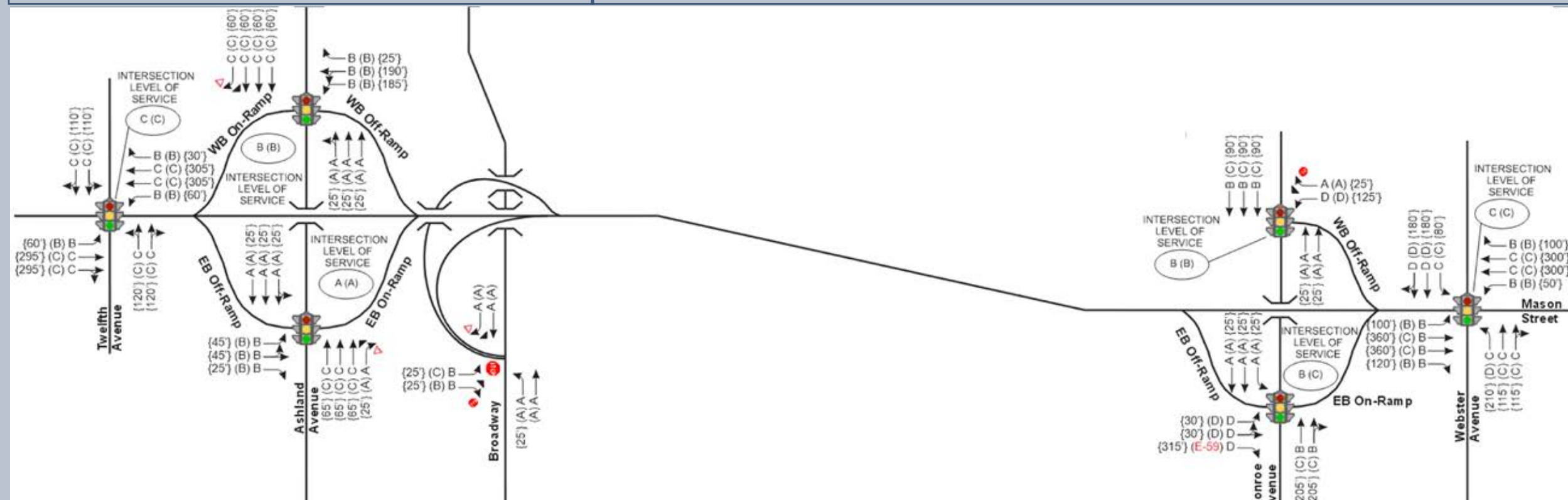
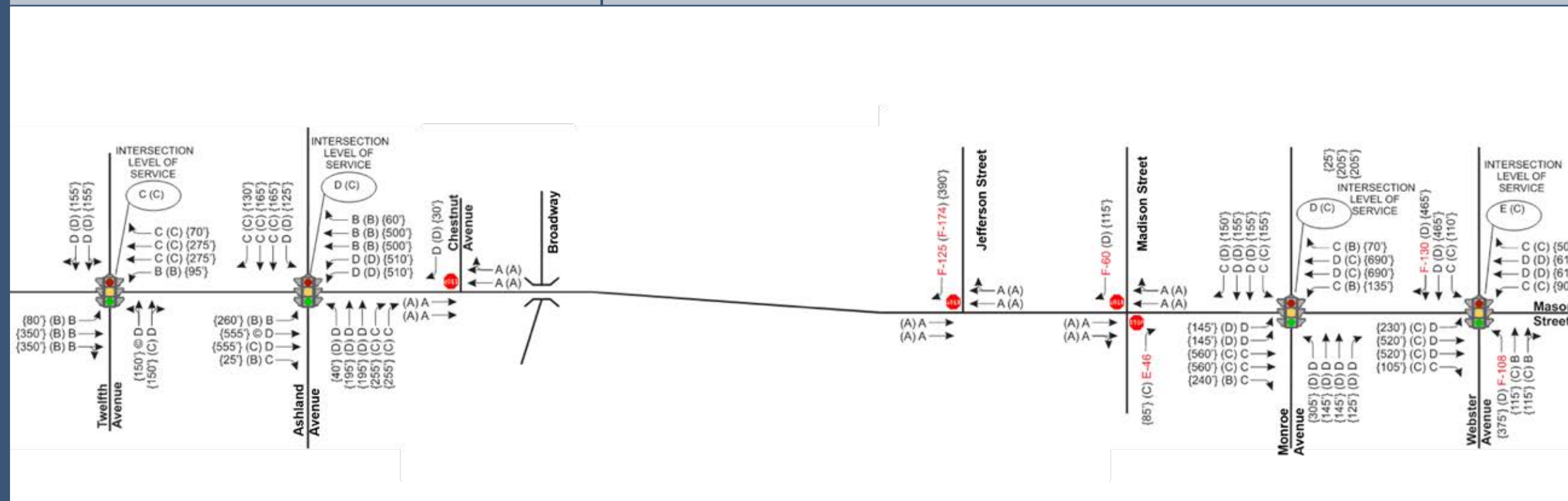
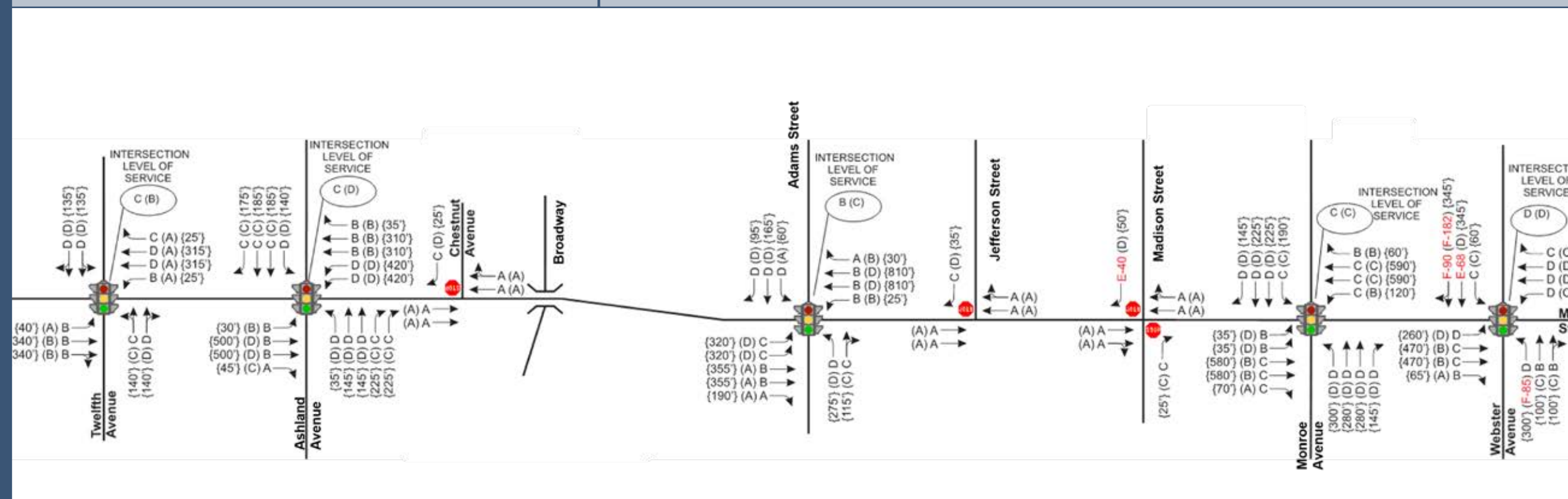
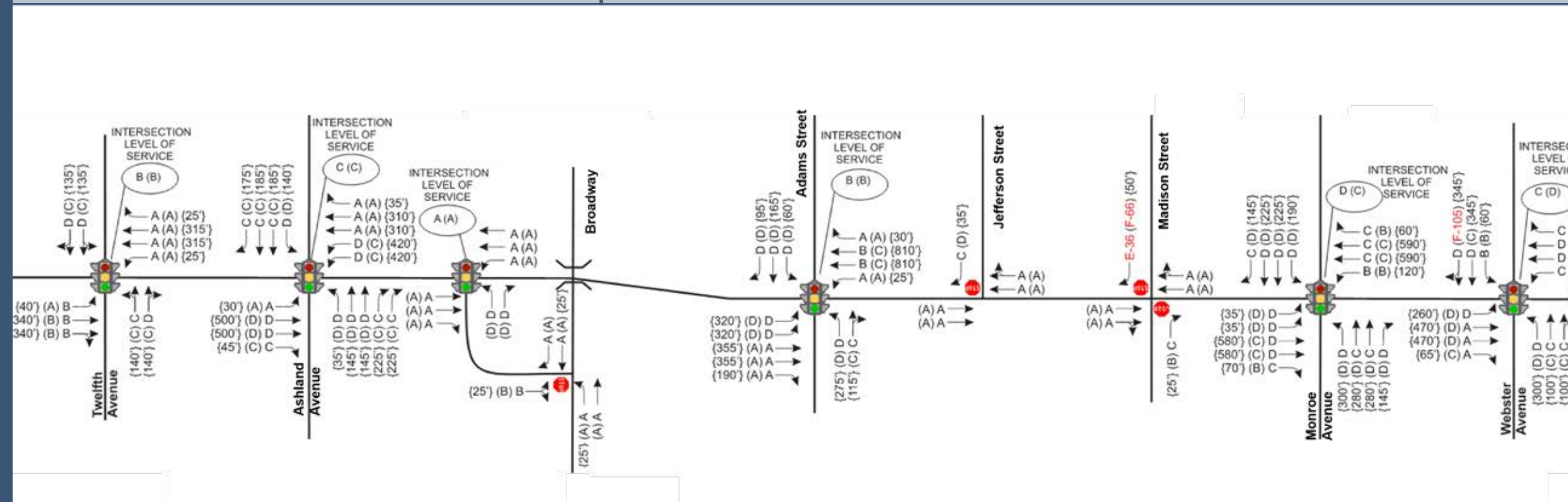


STUDY ALTERNATIVES MATRIX

	E2	H1D ON-ALIGNMENT	H2D ON-ALIGNMENT	H4D ON-ALIGNMENT	H1E OFF-ALIGNMENT	H2E OFF-ALIGNMENT	H4E OFF-ALIGNMENT
ROADWAY GEOMETRICS & MULTI-MODAL DESIGN	MASON ST ELEVATED: ASHLAND AVE - MONROE AVE RECONSTRUCT BASCULE AT EXISTING ELEVATION - Expressway layout similar to existing configuration - Eastbound auxiliary lane addition moved west from Broadway entrance ramp to Ashland entrance ramp due to higher traffic volume at Ashland entrance ramp - No bicycle/pedestrian improvements outside of Fox River crossing	MASON ST ELEVATED: BROADWAY - ADAMS ST REPLACE BASCULE AT LOWER ELEVATION - Ashland Ave, Monroe Ave and Adams St become at-grade signalized intersections - The intersection of Broadway & Mason St remains grade-separated to allow Mason Street to go over the railroad - Mason Street over the Fox River is a four-lane divided roadway with a protected bike lanes and pedestrian paths on both sides of the bridge - Removing the existing ramps vacates land that creates opportunities for additional park space or development	MASON ST ELEVATED: BROADWAY - FOX RIVER REPLACE BASCULE AT LOWER ELEVATION - Ashland Ave, Monroe Ave and Adams St become at-grade signalized intersections - The intersection of Broadway & Mason St remains grade-separated to allow Mason St to go over the railroad - Mason St over the Fox River is a four-lane divided roadway with a protected bike lanes and pedestrian paths on both sides of the bridge	MASON ST ELEVATED: BROADWAY - FOX RIVER REPLACE BASCULE AT LOWER ELEVATION - Ashland Ave, Monroe Ave and Adams St become at-grade signalized intersections - The Broadway and Mason St intersection maintains grade-separated, but requires a full intersection at the Jughandle intersection with Mason St - Mason St over the Fox River is a four-lane divided roadway with a protected bike lanes and pedestrian paths on both sides of the bridge - Removing the existing ramps vacates land that creates opportunities for additional park space or development	MASON ST ELEVATED: BROADWAY - ADAMS ST REPLACE BASCULE SOUTH AT LOWER ELEVATION - Ashland Ave, Monroe Ave and Adams St become at-grade signalized intersections - The intersection of Broadway & Mason St remains grade-separated to allow Mason St to go over the railroad - Mason St over the Fox River is a four-lane divided roadway with a protected bike lanes and pedestrian paths on both sides of the bridge - Removing the existing ramps vacates land that creates opportunities for additional park space or development	MASON ST ELEVATED: BROADWAY - FOX RIVER REPLACE BASCULE SOUTH AT LOWER ELEVATION - Ashland Ave, Monroe Ave and Adams St become at-grade signalized intersections - The intersection of Broadway & Mason St remains grade separated to allow Mason St to go over the railroad - Mason St over the Fox River is a four-lane divided roadway with a protected bike lanes and pedestrian paths on both sides of the bridge	MASON ST ELEVATED: BROADWAY - FOX RIVER REPLACE BASCULE SOUTH AT LOWER ELEVATION - Ashland Ave and Monroe Ave become at-grade signalized intersections - The Broadway and Mason St intersection maintains grade-separation, but requires a full intersection at the Jughandle intersection with Mason St - Mason St over the Fox River is a four-lane divided roadway with a protected bike lane and pedestrian path on both sides of the bridge - Removing the existing ramps vacates land that creates opportunities for additional park space or development
BRIDGE OPERATIONS & MAINTENANCE	FIXED SPAN - Bridge Area: 436,000 SF - Retaining wall: 54,000 SF 66 Spans	FIXED SPAN - Bridge Area: 184,000 - 195,000 SF - Retaining wall: 12,000 SF 16 Spans	FIXED SPAN - Bridge Area: 140,000 - 147,000 SF - Retaining wall: 25,000 SF 11 Spans	FIXED SPAN - Bridge Area: 140,000 - 147,000 SF - Retaining wall: 25,000 SF 11 Spans	FIXED SPAN - Bridge Area: 184,000 - 195,000 SF - Retaining wall: 12,000 SF 16 Spans	FIXED SPAN - Bridge Area: 140,000 - 147,000 SF - Retaining wall: H2E: 25,000 SF, H4E: 34,000 SF 11 Spans	FIXED SPAN - Bridge Area: 140,000 - 147,000 SF - Retaining wall: H2E: 25,000 SF, H4E: 34,000 SF 11 Spans
	MOVABLE SPAN - Bridge deck widened by 2 ft - Vertical clearance: matches existing - Nav width: 97 ft (existing) - Remaining life: 25 yrs (estimated)	MOVABLE SPAN - Longer Bridge Span to allow construction outside existing piers - Vertical clearance: 6' lower - Nav width: 170 ft - Remaining life: 100 yrs	MOVABLE SPAN - Longer Bridge Span to allow construction outside of existing piers - Vertical clearance: 13.3' lower - Nav width: 170 ft - Remaining life: 100 yrs	MOVABLE SPAN - Longer Bridge Span to allow construction outside of existing piers - Vertical clearance: 13.3' lower - Nav width: 170 ft - Remaining life: 100 yrs	MOVABLE SPAN - Remove existing movable bridge, construct new movable bridge piers adjacent to existing span - Vertical clearance: 5.8' ft lower - Nav width: 170 ft - Remaining life: 100 yrs	MOVABLE SPAN - Remove existing movable bridge and construct new movable bridge piers adjacent to existing span - Vertical clearance: 12.8' ft lower - Nav width: 97 ft (existing) - Remaining life: 100 yrs	MOVABLE SPAN - Remove existing movable bridge and construct new movable bridge piers adjacent to existing span - Vertical clearance: 12.8' ft lower - Nav width: 97 ft (existing) - Remaining life: 100 yrs
							
CONSTRUCTABILITY	MASON STREET CLOSURE= ~10.5 MONTHS CONSTRUCTION DURATION= ~10.5 MONTHS	MASON STREET CLOSURE= ~13.5 MONTHS CONSTRUCTION DURATION= ~19 MONTHS			MASON STREET CLOSURE= ~6.5 MONTHS CONSTRUCTION DURATION= ~22 MONTHS		
							
ENVIRONMENTAL	POTENTIAL IMPACTS - No relocations - Minimal impacts to wetlands - No impact to polychlorinated biphenyls (PCB) engineered caps in Fox River south of existing bridge - Temporary access impacts (with detours) to Howe Elementary School Playground, Fox River Trail, transit routes, and Shipyard redevelopment	POTENTIAL IMPACTS - No relocations - Potential floodplain impacts, minimal impacts to wetlands - Potential impact to PCB engineered caps located in the Fox River south of the existing bridge - Temporary access impacts (with detours) to Fox River Trail, transit routes, and Shipyard redevelopment - Howe Playground disconnected from school	POTENTIAL IMPACTS - No relocations - Potential floodplain impacts, minimal impacts to wetlands - Potential impact to PCB engineered caps located in the Fox River south of the existing bridge - Temporary access impacts (with detours) to Fox River Trail, transit routes, and Shipyard redevelopment - Howe Playground disconnected from school		POTENTIAL IMPACTS - Potential relocation of a business and a municipal well - Potential floodplain impacts, minimal impacts to wetlands - Impacts to PCB caps located in the Fox River south of the existing bridge - Temporary access impacts (with detours) to Fox River Trail, transit routes, and Shipyard redevelopment - Howe Playground disconnected from school	POTENTIAL IMPACTS - Potential relocation of a business and a municipal well - Potential floodplain impacts, minimal impacts to wetlands - Impacts to PCB caps located in the Fox River south of the existing bridge - Temporary access impacts (with detours) to Fox River Trail, transit routes, and Shipyard redevelopment - Howe Playground disconnected from school	
							

STUDY ALTERNATIVES MATRIX

TRAFFIC	E2		H1D/H1E		H2D/H2E		H4D/H4E																																																																																					
	TRAVEL TIMES/ SPEEDS	- Peak Hour Travel times: <2.5 min - Peak Hour Bridge Speeds: 40 - 42 mph	TRAVEL TIMES/ SPEEDS	- Peak Hour Travel Times: 3 – 4 min - Peak Hour Bridge Speeds: 38 – 40 mph	TRAVEL TIMES/ SPEEDS	- Peak Hour Travel Times: 3 – 4 min - Peak Hour Bridge Speeds: 38 – 40 mph	TRAVEL TIMES/ SPEEDS	- Peak Hour Travel Times: 3 – 4.5 min - Peak Hour Bridge Speeds: 36 – 39 mph																																																																																				
	GEOMETRIC CONSIDERATIONS	EB On-Ramp at Ashland Ave sight distance fixed	GEOMETRIC CONSIDERATIONS	Conversion from one-way to two-way traffic operations on Jefferson St and Madison St <table><tr><td></td><td colspan="3">North</td><td colspan="3">South</td></tr><tr><td></td><td>Chestnut</td><td>Jefferson</td><td>Madison</td><td>Chestnut</td><td>Jefferson</td><td>Madison</td></tr><tr><td>RIRO</td><td>X</td><td>X</td><td>X</td><td></td><td></td><td>X</td></tr><tr><td>Cul-de-Sac</td><td></td><td></td><td></td><td>X</td><td>X</td><td></td></tr></table>		North			South				Chestnut	Jefferson	Madison	Chestnut	Jefferson	Madison	RIRO	X	X	X			X	Cul-de-Sac				X	X		GEOMETRIC CONSIDERATIONS	- Conversion from one-way to two-way traffic operations on Jefferson St and Madison St - Dual EBL/NBT receiving at Adams St <table><tr><td></td><td colspan="3">North</td><td colspan="3">South</td></tr><tr><td></td><td>Chestnut</td><td>Jefferson</td><td>Madison</td><td>Chestnut</td><td>Jefferson</td><td>Madison</td></tr><tr><td>RIRO</td><td>X</td><td>X</td><td>X</td><td></td><td></td><td>X</td></tr><tr><td>Cul-de-Sac</td><td></td><td></td><td></td><td>X</td><td>X</td><td></td></tr></table>		North			South				Chestnut	Jefferson	Madison	Chestnut	Jefferson	Madison	RIRO	X	X	X			X	Cul-de-Sac				X	X		GEOMETRIC CONSIDERATIONS	- Conversion from one-way to two-way traffic operations on Jefferson St and Madison St - Dual EBL/NBT receiving at Adams St - Full access at Broadway <table><tr><td></td><td colspan="3">North</td><td colspan="3">South</td></tr><tr><td></td><td>Chestnut</td><td>Jefferson</td><td>Madison</td><td>Chestnut</td><td>Jefferson</td><td>Madison</td></tr><tr><td>RIRO</td><td>X</td><td>X</td><td>X</td><td></td><td></td><td>X</td></tr><tr><td>Cul-de-Sac</td><td>X</td><td></td><td></td><td>-</td><td>X</td><td></td></tr></table>		North			South				Chestnut	Jefferson	Madison	Chestnut	Jefferson	Madison	RIRO	X	X	X			X	Cul-de-Sac	X			-	X	
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LEFT-TURN PHASING	No Signal Phasing Considerations	LEFT-TURN PHASING	Protected Only Dual Left Turns for EBL at Monroe and WBL at Ashland	LEFT-TURN PHASING	Protected Only Dual Left Turns for EBL at Monroe, EBL at Adams, and WBL at Ashland	LEFT-TURN PHASING	- Protected Only Dual Left Turns for EBL at Monroe, EBL at Adams, and WBL at Ashland - Coordination between Ashland and Broadway Jug Handle																																																																																					
LEVEL OF SERVICE	All movements at LOS D or better except for EB right turn at Monroe St Off-Ramp (LOS E)	LEVEL OF SERVICE	All movement at LOS D or better except for stop-controlled movements and at Webster (LOS F)	LEVEL OF SERVICE	All movement at LOS D or better except for stop-controlled movements and at Webster (LOS F)	LEVEL OF SERVICE	All movement at LOS D or better except for stop-controlled movements and at Webster (LOS F)																																																																																					
																																																																																												

SAFETY	VEHICLE	Change the higher volume ramp (Ashland Ave) to an add lane instead of a merge	VEHICLE	Lower operational speed
	VULNERABLE ROAD USERS (PEDESTRIAN & BICYCLISTS)	- Additional facilities on bridge across the Fox River - Signal enhancements at the Ashland Ave ramp terminal intersections	VULNERABLE ROAD USERS (PEDESTRIAN & BICYCLISTS)	- Separated Bicycle facilities on both sides of Mason St - Separated Pedestrian facilities on both sides of Mason St - Signal enhancements at all intersections - Sidewalk connections from crossroads to Mason St where existing sidewalk is present - Median refuge islands at new signalized intersection – Mason St with Ashland Ave - Enhanced mid-block pedestrian crossings
			