

Traffic Analysis

Traffic Impact Assessments

- Primary Issues
 - Shaft Sites
 - Water Main Connections
- Methodology
- Significance Determination
 - Mitigation Measures

Traffic Issues – Shaft Sites

- Temporary stoppages during initial blasting
- Maximum 5 deliveries in any hour during peak construction
- Draft EIS addressed traffic impacts associated with deliveries
- A flag person would control trucks accessing the site
- DEP would provide a Traffic Enforcement Agent (TEA) to aid vehicular and pedestrian movements near the site

Traffic Issues – Water Main Connections

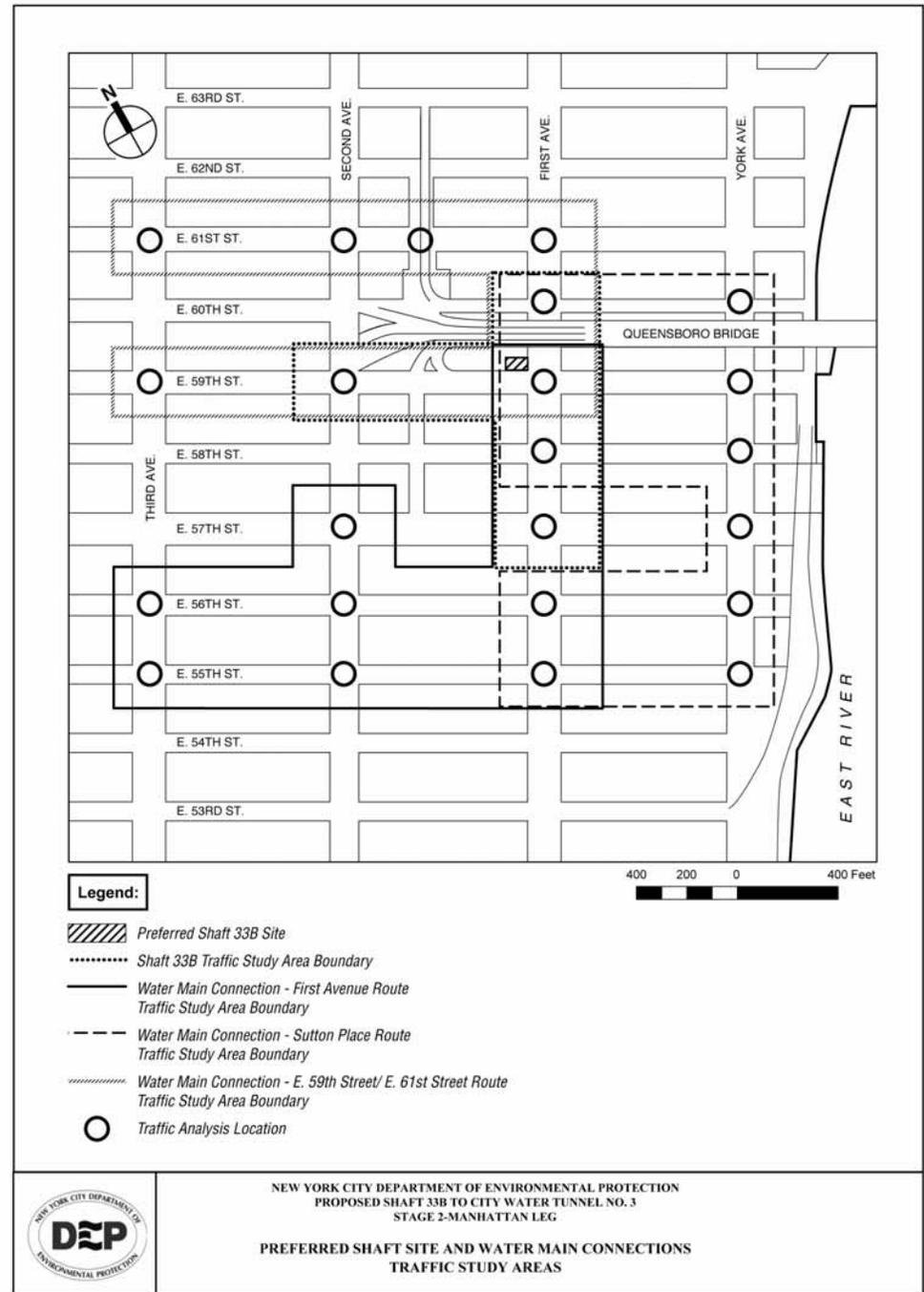
- Route
 - Lane Closure Disruptions
 - Construction Deliveries
- Resultant Effect
 - Primary Intersections
 - Other Intersections
- Duration and Magnitude of Impacts
 - Mitigation

Traffic Methodology

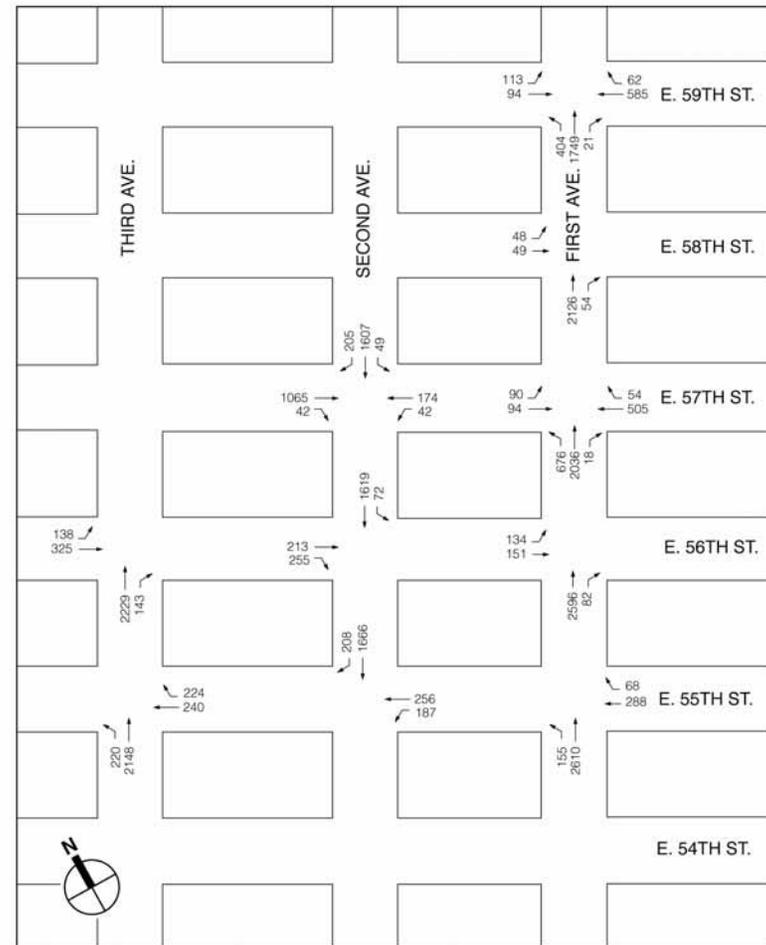
- Determine Study Areas / Intersections
- Baseline Conditions
 - Traffic counts
 - Turning movements
 - Account for Independent “No Build” Projects
- Overlay Water Main Construction Effect on Baseline Conditions
 - CEQR Technical Manual Guidance
 - Additional Queuing / Spillback
 - Diversions

Intersections for Analysis

- Starting Point of Analysis



Example of First Avenue "Network"

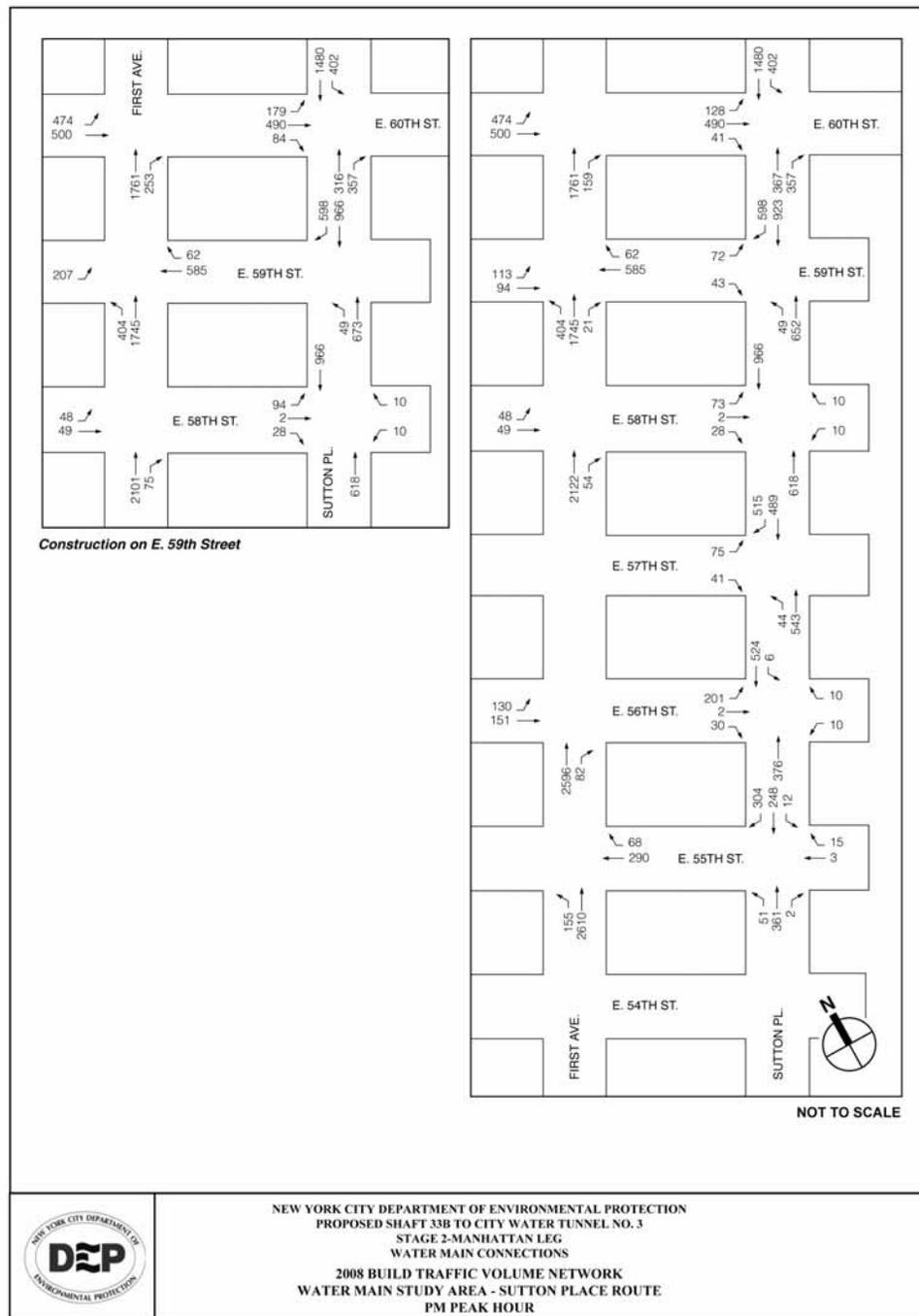


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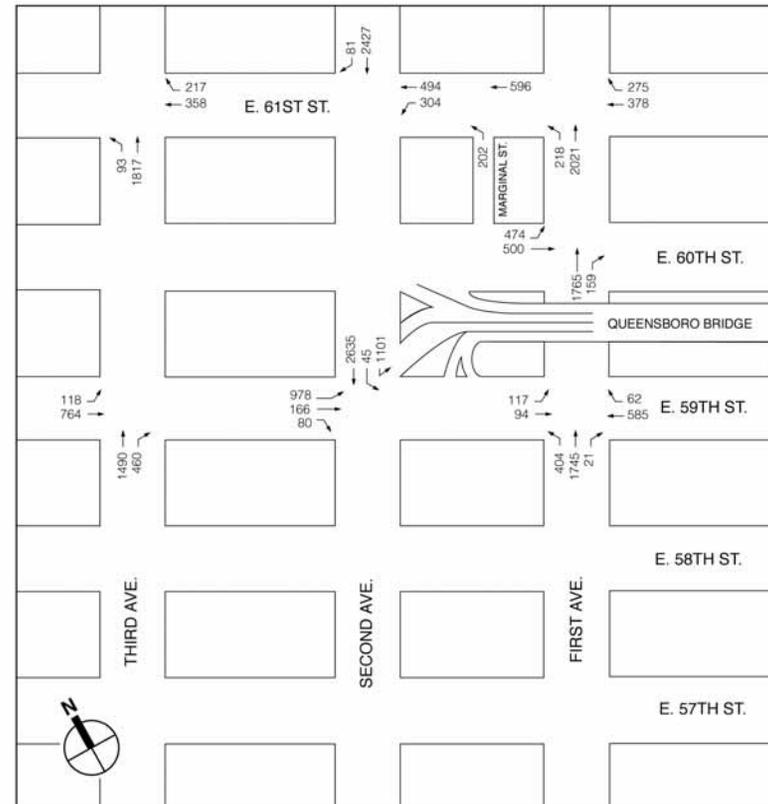


NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
 PROPOSED SHAFT 33B TO CITY WATER TUNNEL NO. 3
 STAGE 2-MANHATTAN LEG
 WATER MAIN CONNECTIONS
 2008 BUILD TRAFFIC VOLUME NETWORK
 WATER MAIN STUDY AREA - FIRST AVENUE ROUTE
 PM PEAK HOUR

Example of Sutton Place "Network"



Example of E. 59th / 61st Street "Network"

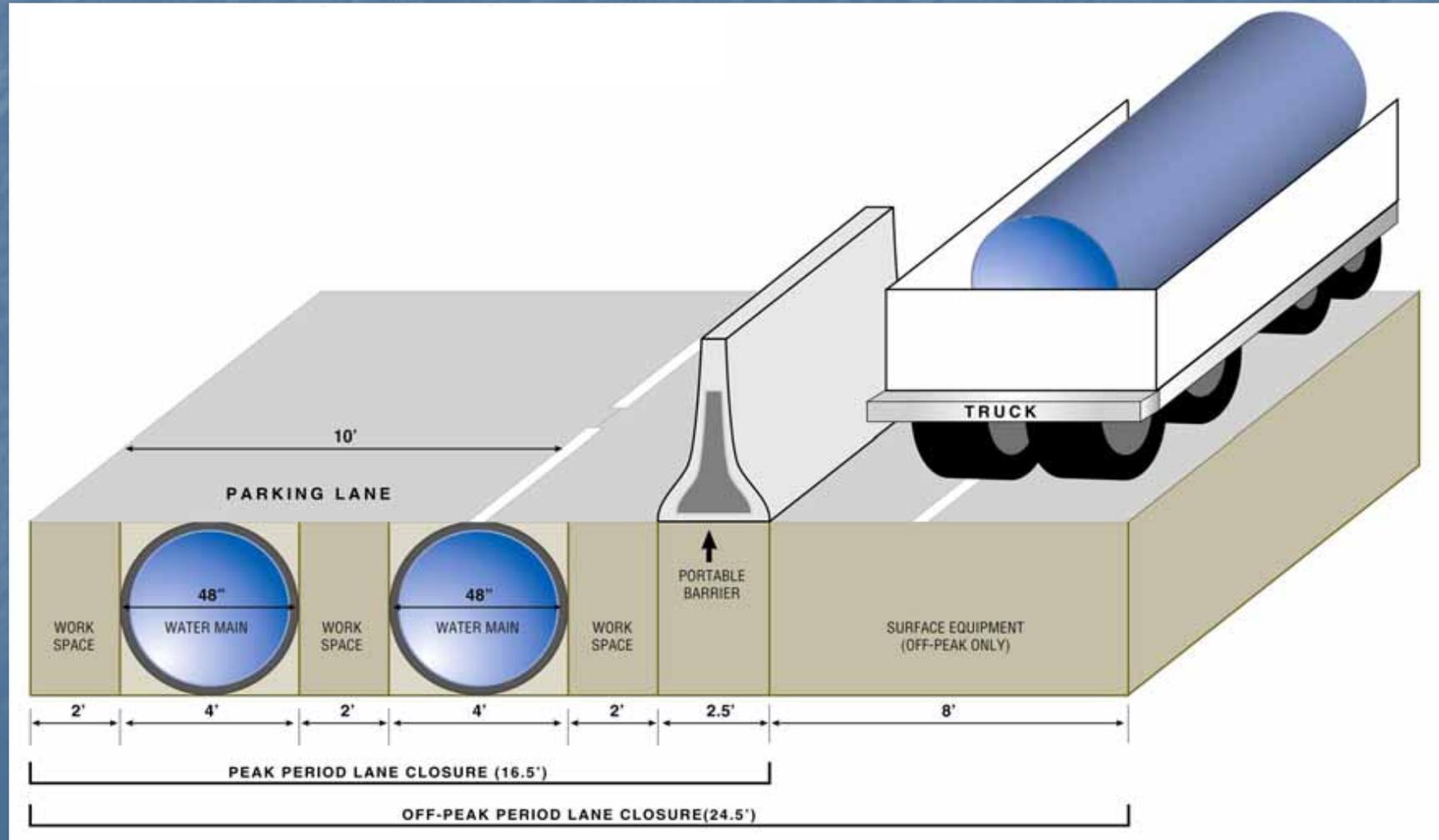


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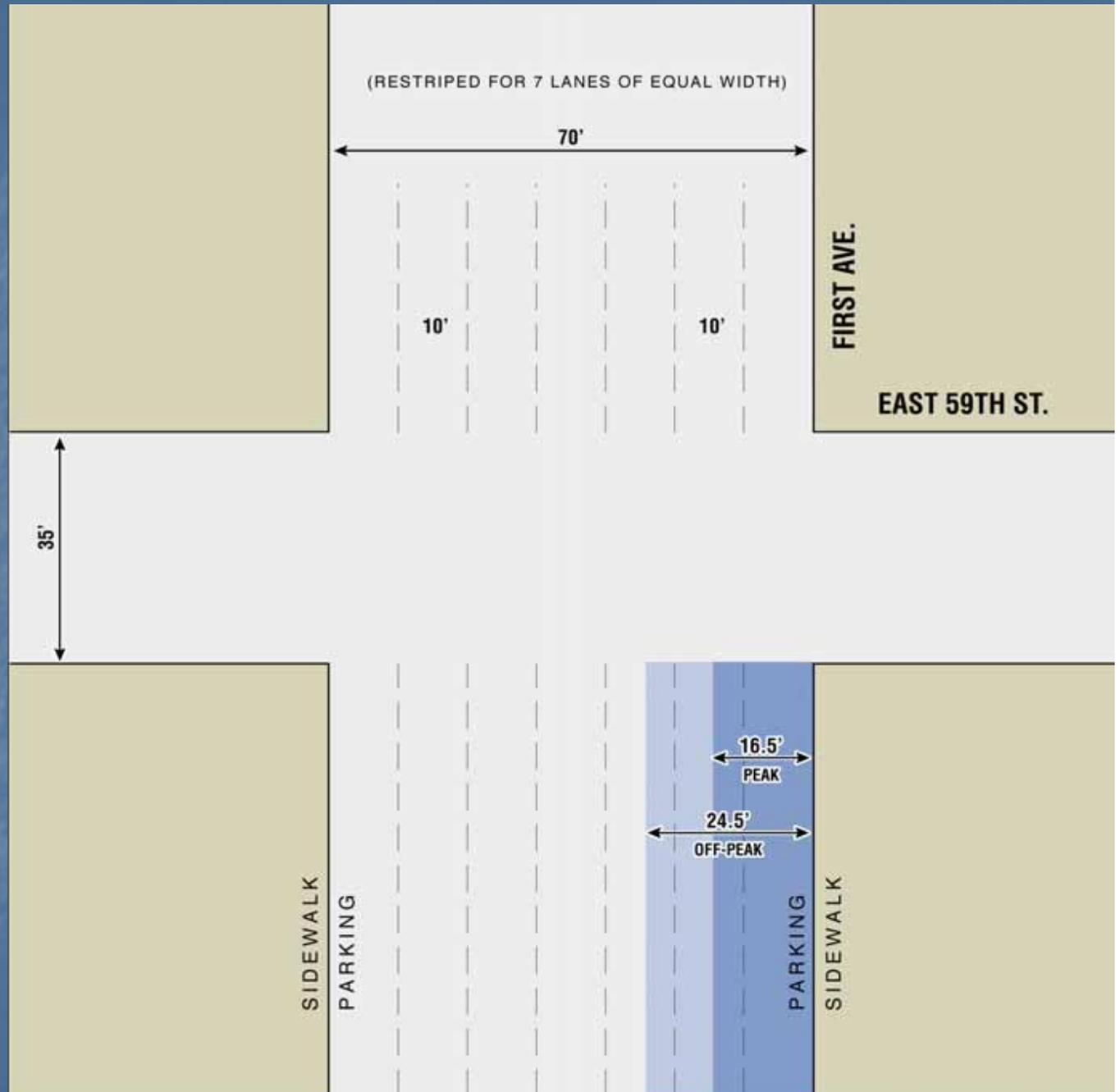


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 PM PEAK HOUR

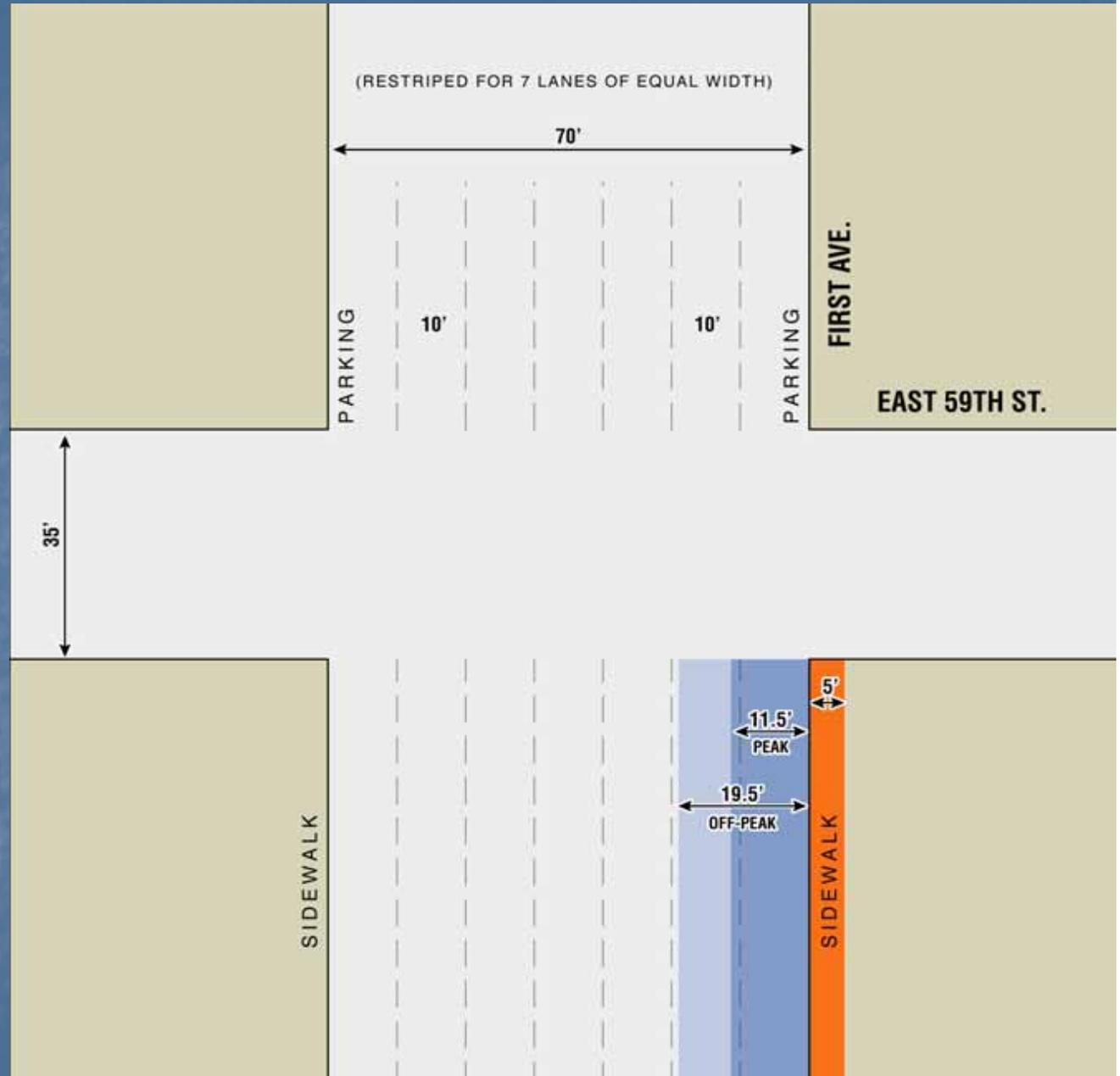
Representative Depiction of Lane Closure with Concurrent Construction of Two 48" Water Mains



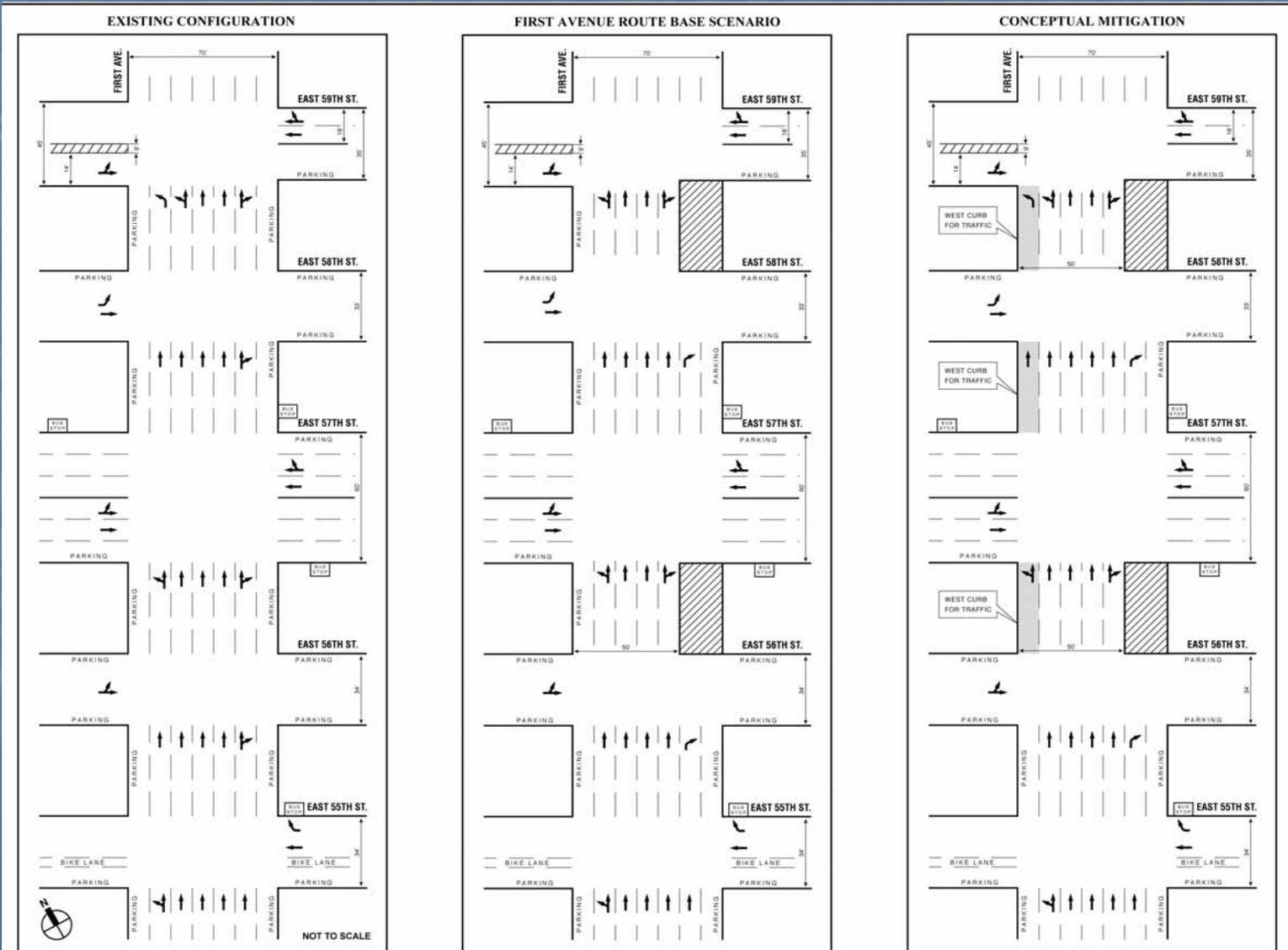
Base Scenario – Concurrent Construction of Two 48" Water Mains



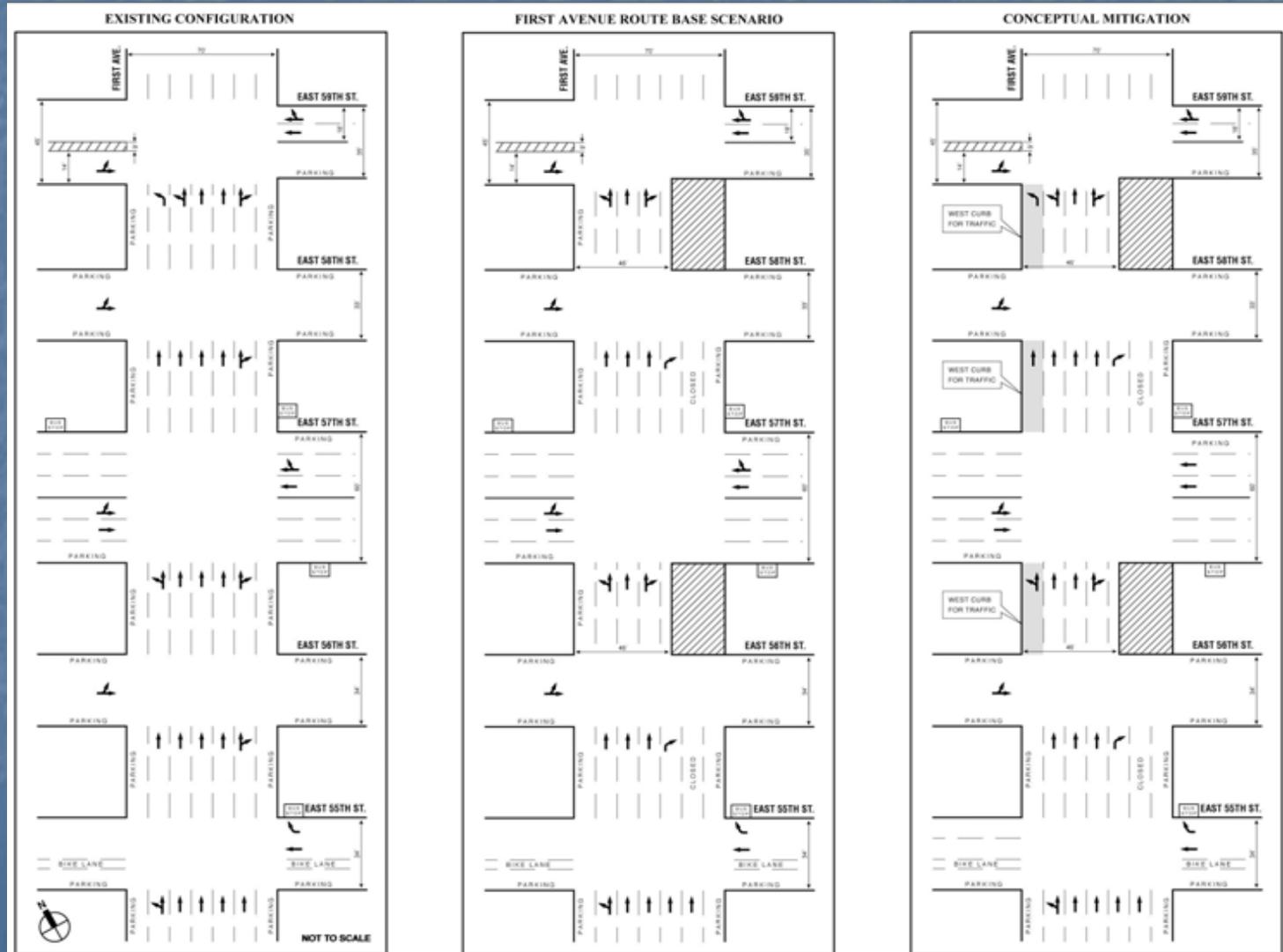
Scenario A – Concurrent Construction of Two 48" Water Mains



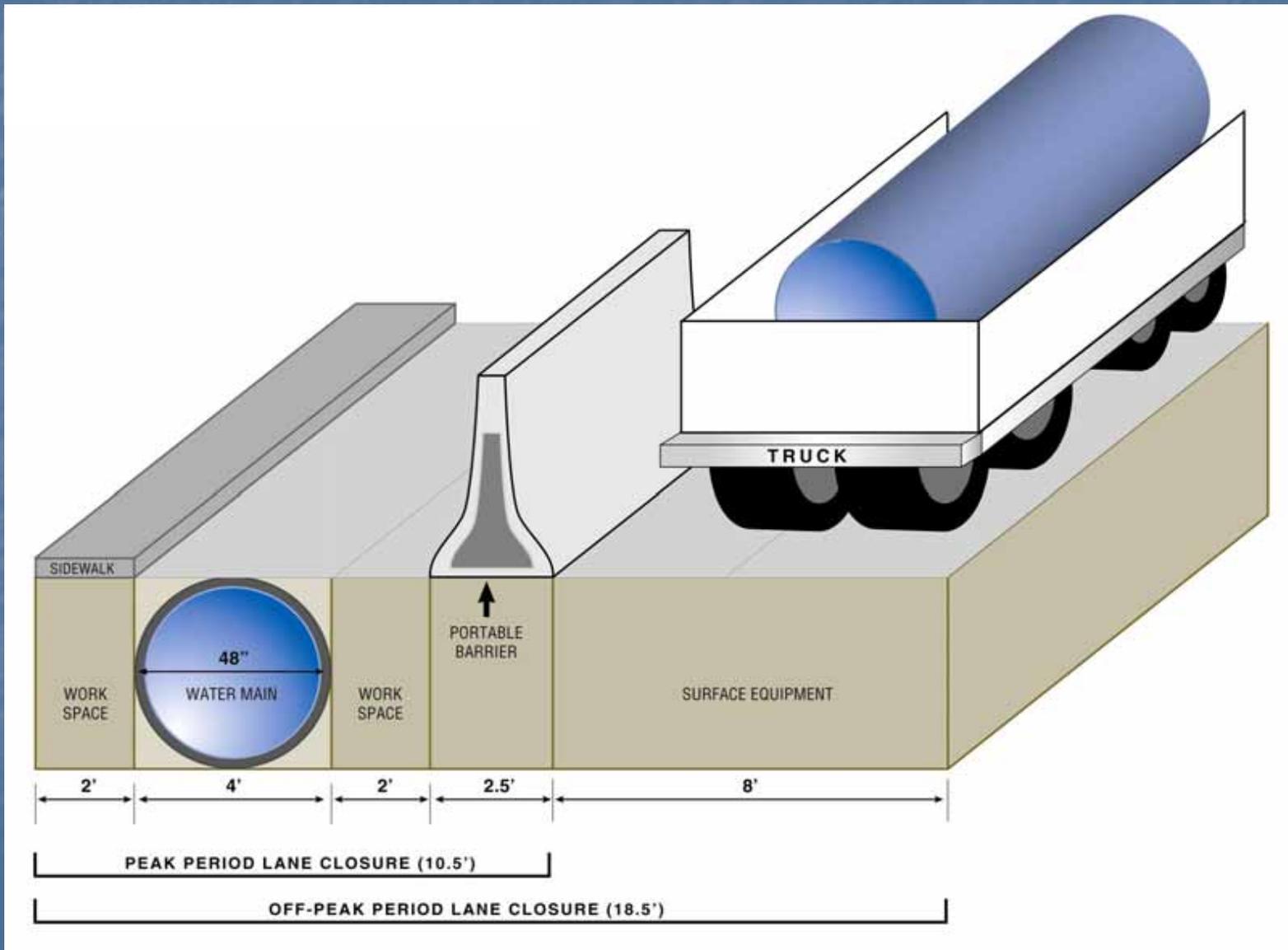
First Avenue Route – Base Scenario Segment 1 – AM Peak Hour



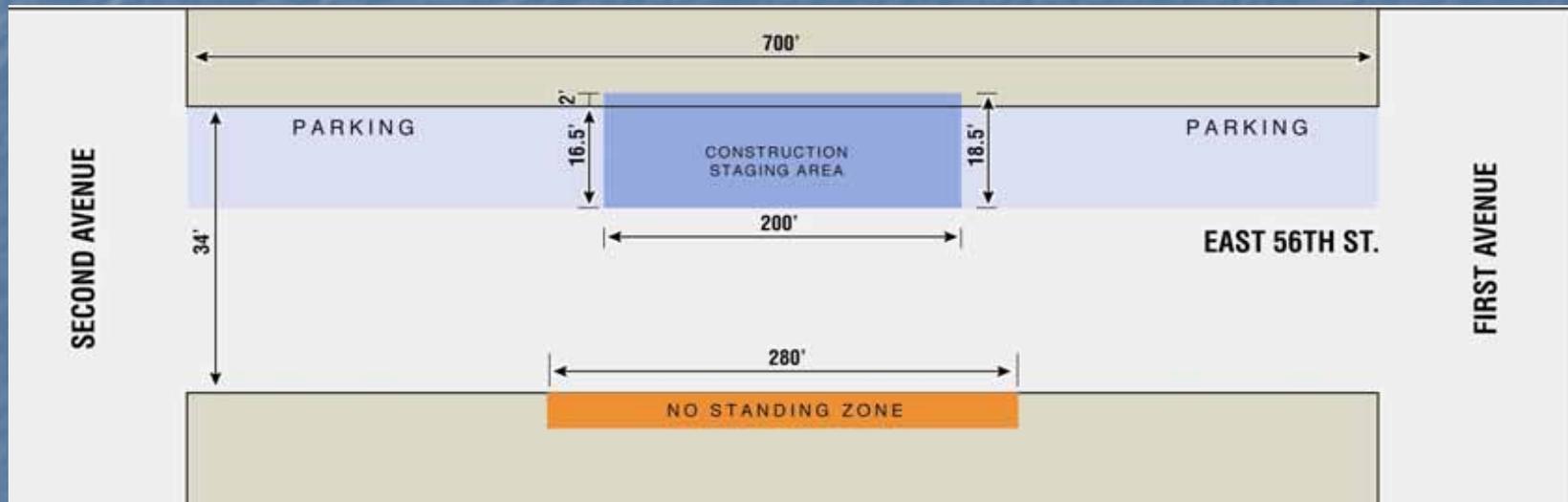
First Avenue Route – Base Scenario Segment 1 – Midday Peak Hour



Representative Depiction of Lane Closure on Cross Street One 48" Water Main



Representative Depiction of Curbside Parking Restrictions on a Cross Street



Potential Staging Plans for First Avenue Route

Segment	Location
1	First Avenue from E. 59 th to 58 th Street First Avenue from E. 57 th to 56 th Street (this segment would also include venturi chambers)
2	First Avenue crossing E. 58 th Street First Avenue crossing E. 56 th Street
3	First Avenue from E. 58 th to 57 th Street First Avenue from E. 56 th to 55 th Street
4	First Avenue crossing E. 57 th Street
5	E. 56 th Street from First to Second Avenue
6	E. 56 th Street crossing First Avenue E. 56 th Street crossing Second Avenue
7	E. 56 th Street from Second to Third Avenue
8	E. 55 th Street crossing First Avenue E. 55 th Street crossing Second Avenue
9	E. 55 th Street from First to Second Avenue First Avenue across from preferred Shaft Site
10	E. 55 th Street from Second to Third Avenue E. 59 th Street crossing First Avenue
11	E. 56 th Street intersection at Third Avenue
12	Third Avenue from E. 55 th to 56 th Street
13	E. 55 th Street intersection at Third Avenue

Traffic Issues – Timeframes for Construction of Segments

- Typical Avenue or Cross Street Block – 12 weeks
- Typical Intersection – 10 weeks
- Avenue Segment with Venturi Chamber – 20 weeks

Preferred Shaft Site - First Ave Route Impacts/Queues/Diversions

Study Area Intersections	First Avenue Route									
	Impacted			Estimated Duration (weeks)						
	AM	MD	PM	Total	20	40	60	80	100	120
York Ave. & E. 60 th St.										
York Ave. & E. 59 th St.										
Sutton Pl. & E. 58 th St.										
Sutton Pl. & E. 57 th St.										
Sutton Pl. & E. 56 th St.										
Sutton Pl. & E. 55 th St.										
First Ave. & E. 61 st St.										
First Ave. & E. 60 th St.										
First Ave. & E. 59 th St.	◆	◆		44	*****				*****	
First Ave. & E. 58 th St.		◆		66	*****				*****	
First Ave. & E. 57 th St.	◆	◆	◆	76	*****				*****	
First Ave. & E. 56 th St.		◆		22		*****				
First Ave. & E. 55 th St.		◆		22		*****				
Second Ave. & E. 61 st St.										
Second Ave. & E. 59 th St.										
Second Ave. & E. 57 th St.										
Second Ave. & E. 56 th St.	◆	◆	◆	22				*****		
Second Ave. & E. 55 th St.										
Third Ave. & E. 61 st St.										
Third Ave. & E. 59 th St.										
Third Ave. & E. 56 th St.										
Third Ave. & E. 55 th St.										
Potential Residual Queuing										
First Ave. south of E. 55 th St.				76	*****				*****	
York Ave. north of E. 59 th St.										
Sutton Pl. south of E. 59 th St.										
E. 61 st St. east of Third Ave.										
E. 59 th St. west of Second Ave.										
Third Ave. south of E. 59 th St.										
Potential Traffic Diversions				76	*****				*****	

Traffic Issues – Example of Duration of Impact First Avenue at E. 57th Street

- Segment 1 – 59/58th, 57th/56th Streets – 20 weeks
- Segment 2 – crossing 56th/58th Streets – 10 weeks
- Segment 3 – 58th/57th, 56th/55th Streets – 12 weeks
- Segment 4 – crossing 57th Street – 10 weeks
- Segment 9 – First Avenue across from preferred Shaft Site – 12 weeks
- Segment 10 – 59th Street crossing First Avenue – 12 weeks
 - Total = 76 weeks

Preferred Shaft Site – Sutton Place Route Impacts/Queues/Diversions

Study Area Intersections	Sutton Place Route											
	Impacted			Estimated Duration (weeks)								
	AM	MD	PM	Total	20	40	60	80	100	120	140	160
York Ave. & E. 60 th St.	◆		◆	36	*****							
York Ave. & E. 59 th St.		◆		34		*****						
Sutton Pl. & E. 58 th St.		◆	◆	22			*****					
Sutton Pl. & E. 57 th St.												
Sutton Pl. & E. 56 th St.												
Sutton Pl. & E. 55 th St.												
First Ave. & E. 61 st St.												
First Ave. & E. 60 th St.												
First Ave. & E. 59 th St.		◆	◆	48	*****						*****	
First Ave. & E. 58 th St.				24							*****	
First Ave. & E. 57 th St.				24							*****	
First Ave. & E. 56 th St.												
First Ave. & E. 55 th St.												
Second Ave. & E. 61 st St.												
Second Ave. & E. 59 th St.												
Second Ave. & E. 57 th St.												
Second Ave. & E. 56 th St.	◆	◆	◆	22						*****		
Second Ave. & E. 55 th St.												
Third Ave. & E. 61 st St.												
Third Ave. & E. 59 th St.												
Third Ave. & E. 56 th St.												
Third Ave. & E. 55 th St.												
Potential Residual Queuing												
First Ave. south of E. 55 th St.												
York Ave. north of E. 59 th St.				24	*****							
Sutton Pl. south of E. 59 th St.				44		*****						
E. 61 st St. east of Third Ave.												
E. 59 th St. west of Second Ave.												
Third Ave. south of E. 59 th St.												
Potential Traffic Diversions				24							*****	

Preferred Shaft Site – 59th/61st Street Route Impacts/Queues/Diversions

Study Area Intersections	E. 59 th Street/E. 61 st Street Route										
	Impacted			Estimated Duration (weeks)							
	AM	MD	PM	Total	20	40	60	80	100	120	140
York Ave. & E. 60 th St.											
York Ave. & E. 59 th St.											
Sutton Pl. & E. 58 th St.											
Sutton Pl. & E. 57 th St.											
Sutton Pl. & E. 56 th St.											
Sutton Pl. & E. 55 th St.											
First Ave. & E. 61 st St.	◆			12		***					
First Ave. & E. 60 th St.											
First Ave. & E. 59 th St.			◆	60	*****				*****		
First Ave. & E. 58 th St.											
First Ave. & E. 57 th St.											
First Ave. & E. 56 th St.											
First Ave. & E. 55 th St.											
Second Ave. & E. 61 st St.	◆	◆	◆	16			****				
Second Ave. & E. 59 th St.	◆	◆	◆	22						*****	
Second Ave. & E. 57 th St.											
Second Ave. & E. 56 th St.											
Second Ave. & E. 55 th St.											
Third Ave. & E. 61 st St.	◆	◆	◆	12				***			
Third Ave. & E. 59 th St.	◆	◆	◆	22						*****	
Third Ave. & E. 56 th St.											
Third Ave. & E. 55 th St.											
Potential Residual Queuing											
First Ave. south of E. 55 th St.											
York Ave. north of E. 59 th St.											
Sutton Pl. south of E. 59 th St.											
E. 61 st St. east of Third Ave.				28			*****				
E. 59 th St. west of Second Ave.				22						*****	
Third Ave. south of E. 59 th St.				22						*****	
Potential Traffic Diversions				50			*****			*****	

Summary of Temporary Adverse Impacts – First Avenue Route

- Impacts on the overall traffic flow along First Avenue
- Current traffic queues on First Avenue at times extend to the area of the First Avenue tunnel, and these queue lengths would grow by about 3 to 5 blocks
- Traffic could divert to other travel routes, such as the FDR Drive and other access routes leading to northbound roadways

Summary of Temporary Adverse Impacts – Sutton Place Route

- Impacts on the overall traffic flow along Sutton Place
- Queues would extend several blocks along York Avenue/Sutton Place
- Potential diversion of traffic away from the construction zone to other parallel routes is less likely

Summary of Temporary Adverse Impacts – E.59th/61st Route

- E. 59th Street at Second Avenue is a major access to the Queensboro Bridge; E. 61st Street connects directly with the FDR Drive; disruptions on these roadways could result in area-wide traffic diversions and congestion at other nearby locations
- Queues would extend several blocks from construction zone

Potential Traffic Mitigation Measures

- Conventional
 - Removal of Parking / Signal Retiming
 - Traffic Enforcement Agent
- Additional Traffic Management Strategies
 - Ticketing / towing of violators in No Standing zones
 - Variable message signs (VMSs), well in advance of the construction zone
 - Coordinated identification of diversion routes and traffic controls at key locations

Questions